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Groundwater Sampling, NAPL Monitoring/Recovery and Groundwater Treatment Performance Report for the First Quarter of 2016 (January - March 2016) for the Hempstead Intersection Street Former Manufactured Gas Plant Site

Villages of Hempstead & Garden City
Nassau County, New York

Prepared for:

National Grid
175 East Old Country Road
Hicksville, New York 11801

Prepared by:

AECOM USA, Inc.
257 West Genesee Street, Suite 400
Buffalo, New York 14202

AECOM

January 2017

GROUNDWATER SAMPLING, NAPL MONITORING/RECOVERY, AND GROUNDWATER TREATMENT PERFORMANCE REPORT FOR THE FIRST QUARTER OF 2016 (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) 2016.

Quarterly groundwater monitoring and sampling were conducted on March 7 – 11, 2016. This included measuring the depth to groundwater and NAPL thickness in 45 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 January 22 and March 7, 2016 for a total of two events in the First Quarter of 2016.

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

- The general direction of groundwater flow in the First Quarter 2016 in the shallow, intermediate, and deep water-bearing zones was south at an average gradient of approximately 0.002 feet per feet (ft/ft) for shallow, intermediate, and deep water bearing zones.
- The extent of the dissolved-phase groundwater plume boundary and the data for the First Quarter 2016 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 920 feet south of the site boundary.
- Dense non-aqueous phase liquid (DNAPL) was detected and recovered in one existing well during the First Quarter. The well (HIMW-021), is located along the west side of Wendell Street, south of the Intersection Street site.
- NAPL monitoring was conducted twice during the quarter, and based on the low NAPL thickness observed the NAPL recovery was scheduled for the next quarter to allow NAPL to sufficiently accumulate in the well sump. A total of 841.1 gallons of NAPL have been

recovered to date from all of the Site related recovery wells between April 2007 and December 2015.

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 2016. The second of two oxygen delivery systems (System No. 1) started operating in April 2011 and continued to promote aerobic conditions in the aquifer near the system during the First Quarter of 2016. At the end of this quarter, System No. 2 stopped working, and the repairs were completed during the following quarter.

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 2016, Island Pump & Tank monitored System No. 1 during three events and System No. 2 during three events. Due to operational difficulties with the dissolved oxygen (DO) meter, DO readings were not recorded for Systems No. 1 and No. 2 on January 28 and 29, 2016, respectively. Additionally, monitoring point MP-2-5 could not be located for System No. 2 on January 29, 2016, due to snow and ice cover.

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 2016 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. 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 2016:

- Measured the depth to groundwater and NAPL thickness in 45 off-site wells on March 7, 2016, see Tables 1 and 2.
- Monitored NAPL at HIMW-021 on January 22 and March 7. No product was recovered during First Quarter 2016, 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 2016. 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 2016 included the measurement of the depth to groundwater and NAPL thickness in 45 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 2016 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 monthly measurements to monitor the performance of the groundwater treatment Systems No. 1 and No. 2 monthly during the First Quarter of 2016. 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.

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 45 monitoring wells gauged during the First Quarter March 7, 2016 gauging event. Two monitoring wells (HIMW-12I and HIMW-12D) were not able to be gauged because of obstructions inside the well risers.

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 two gauging events: January 22 and March 7, 2016. During these events, the well was gauged with a weighted cotton string to measure the DNAPL thickness. NAPL recovery was scheduled for the next quarter to allow NAPL to sufficiently accumulate in the well sump. A total of 841.1 gallons of NAPL have been recovered to date from all of the Site related recovery wells between April 2007 and December 2015.

Table 3 presents First Quarter 2016 NAPL thicknesses at HIMW-021 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 100 and 500 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 is presented in Appendix A.

There were 24 monitoring wells sampled from March 7-11, 2016 during the First Quarter 2016 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 2016 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 28, February 17, and March 18, 2016 and during three events for System No. 2 on January 29, February 19, and March 18, 2016. As noted above, the DO meter malfunctioned, hence, DO readings could not be recorded for Systems No. 1 and No. 2 on January 28 and 29, 2016, respectively. For System No. 2, monitoring point MP-2-5 could not be located on January 29, 2016 due to snow and ice cover and therefore monitoring was not performed. 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 the First Quarter 2016 (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 920 feet south of the site boundary.

3.2 Potentiometric Heads and NAPL Thickness

Potentiometric heads and NAPL thickness measurements for the First Quarter 2016 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 2016. The data for First Quarter 2016 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 2016 on January 22 and March 7, 2016 for a total of two events, 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 Data Usability Summary Report (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 2016, NAPL levels were monitored in well HIMW-021 during two gauging events: January 22 and March 7, 2016. During these events, the well was gauged with a weighted cotton string to measure the DNAPL thickness. NAPL recovery was scheduled for the next quarter to allow NAPL to sufficiently accumulate in the well sump. A total of 841.1 gallons of NAPL have been recovered to date from all of the Site related recovery wells between April 2007 and December 2015.

A total of approximately 841.1 gallons of NAPL have been recovered from all of the recovery wells for the period of April 2007 through December 2015. 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 2016, as collected and reported by Island Pump & Tank, is presented in Table 5. As noted above, the DO meter was not operating properly on January 28 and 29, 2016, and DO readings were not able to be recorded for Systems No. 1 and No. 2 during those events. For System No. 2 on January 29, 2016, monitoring point MP-2-5 could not be located due to snow and ice cover and so monitoring was not performed.

System No. 1

System No. 1 DO readings reported in the First Quarter 2016 ranged from a low of 4.95 mg/L at MP-1-8 on February 17, 2016 to a high of 46.25 mg/L at MP-1-2D on March 18, 2016. DO readings were

collected from either the middle or bottom of the water column in each monitoring point. The average First Quarter 2016 DO reading for System No. 1 collected from the middle of the water column was 31.31 mg/L while the average DO readings collected from the bottom of the water column was 26.31 mg/L.

The PID headspace readings were below 1 ppm for System No. 1 in the First Quarter 2016.

Based on the data collected during the First Quarter of 2016, System No. 1 is performing as expected and creating an aerobic environment in the aquifer.

System No. 2

System No. 2 shut down the first week of February due to an equipment breakdown, and was restored the following quarter after receiving the replacement parts.

System No. 2 DO readings reported in the First Quarter 2016 ranged from 9.88 mg/L at MP-2-1 on March 18, 2016 to 25.27 mg/L at MP-2-3D on March 18, 2016. DO readings for this quarter were collected from the bottom of the water column at the monitoring points. The average DO reading during First Quarter 2016 was 18.02 mg/L.

The PID headspace readings were below 1 ppm for System No. 2 in the First Quarter 2016.

Based on the data collected during the First Quarter of 2016, the aerobic conditions continued to be observed while the system was down for repairs.

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URS, 2008b. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the First Quarter of 2008 (January – March 2008) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* June.

URS, 2008c. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Second Quarter of 2008 (April - June 2008) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* October.

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URS, 2009d. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Second Quarter of 2009 (April - June 2009) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* September.

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URS, 2010c. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Second Quarter of 2010 (April - June 2010) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* September.

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URS, 2011a. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the First Quarter of 2011 (January - March 2011) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* July.

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URS, 2016a. *Groundwater Sampling and Groundwater Treatment Performance Report for the Second Quarter of 2015 (April – June 2015) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* April.

URS, 2016b. *Groundwater Sampling and Groundwater Treatment Performance Report for the Third Quarter of 2015 (July – September 2015) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* May.

URS, 2016c. *2015 Annual Groundwater Sampling, NAPL Monitoring/Recovery, and Groundwater Treatment Performance Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. August.

TABLES

Table 1

Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling
First Quarter 2016 [(1), (2)]
Hempstead Intersection Street Former MGP Site

Well ID	First Quarter (March 7 to 11, 2015)			NAPL Monitoring and DNAPL Recovery Events	
	Water Level	NAPL Thickness	Water Quality	January 22, 2016	March 7, 2016
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	X	X			
HIMW-010I	X	X			
HIMW-011S	X	X			
HIMW-011I	X	X			
HIMW-011D	X	X			
HIMW-012S	X	X	X		
HIMW-012I					
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)	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 2016 [(1), (2)]
Hempstead Intersection Street Former MGP Site

Well ID	First Quarter (March 7 to 11, 2015)			NAPL Monitoring and DNAPL Recovery Events	
	Water Level	NAPL Thickness	Water Quality	January 22, 2016	March 7, 2016
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 2016
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	3/7/2016	65.00	ND	19.92	ND	35.00	0	0.00	45.08
HIMW-003I	3/7/2016	64.94	ND	20.16	ND	86.30	0	0.00	44.78
HIMW-003D	3/7/2016	65.26	ND	20.75	ND	145.00	0	0.00	44.51
HIMW-004S	3/7/2016	72.74	ND	28.30	ND	42.01	0	0.00	44.44
HIMW-004I	3/7/2016	72.78	ND	28.41	ND	90.47	0	0.00	44.37
HIMW-004D	3/7/2016	72.65	ND	28.82	ND	179.00	0	0.00	43.83
HIMW-005S	3/7/2016	67.19	ND	22.65	ND	39.45	0	0.00	44.54
HIMW-005I	3/7/2016	67.22	ND	22.81	ND	90.58	0	0.00	44.41
HIMW-005D	3/7/2016	67.22	ND	23.31	ND	142.00	0	0.00	43.91
HIMW-008S	3/7/2016	65.04	ND	20.94	ND	37.05	0	0.00	44.10
HIMW-008I	3/7/2016	65.14	ND	21.02	ND	75.90	0	0.00	44.12
HIMW-008D	3/7/2016	64.93	ND	20.82	ND	114.00	0	0.00	44.11
HIMW-009S	3/7/2016	70.03	ND	25.35	ND	40.00	0	0.00	44.68
HIMW-009I	3/7/2016	69.93	ND	25.32	ND	82.00	0	0.00	44.61
HIMW-009D	3/7/2016	69.96	ND	25.41	ND	125.00	0	0.00	44.55
HIMW-010S	3/7/2016	71.60	ND	25.99	ND	40.00	0	0.00	45.61
HIMW-010I	3/7/2016	71.47	ND	25.75	ND	92.50	0	0.00	45.72
HIMW-011S	3/7/2016	71.62	ND	26.42	ND	40.00	0	0.00	45.20
HIMW-011I	3/7/2016	71.43	ND	26.25	ND	92.00	0	0.00	45.18
HIMW-011D	3/7/2016	71.39	ND	26.25	ND	121.00	0	0.00	45.14
HIMW-012S	3/7/2016	61.58	ND	18.51	ND	33.60	0	0.00	43.07
HIMW-012I	3/7/2016	61.59	NM	NM	NM	74.42	NM	NM	NM
HIMW-012D	3/7/2016	61.82	NM	NM	NM	128.01	NM	NM	NM
HIMW-013S	3/7/2016	72.83	ND	31.66	ND	49.40	0	0.00	41.17
HIMW-013I	3/7/2016	72.60	ND	31.46	ND	81.56	0	0.00	41.14
HIMW-013D	3/7/2016	72.53	ND	31.43	ND	122.00	0	0.00	41.10
HIMW-014I	3/7/2016	71.71	ND	30.60	ND	97.40	0	0.00	41.11
HIMW-014D	3/7/2016	71.59	ND	32.24	ND	152.00	0	0.00	39.35
HIMW-015I	3/7/2016	64.18	ND	25.78	ND	94.10	0	0.00	38.40
HIMW-015D	3/7/2016	63.96	ND	26.90	ND	153.50	0	0.00	37.06
HIMW-020S	3/7/2016	70.43	ND	26.73	ND	36.75	0	0.00	43.70
HIMW-020I	3/7/2016	70.30	ND	26.57	ND	75.50	0	0.00	43.73

Table 2
Groundwater and NAPL Measurements
First Quarter 2016
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	3/7/2016	NM	21.05	21.15	43.20	45.30	0.1	2.10	NM
HIMW-022	3/7/2016	74.07	ND	31.60	ND	64.45	0	0.00	42.47
HIMW-023	3/7/2016	74.41	ND	31.78	ND	76.25	0	0.00	42.63
HIMW-024	3/7/2016	59.83	ND	16.28	ND	55.50	0	0.00	43.55
HIMW-025	3/7/2016	62.75	ND	18.72	ND	52.90	0	0.00	44.03
HIMW-26I	3/7/2016	68.13	ND	24.56	ND	85.85	0	0.00	43.57
HIMW-26D	3/7/2016	68.02	ND	24.58	ND	137.80	0	0.00	43.44
HIMW-27S	3/7/2016	69.49	ND	25.59	ND	41.31	0	0.00	43.90
HIMW-27I	3/7/2016	68.96	ND	25.04	ND	71.35	0	0.00	43.92
HIMW-28S	3/7/2016	69.87	ND	25.96	ND	41.43	0	0.00	43.91
HIMW-28I	3/7/2016	69.56	ND	25.62	ND	72.50	0	0.00	43.94
PZ-02	3/7/2016	72.96	ND	27.19	ND	35.44	0	0.00	45.77
PZ-03	3/7/2016	64.58	ND	19.07	ND	29.88	0	0.00	45.51
OSMW-02	3/7/2016	71.59	ND	26.54	ND	45.00	0	0.00	45.05
OSMW-03	3/7/2016	71.39	ND	26.36	ND	44.00	0	0.00	45.03

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 2016
Hempstead Intersection Street Former MGP Site

Well ID	Well Diameter (inches)	First Quarter 2016					
		January 22, 2016			March 7, 2016		
		Thickness of LNAPL	Thickness of DNAPL	Volume of NAPL Removed(1)	Thickness of LNAPL	Thickness of DNAPL	Volume of NAPL Removed(1)
		[ft]	[ft]	[gal]	[ft]	[ft]	[gal]
HIMW-021	6	NM	1.50	0.00	0.1	2.10	0.00
		Volume of NAPL Removed:		**0.00**	Volume of NAPL Removed:		**0.00**
		Total NAPL volume recovered during the First Quarter 2016:					**0.00**

Total volume of NAPL recovered in First Quarter 2016: **0.00** gallons

Total volume of NAPL recovered from April 2007 to First Quarter 2016: **841.1** gallons

Notes:

(1) Volume of product recovered 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 of 2016
Hempstead Intersection Street Former MGP Site

Well ID	First Quarter 2016 March 7 to 11, 2016	
	BTEX [µg/L]	PAH [µg/L]
HIMW-003S		
HIMW-003I		
HIMW-003D		
HIMW-004S		
HIMW-004I		
HIMW-004D		
HIMW-005S	ND	ND
HIMW-005I	62	1,284
HIMW-005D	112	970
HIMW-008S	33	6
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	2	9
HIMW-014I	6	25
HIMW-014D		
HIMW-015I	4	17
HIMW-015D	ND	ND
HIMW-020S	ND	ND
HIMW-020I	2	1
HIMW-021		
HIMW-022	ND	ND
HIMW-023	ND	ND
HIMW-024	136	439
HIMW-025	ND	ND
HIMW-026I	ND	ND
HIMW-026D	42	1,300
HIMW-027S	711	977
HIMW-027I	ND	ND
HIMW-028S	ND	10
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 2016
Hempstead Intersection Street Former MGP Site

System #1

	January 28, 2016			February 17, 2016			March 18, 2016		
ID	DTW (ft)	PID (ppm)	DO[(1)] (mg/L)	DTW (ft)	PID (ppm)	DO[(2)] (mg/L)	DTW (ft)	PID (ppm)	DO[(2)] (mg/L)
MP-1-1S	28.67	0.0	NM	28.35	0.0	37.36	27.82	0.2	21.11
MP-1-1D	28.62	0.2	NM	28.32	0.0	23.68	27.90	0.0	37.44
MP-1-2S	23.20	0.0	NM	22.88	0.0	24.96	22.41	0.0	18.48
MP-1-2D	23.00	0.0	NM	22.83	0.0	29.88	22.10	0.0	46.25
MP-1-3S	21.10	0.6	NM	20.85	0.2	17.71	20.32	0.4	20.32
MP-1-3D	21.15	0.4	NM	21.14	0.3	18.55	20.38	0.0	27.71
MP-1-4S	23.90	0.3	NM	23.53	0.0	24.76	23.15	0.0	23.15
MP-1-4D	23.86	0.0	NM	23.46	0.0	26.85	23.12	0.6	31.02
MP-1-5	28.41	0.0	NM	28.11	0.0	28.68	27.63	0.0	27.28
MP-1-6	20.65	0.0	NM	20.30	0.0	18.77	19.10	0.0	12.05
MP-1-7	23.91	0.0	NM	23.52	0.0	40.09	23.17	0.0	42.25
MP-1-8	25.45	0.0	NM	25.08	0.0	4.95	24.71	0.0	5.45

System #2

	January 29, 2016			February 19, 2016			March 18, 2016		
ID	DTW (ft)	PID (ppm)	DO[(1)] (mg/L) Bottom	DTW (ft)	PID (ppm)	DO[(2)] (mg/L) Bottom	DTW (ft)	PID (ppm)	DO[(2)] (mg/L) Bottom
MP-2-1	31.51	0.3	NM	31.17	0.2	10.21	30.75	0.0	9.88
MP-2-2	32.87	0.4	NM	32.52	0.0	16.55	32.08	0.0	15.29
MP-2-3S	32.69	0.0	NM	32.40	0.2	24.20	31.97	0.0	20.20
MP-2-3D	32.81	0.0	NM	32.46	0.5	22.12	32.07	0.0	25.27
MP-2-4	21.41	0.0	NM	21.00	0.0	20.01	20.65	0.0	19.40
MP-2-5	NM	NM	NM	19.15	0.0	14.31	18.82	0.0	18.82

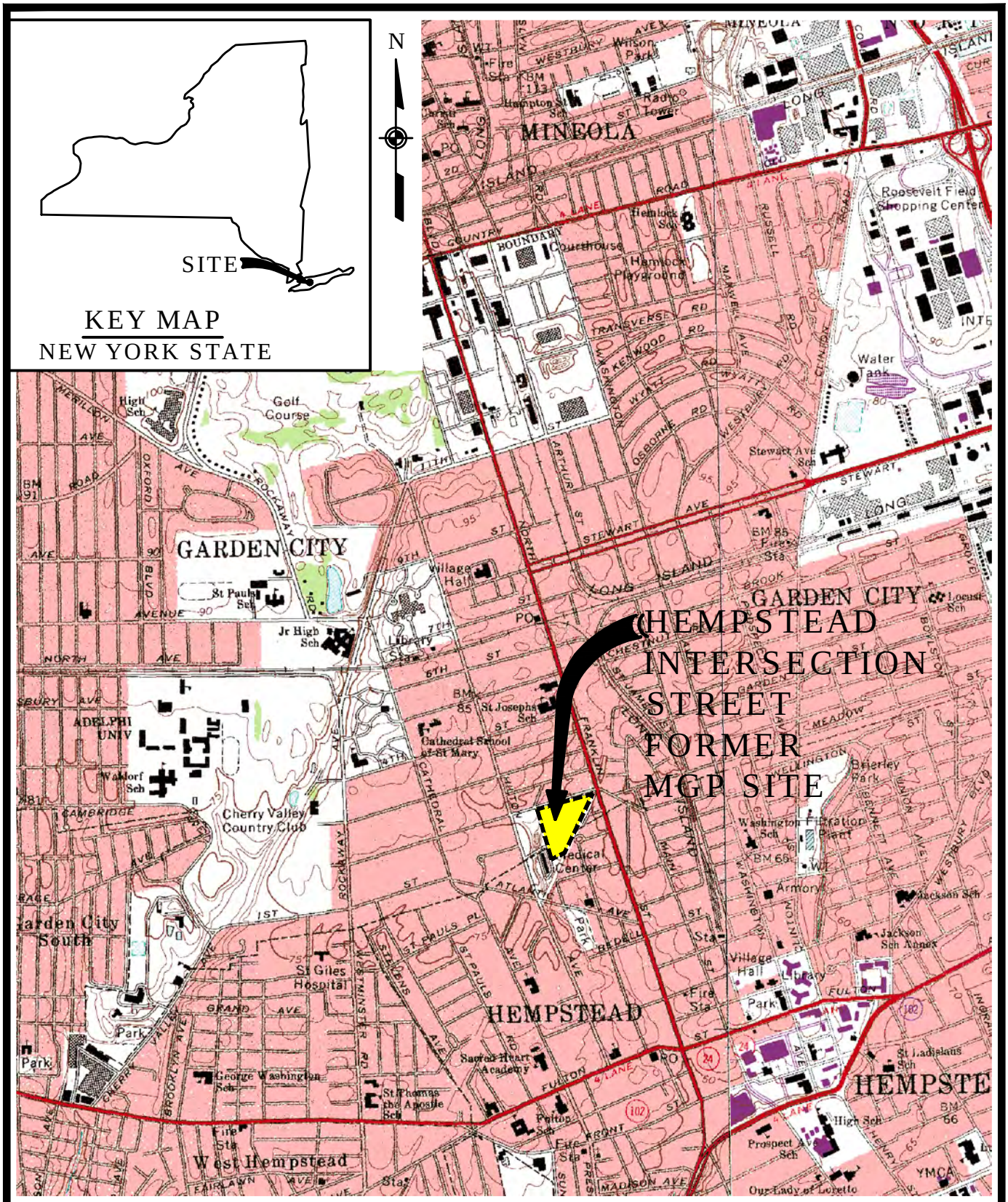
Abbreviations

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 meter not functioning during January 2016 monitoring events.
(2) 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\1175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\SECOND QUARTER 2016\FIGURE-1.dwg 9/12/16 - 1 RAL

J:\Projects\11175065.00000\DB\GIS\ARCMAP\SITE MAP 032014.mxd 9/12/2016

N

Second Street
Washington
Union
Franklin
Main
Atlantic
Bedell
Jackson
Fulton
Front
Hilton
Cathedral

IPR-1
HIMW-019S,I
HIVP-16
IPR-2
IPR-3
IPR-4
HIMW-001S,I,D
HIMW-003S,I,D
IPR-7
IPR-9
IPR-11
HIMW-006S,I,D
HIMW-004S,I,D
HIMW-005S,I,D
HIMW-026I,D
IPR-14
IPR-28
IPR-18
HIMW-016S,I
IPR-30
IPR-20
IPR-29
IPR-22
HIVP-19
HIMW-21
MP-1-1D
HIVP-20
MP-1-1S
MP-1-5
PZ-02
PZ-03
HIMW-018S,I
IPR-8
IPR-5
PZ-08
IPR-25
IPR-26
IPR-27
IPR-6
IPR-10
HIMW-002S,I,D
OSMW-1
HIMW-011S,I,D
OSMW-2
OSMW-3
HIMW-010S,I,D
IPR-13
HIMW-028S,I
HIMW-027S,I
HIMW-007S,I,D
HIMW-009S,I,D
IPR-17
IPR-16
IPR-15
IPR-12A,B
IPR-19S,D
IPR-21
MP-1-4D
MP-1-4S
MP-1-8
MP-1-7
IPR-23
IPR-24
HIMW-017S
HIMW-008S,I,D
HIVP-21
MP-1-6
MP-1-3S
MP-1-3D
HIVP-17
HIMW-025
MP-1-2S
MP-1-2D
HIMW-020S,I
HIMW-024
HIMW-012S,I,D
MP-2-1
MP-2-5
MP-2-4
HIMW-023
MP-2-3S
MP-2-3D
MP-2-2
HIMW-022
HIMW-013S,I,D
HIVP-18
HIMW-014I,D
HIMW-015I,D

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 2016

FIGURE 2

J:\Projects\11175065.00000\DB\GIS\ARCMAP\GROUNDWATER TREATMENT LOCATIONS (1st Qtr 2016).mxd 9/12/2016

N

INSET 1

HISB-114
MP-1-1S,1D
HISB-116
HIMW-020S,I
HISB-105
MP-1-5
HISB-105-2
HIGP-054
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
HIGP-064
HIGP-063
HISB-108
HIGP-067
RUNDLE COURT
HIGP-062
HIGP-059
HIGP-065
HIMW-013S,I,D
HIVP-18
RYAN COURT
HIGP-070
HIGP-066
HIMW-014I,D
HIGP-058
CATHEDRAL COURT
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
ATLANTIC AVENUE
SAINT PAULS PLACE
GARDEN PLACE
KENSINGTON COURT
CHELSEA PLACE
CATHEDRAL AVENUE
KELLUM PLACE
TERRACE AVENUE
BEDELL STREET
NORTH FRANKLIN STREET
JACKSON STREET
MULFORD PLACE
FULTON AVENUE
BELL STREET
SEALEY AVENUE

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

DGP–209 (11/11/08)		
DEPTH	TOT. BTEX	TOT. PAHs
34–38	1,709	1,066
40–44	4,980	645
50–54	3,859	1,297
70–74	2	3

HIGP–40 (8/7/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	4,166	9,815
56–60	4	112

HIGP–49 (10/16/00)		
DEPTH	TOT. BTEX	TOT. PAHs
36–40	ND	ND
60–64	7	63
90–94	ND	16

HIGP–55 (9/7/00)		
DEPTH	TOT. BTEX	TOT. PAHs
23–27	31	244
60–64	69	532
80–84	2	ND

HIGP–61 (11/8/00)		
DEPTH	TOT. BTEX	TOT. PAHs
26–30	ND	ND
60–64	30	39
90–94	2	2

HIGP–66 (12/14/00)		
DEPTH	TOT. BTEX	TOT. PAHs
40–44	ND	1
56–60	8	60
72–76	398	787
90–94	12,970	259

HIGP–71 (11/6/01)		
DEPTH	TOT. BTEX	TOT. PAHs
46–50	ND	ND
54–58	ND	ND
62–66	1	7
72–76	29	84
81–85	126	95

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–020S,I		
DEPTH	TOT. BTEX	TOT. PAHs
25–35	ND–3 (ND)	ND–5 (ND)
63–73	ND–474 (2)	ND–3,988 (1)

HISB–100 (11/19/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	12,000	1,576
50–54	441	332
60–64	1,470	599
70–74	747	1,809
80–84	22	21

HISB–104 (9/24/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
45–49	ND	ND
55–59	ND	ND

HISB–108 (12/9/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	ND
50–54	ND	ND
60–64	ND	ND
70–74	12	1
80–84	20	1
90–94	26	2

HISB–117 (4/22/10)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	ND
50–54	ND	ND
60–64	ND	ND
70–74	ND	2
80–84	2	32
90–94	ND	2
100–104	ND	ND

HIGP–01 (8/7/00)		
DEPTH	TOT. BTEX	TOT. PAHs
25–29	ND	ND
56–60	1	1

HIGP–41 (8/11/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	2,241	3,258
58–62	1	17

HIGP–50 (9/8/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	8
60–64	ND	ND

HIGP–56 (10/9/00)		
DEPTH	TOT. BTEX	TOT. PAHs
24–28	ND	2
60–64	ND	ND

HIGP–62 (11/8/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	8	4
54–58	771	152
84–89	45	89

HIGP–67 (12/20/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	ND	ND
54–58	ND	ND
72–76	ND	27
90–94	ND	ND

HIGP–72 (11/6/01)		
DEPTH	TOT. BTEX	TOT. PAHs
52–56	ND	ND
62–66	ND	ND
72–76	ND	ND
82–86	ND	ND
92–96	ND	ND

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

HISB–101 (11/19/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	122	190
40–44	14,100	4,356
50–54	4,040	3,244
60–64	1,995	2,074
70–74	4	4
80–84	1	2

HISB–105 (12/4/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	518
50–54	469	ND
60–64	1,043	3,058
70–74	60	59
80–84	279	576
90–94	48	99

HISB–109 (12/10/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	ND
50–54	8	ND
60–64	19	ND
70–74	28	ND
80–84	31	2
90–94	ND	ND

HISB–119 (4/14/10)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	2
40–44	ND	1
50–54	ND	2
60–64	ND	ND
70–74	ND	4
80–84	ND	16
90–94	ND	4

HIGP–02 (8/8/00)		
DEPTH	TOT. BTEX	TOT. PAHs
31–35	ND	ND
56–60	ND	ND

HIGP–44 (8/10/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	469	244
57–61	3	47

HIGP–51 (8/31/00)		
DEPTH	TOT. BTEX	TOT. PAHs
28–32	ND	ND
58–60	ND	ND

HIGP–57 (9/21/00)		
DEPTH	TOT. BTEX	TOT. PAHs
36–40	ND	ND
64–68	ND	ND

HIGP–63 (12/15/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	2	3
54–58	18	22
72–76	3,979	2,769
90–94	773	63

HIGP–68 (12/20/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	3	5
54–58	163	300
72–76	ND	ND
90–94	ND	ND

HIMW–003S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
23–33	ND–36 (ND)	ND–1,391 (ND)
80.5–90.5	ND–13 (ND)	ND (ND)
133–143	ND–8.2 (ND)	ND–30 (ND)

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–024		
DEPTH	TOT. BTEX	TOT. PAHs
44.6–54.6	ND–900(1.36)	ND–1,024 (439)

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

HISB–102 (12/1/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	1,800	2,706
40–44	835	1,119
50–54	225	2,735
60–64	ND	10
70–74	1	4
80–84	76	130

HISB–105(2) (12/18/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	15	19
40–44	14	35
50–54	247	912
60–64	560	2,941
70–74	59	34
80–84	14	69
90–94	24	221
100–104	1	ND

HISB–114 (12/23/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	ND
50–54	ND	ND
60–64	ND	ND
70–74	ND	ND
80–84	ND	ND
90–94	ND	ND

HITW–01 (9/21/01)		
DEPTH	TOT. BTEX	TOT. PAHs
40–44	2	ND
54–58	3	6
70–74	95	278
82–86	293	274
90–94	45	44
109–113	210	1

HIGP–03 (7/28/00)		
DEPTH	TOT. BTEX	TOT. PAHs
33–37	ND	ND
56–60	ND	ND

HIGP–45 (10/17/00)		
DEPTH	TOT. BTEX	TOT. PAHs
32–38	1,229	1,254
60–64	ND	ND

HIGP–52 (9/11/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	1,031	2,629
58–60	ND	ND

HIGP–58 (10/18/00)		
DEPTH	TOT. BTEX	TOT. PAHs
36–40	ND	ND
60–64	ND	ND
90–94	ND	ND

HIGP–64 (12/18/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	27	17
54–58	4,031	1,574
72–76	401	239
90–94	14	48

HIGP–69 (9/24/01)		
DEPTH	TOT. BTEX	TOT. PAHs
54–58	ND	ND
70–74	28	28
82–86	126	76
90–94	12	19
104–108	5	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–013S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
38–48	ND–11	ND
70–80	ND–313 (ND)	ND–156 (ND)
110–120	2–30 (2)	ND–28 (9)

HIMW–026 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
65–85	ND (ND)	ND (ND)
115–135	24–87 (42)	794–1,749 (1,300)

HISB–102(2) (1/8/09)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	423	859
40–44	464	274
50–54	349	652
60–64	68	453
70–74	5	5
80–84	ND	1

HISB–106 (12/4/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	418	602
40–44	1,162	383
50–54	1,800	2,513
60–64	815	572
70–74	68	51
80–84	38	30
90–94	124	98

HISB–115 (1/14/09)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	15
40–44	9	14
50–54	288	265
60–64	125	133
70–74	1,411	1,153
80–84	123	99
90–94	56	67

HITW–02 (10/31/01)		
DEPTH	TOT. BTEX	TOT. PAHs
55–60	2	ND
65–70	5	9
75–80	9	40
85–90	29	52
115–120	42	ND
148–153	9	0

HIGP–04 (7/24/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
56–60	ND	2

HIGP–47 (8/22/00)		
DEPTH	TOT. BTEX	TOT. PAHs
31–35	6,670	18,715
60–64	500	369

HIGP–53 (9/1/00)		
DEPTH	TOT. BTEX	TOT. PAHs
27–31	76	317
60–64	15	35
90–94	1	ND

HIGP–59 (10/17/00)		
DEPTH	TOT. BTEX	TOT. PAHs
34–38	1	ND
60–64	ND	2
90–94	27	4

HIGP–65 (12/19/00)		
DEPTH	TOT. BTEX	TOT. PAHs
37–41	2	ND
54–58	376	125
72–76	775	190
90–94	36	59

HIGP–70 (9/20/01)		
DEPTH	TOT. BTEX	TOT. PAHs
54–58	ND	0
70–74	21	20
82–86	29	38
92–96	15	18
110–114	3	6
140–144	3	ND

HIMW–005S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
27–37	ND–232 (ND)	ND–765 (ND)
80–90	50–439 (62)	1,284–5,337 (1,284)
130–140	ND–359 (112)	ND–2,698 (970)

HIMW–014 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
85–95	3–273 (6)	25–288 (25)
140–150	ND–15	ND–6

HIMW–027S, I		
DEPTH	TOT. BTEX	TOT. PAHs
20–40	711–1,483 (711)	960–1,807 (977)
50–70	ND–2 (ND)	ND–17 (ND)

HISB–103 (12/1/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	4	6
50–54	84	171
60–64	ND	ND
70–74	ND	ND
80–84	5	9

HISB–107 (12/8/08)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	217	47
50–54	551	258
60–64	29	68
70–74	ND	ND
80–84	ND	ND
90–94	24	8

HISB–116 (6/23/09)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	ND
40–44	ND	ND
50–54	1.3	ND
60–64	100	192
70–74	6	37
80–84	91	330
90–94	100	451
100–104	292	604

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

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

HIGP–28 (8/4/00)		
DEPTH	TOT. BTEX	TOT. PAHs
29–33	17	22
58–62	2,640	5,933

HIGP–48 (8/25/00)		
DEPTH	TOT. BTEX	TOT. PAHs
30–34	ND	2
60–64	766	926

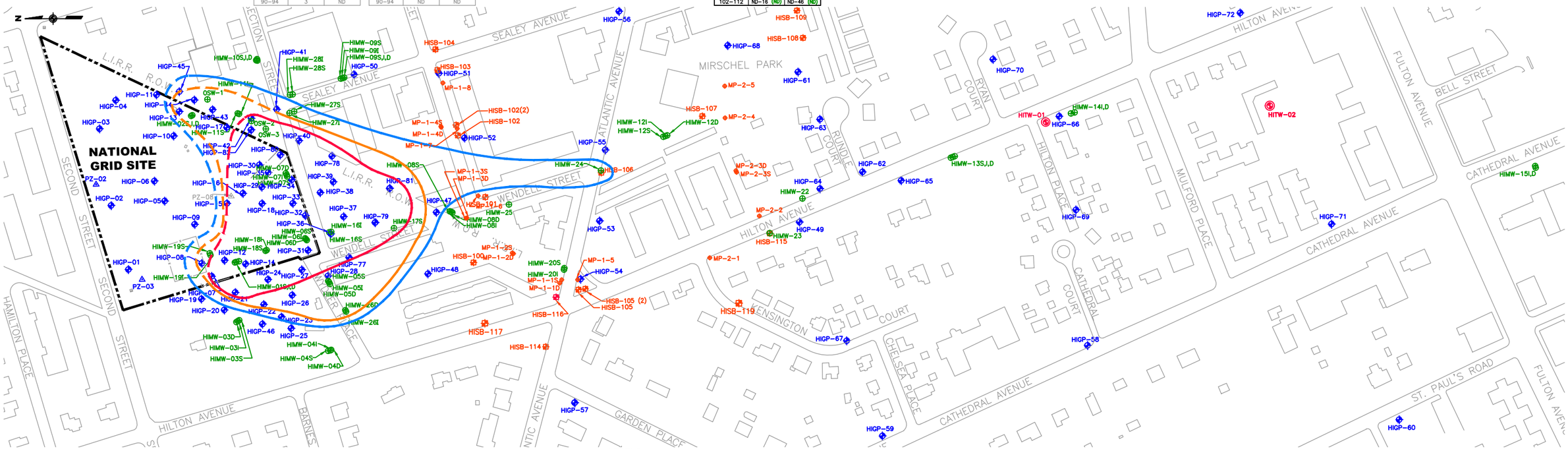
HIGP–54 (9/5/00)		
DEPTH	TOT. BTEX	TOT. PAHs
33–37	ND	1
60–64	373	338
90–94	3	ND

HIGP–60 (10/19/00)		
DEPTH	TOT. BTEX	TOT. PAHs
33–37	ND	ND
60–64	ND	ND
90–94	ND	ND

HIMW–008S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
25–35	ND–8,240 (33)	ND–3,069 (6)
63–73	ND–457 (ND)	ND–251 (ND)
102–112	ND–16 (ND)	ND–46 (ND)

HIMW–015 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
80–90	4–111 (4)	ND–273 (17)
141.5–151.5	ND–94 (ND)	ND–1 (ND)

HIMW–028S,I		
DEPTH	TOT. BTEX	TOT. PAHs
20–40	ND–175 (ND)	10–826 (10)
50–70	ND (ND)	ND (ND)



LEGEND:

HITW–02 TEMPORARY GROUNDWATER MONITORING WELL (TAKEN FROM RI REPORT, 2006)

HIGP–53 TEMPORARY GROUNDWATER SAMPLE LOCATION (TAKEN FROM RI REPORT, 2006)

MP–2–1 OXYGEN SYSTEM MONITORING WELL

HIMW–13 MONITORING WELL

PZ–02 PIEZOMETER

PZ–08 ABANDONED PIEZOMETER

HISB–114 TEMPORARY GROUNDWATER SAMPLE LOCATION (URS, 2008–2009)

NA NOT ANALYZED

ND NOT DETECTED

LOCATION ID → HIMW–015 I,D

DEPTH (ft bgs)	TOT. BTEX	TOT. PAHs
80–90	4–111 (4)	ND–273 (17)
141.5–151.5	ND–94 (ND)	ND–1 (ND)

← CONCENTRATION UNITS ARE ug/L (MARCH 2016 CONCENTRATION)

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

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 5,000 ug/L

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.

150' 0 150'
SCALE IN FEET

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\FIRST QUARTER 2016\FIGURE 4.dwg 9/12/16 - 5 RAL

AECOM

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

EXTENT OF DISSOLVED-PHASE PLUME AND GROUNDWATER ANALYTICAL RESULTS - MARCH 2016

FIGURE 4

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2016\FIGURE 5.dwg 9/12/16 - 1 RAL

N

PZ-02, 45.77

NATIONAL GRID
FORMER MGP SITE

PZ-03, 45.51

HIMW-03S, 45.08

OSMW-3, 45.03

HIMW-11S, 45.20

HIMW-10S, 45.61

OSMW-2, 45.05

HIMW-28S, 43.91

HIMW-09S, 44.68

HIMW-27S, 43.90

HIMW-04S, 44.44

HIMW-05S, 44.54

HIMW-8S, 44.10

HIMW-20S, 43.70

HIMW-12S, 43.07

HIMW-13S, 41.17

45.5

45.0

44.5

44.0

44.0

43.5

43.0

42.5

42.0

41.5

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

SECOND STREET

HAMILTON AVENUE

HILTON AVENUE

BARNES LANE

WYDLER PLACE

WENDELL STREET

INTERSECTION STREET

SMITH STREET

FRANKLIN AVENUE

MAIN STREET

OLD FRANKLIN STREET

MEADOW PLACE

STOWE PLACE

SAMMIS PLACE

MILLER PLACE

UNION PLACE

SEALEY AVENUE

ATLANTIC AVENUE

GARDEN PLACE

KELLUM PLACE

KENSINGTON COURT

CATHEDRAL AVENUE

CHELSEA PLACE

MIRSCHEL PARK

TERRACE AVENUE

MARGARET COURT

BEDELL STREET

RUNDLE COURT

NORTH FRANKLIN STREET

WEST COLUMBIA ST

RYAN COURT

JACKSON STREET

CATHEDRAL COURT

HILTON PLACE

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, 44.10	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
POTENTIOMETRIC SURFACE MAP FOR SHALLOW GROUNDWATER
MARCH 7, 2016

FIGURE 5

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2016\FIGURE 6.dwg 9/12/16 - 3 RAL

N

NATIONAL GRID
FORMER MGP SITE

HIMW-03I, 44.78
HIMW-27I, 43.92
HIMW-11I, 45.18
HIMW-10I, 45.72
HIMW-05I, 44.41
HIMW-28I, 43.94
HIMW-04I, 44.37
HIMW-09I, 44.61
HIMW-26I, 43.57
HIMW-08I, 44.12
HIMW-25, 44.03
HIMW-20I, 43.73
HIMW-24, 43.55
HIMW-12I, NM
HIMW-23, 42.63
HIMW-22, 42.47
HIMW-13I, 41.14
HIMW-14I, 41.11
HIMW-15I, 38.40

45
44
43
42
41
40
39

SECOND STREET
HILTON AVENUE
BARNES LANE
WYDLER PLACE
WENDELL STREET
L.I.R.R. R.O.W.
FRANKLIN AVENUE
STREET INTERSECTION
SEALEY AVENUE
SMITH STREET
OLD FRANKLIN STREET
MEADOW PLACE
STOWE PLACE
SAMMIS PLACE
MAIN STREET
MILLER PLACE
UNION PLACE
ATLANTIC AVENUE
GARDEN PLACE
KELLUM PLACE
KENSINGTON COURT
MIRSCHEL PARK
TERRACE AVENUE
MARGARET COURT
BEDELL STREET
NORTH FRANKLIN STREET
WEST COLUMBIA
CATHEDRAL AVENUE
CHELSEA PLACE
RUNDLE COURT
RYAN COURT
JACKSON STREET
CATHEDRAL COURT
HILTON PLACE
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, 44.12	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
POTENTIOMETRIC SURFACE MAP FOR INTERMEDIATE GROUNDWATER
MARCH 7, 2016

FIGURE 6

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2016\FIGURE 7.dwg 9/12/16 - 2 RAL

N

NATIONAL GRID
FORMER MGP SITE

HIMW-11D, 45.14
HIMW-03D, 44.51
HIMW-05D, 43.91
HIMW-04D, 43.83
HIMW-09D, 44.55
HIMW-26D, 43.44
HIMW-08D, 44.11
HIMW-12D, NM
HIMW-13D, 41.10
HIMW-14D, 39.35
HIMW-15D, 37.06

45
44
43
42
41
40
39
38

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

LEGEND:

⊕	MONITORING WELL
→	GROUNDWATER FLOW DIRECTION
43	POTENTIOMETRIC SURFACE CONTOUR
— - - —	FORMER MGP SITE BOUNDARY
HIMW-14D, 39.35	LOCATION ID AND GROUNDWATER ELEV. (FT. AMSL)
NM	NOT MEASURED DURING THIS SAMPLING EVENT

300' 0 300'
SCALE IN FEET

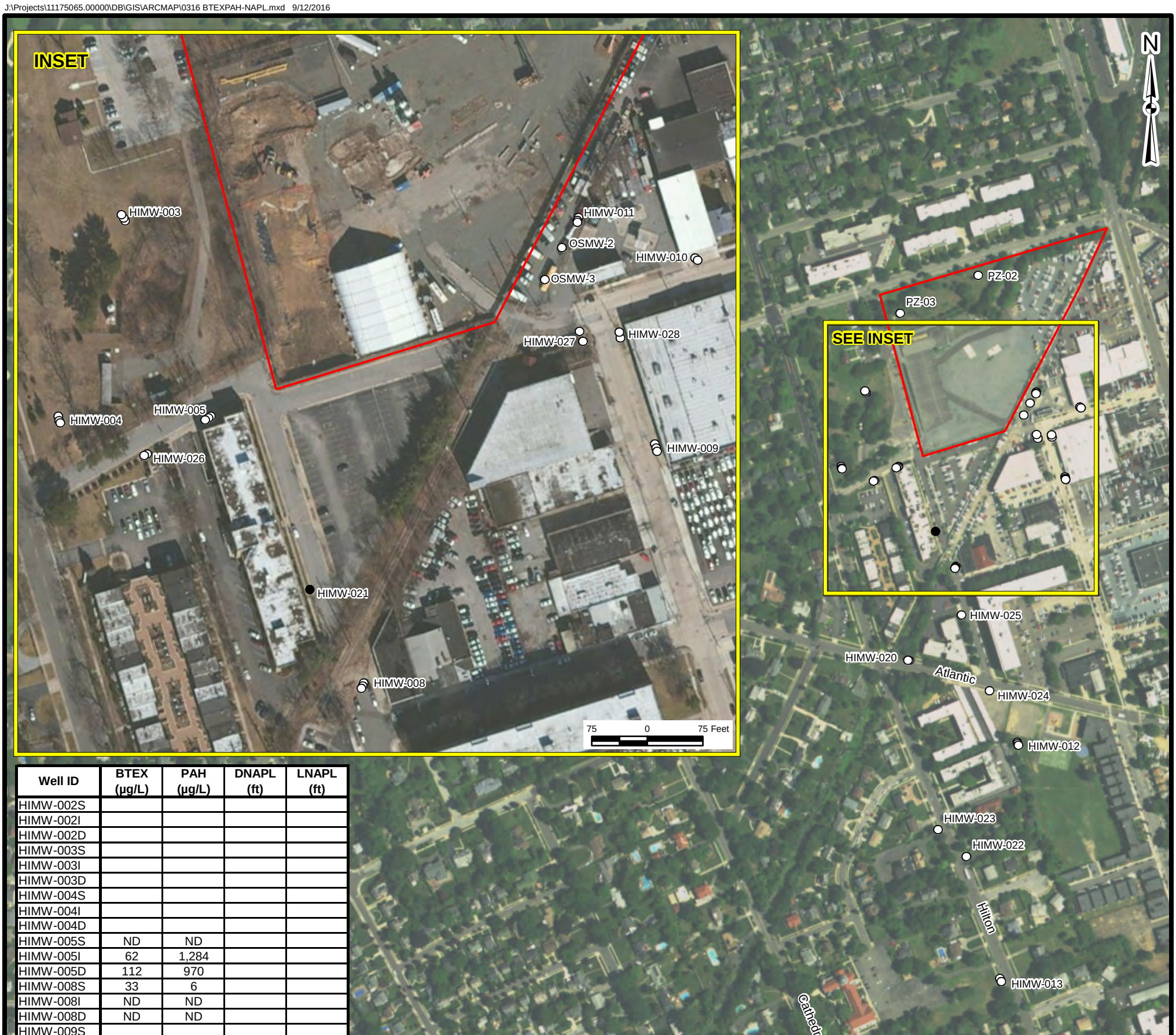
NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

AECOM

HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR DEEP GROUNDWATER
MARCH 7, 2016

FIGURE 7

J:\Projects\11175065.00000\DB\GIS\ARCMAP\0316 BTEXPAH-NAPL.mxd 9/12/2016



Well ID	BTEX (µg/L)	PAH (µg/L)	DNAPL (ft)	LNAPL (ft)
HIMW-002S				
HIMW-002I				
HIMW-002D				
HIMW-003S				
HIMW-003I				
HIMW-003D				
HIMW-004S				
HIMW-004I				
HIMW-004D				
HIMW-005S	ND	ND		
HIMW-005I	62	1,284		
HIMW-005D	112	970		
HIMW-008S	33	6		
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	2	9		
HIMW-014I	6	25		
HIMW-014D				
HIMW-015I	4	17		
HIMW-015D	ND	ND		
HIMW-020S	ND	ND		
HIMW-020I	2	1		
HIMW-021			2.10	
HIMW-022	ND	ND		
HIMW-023	ND	ND		
HIMW-024	136	439		
HIMW-025	ND	ND		
HIMW-026I	ND	ND		
HIMW-026D	42	1,300		
HIMW-027S	711	977		
HIMW-027I	ND	ND		
HIMW-028S	ND	10		
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
AND FREE PRODUCT THICKNESS
FIRST QUARTER 2016

FIGURE 8

APPENDIX A

DATA USABILITY SUMMARY REPORT

(Provided in Electronic Format Only)

APPENDIX A
DATA USABILITY SUMMARY REPORT
FIRST QUARTER 2016

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:

URS CORPORATION
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202-2657

MAY 2016

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, two (2) matrix spike/matrix spike duplicate (MS/MSD) pairs, one (1) field blank, and three (3) trip blanks collected by URS personnel on March 7-11, 2016. Six (6) of the groundwater samples (i.e., HIMW-26I, -26D, -27S, -27I, -28S, and -28I) were collected as part of the oxygen treatment system design evaluation, while the remaining eighteen (18) groundwater samples were collected as part of the 2016 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. 4*, August 2008.

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), except for the following instances.

The IDs for the following field QC samples were incorrectly documented on the COCs: TB0308**2015**, TB**2015**0310, and DUP**2015**0310. The calendar year should be 2016. The sample IDs were manually revised on the COC and lab reporting forms during the data review.

All samples were analyzed within the required holding times.

V. NON-CONFORMANCES

Matrix Spikes/Matrix Spike Duplicates

The BTEX and PAH MS/MSD analyses performed on samples HIMW-26I and HIMW-08S, respectively, exhibited biased high accuracy and/or precision outliers. Since none of the affected compounds were detected in the parent samples, and the associated laboratory control samples (LCS) were within QC limits, no further data qualification 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'.

For sample HIMW-27S, the o-xylene result reported by the laboratory from the undiluted analysis exceeded the linear range of calibration. However, the laboratory did not qualify the undiluted xylene result accordingly on the analytical summaries ('E'). Therefore, the o-xylene result from the secondary dilution wase used to determine the total xylene result, as reflected on Table A-1.

Field duplicates were collected from monitoring well locations HIMW-05D and HIMW-28I, 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. URS does not recommend the re-collection of any samples at this time.

Prepared By: _____ **Date:** 5/11/16

Peter R. Fairbanks, Senior Chemist

Reviewed By: _____ **Date:** 5/11/16

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
IST QUARTER 2016
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-005D	HIMW-005D	HIMW-005I	HIMW-005S	HIMW-008D
Sample ID			DUP20160310	HIMW-05D	HIMW-05I	HIMW-05S	HIMW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/10/16	03/10/16	03/10/16	03/10/16	03/08/16
Parameter	Units	Criteria*	Field Duplicate (1-1)				
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	2	1 U	1 U
Toluene	UG/L	-	2	2	1 U	1 U	1 U
Xylene (total)	UG/L	-	97	110	60	1 U	1 U
Total BTEX	UG/L	100	99	112	62	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	84 DJ	91 DJ	230 DJ	10 U	10 U
Acenaphthene	UG/L	-	2 J	2 J	11	10 U	10 U
Acenaphthylene	UG/L	-	37	41	130 DJ	10 U	10 U
Anthracene	UG/L	-	10 U	10 U	2 J	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	-	5 J	6 J	26	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	970 D	830 D	870 D	10 U	10 U
Phenanthrene	UG/L	-	10 U	10 U	15	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	1,098	970	1,284	ND	ND

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis. ND - Not detected.

J - The reported concentration is an estimated value.

U - Not detected above the reported quantitation limit.

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

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[LOGDATE] >= #3/7/2016# AND [MATRIX] = 'WG'

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
1ST QUARTER 2016
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-008I	HIMW-008S	HIMW-012S	HIMW-013D	HIMW-013I
Sample ID			HIMW-8I	HIMW-8S	HIMW-12S	HIMW-13D	HIMW-13I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/08/16	03/07/16	03/09/16	03/09/16	03/09/16
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	30	1 U	2	1 U
Ethylbenzene	UG/L	-	1 U	1	1 U	1 U	1 U
Toluene	UG/L	-	1 U	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	1 U	2	1 U	1 U	1 U
Total BTEX	UG/L	100	ND	33	ND	2	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Acenaphthene	UG/L	-	10 U	10 U	10 U	3 J	10 U
Acenaphthylene	UG/L	-	10 U	2 J	10 U	6 J	10 U
Anthracene	UG/L	-	10 U	1 J	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	2 J	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	1 J	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Phenanthrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	6	ND	9	ND

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis. ND - Not detected.

J - The reported concentration is an estimated value.

U - Not detected above the reported quantitation limit.

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
1ST QUARTER 2016
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			03/07/16	03/09/16	03/09/16	03/09/16	03/09/16
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	6	1 U	4	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U	1 U
Toluene	UG/L	-	1 U	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	1 U	2	1 U
Total BTEX	UG/L	100	6	ND	4	2	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Acenaphthene	UG/L	-	10	10 U	4 J	10 U	10 U
Acenaphthylene	UG/L	-	11	10 U	12	1 J	10 U
Anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	-	2 J	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Phenanthrene	UG/L	-	2 J	10 U	1 J	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	25	ND	17	1	ND

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis ND - Not detected.

J - The reported concentration is an estimated value

U - Not detected above the reported quantitation limit

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

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TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
IST QUARTER 2016
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			03/08/16	03/08/16	03/09/16	03/08/16	03/11/16
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	10	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	100	1 U	1 U
Toluene	UG/L	-	1 U	1 U	1	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	25	1 U	42
Total BTEX	UG/L	100	ND	ND	136	ND	42
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	38	10 U	190 DJ
Acenaphthene	UG/L	-	10 U	10 U	31	10 U	5 J
Acenaphthylene	UG/L	-	10 U	10 U	10 U	10 U	78
Anthracene	UG/L	-	10 U	10 U	4 J	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	-	10 U	10 U	22	10 U	15
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	10 U	320 D	10 U	1,000 D
Phenanthrene	UG/L	-	10 U	10 U	24	10 U	12
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	439	ND	1,300

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis ND - Not detected.

J - The reported concentration is an estimated value.

U - Not detected above the reported quantitation limit.

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

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TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
1ST QUARTER 2016
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-026I	HIMW-027I	HIMW-027S	HIMW-028I	HIMW-028I
Sample ID			HIMW-26I	HIMW-27I	HIMW-27S	DUP20160311	HIMW-28I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/11/16	03/10/16	03/10/16	03/11/16	03/11/16
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	6	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	290 D	1 U	1 U
Toluene	UG/L	-	1 U	1 U	5	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	410 D	1 U	1 U
Total BTEX	UG/L	100	ND	ND	711	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	130 DJ	10 U	10 U
Acenaphthene	UG/L	-	10 U	10 U	51	10 U	10 U
Acenaphthylene	UG/L	-	10 U	10 U	3 J	10 U	10 U
Anthracene	UG/L	-	10 U	10 U	8 J	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	4 J	10 U	10 U
Fluorene	UG/L	-	10 U	10 U	29	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	10 U	700 D	10 U	10 U
Phenanthrene	UG/L	-	10 U	10 U	48	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	4 J	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	977	ND	ND

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis. ND - Not detected.

J - The reported concentration is an estimated value.

U - Not detected above the reported quantitation limit

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

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TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
IST QUARTER 2016
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-028S
Sample ID			HIMW-28S
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			03/10/16
Parameter	**Units**	**Criteria***	
Volatile Organic Compounds			
Benzene	UG/L	-	1 U
Ethylbenzene	UG/L	-	1 U
Toluene	UG/L	-	1 U
Xylene (total)	UG/L	-	1 U
Total BTEX	UG/L	100	ND
Semivolatile Organic Compounds			
2-Methylnaphthalene	UG/L	-	10 U
Acenaphthene	UG/L	-	10 U
Acenaphthylene	UG/L	-	10 U
Anthracene	UG/L	-	10 U
Benzo(a)anthracene	UG/L	-	10 U
Benzo(a)pyrene	UG/L	-	10 U
Benzo(b)fluoranthene	UG/L	-	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U
Benzo(k)fluoranthene	UG/L	-	10 U
Chrysene	UG/L	-	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U
Fluoranthene	UG/L	-	10 U
Fluorene	UG/L	-	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U
Naphthalene	UG/L	-	10
Phenanthrene	UG/L	-	10 U
Pyrene	UG/L	-	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	10

*Criteria- 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 Criteria

D - Result reported from a secondary dilution analysis. ND - Not detected.

J - The reported concentration is an estimated value.

U - Not detected above the reported quantitation limit.

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

TABLE A-2
VALIDATED FIELD QC SAMPLE ANALYTICAL RESULTS
IST QUARTER 2016
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID			TB03082016	TB20160310	FB20160311	TB20160311
Matrix			Water Quality	Water Quality	Water Quality	Water Quality
Depth Interval (ft)			-	-	-	-
Date Sampled			03/08/16	03/10/16	03/11/16	03/11/16
Parameter	Units	Criteria*	Trip Blank (1-1)	Trip Blank (1-1)	Field Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds						
Benzene	UG/L	-	1 U	1 U	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U
Toluene	UG/L	-	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	1 U	1 U
Total BTEX	UG/L	100	ND	ND	ND	ND
Semivolatile Organic Compounds						
2-Methylnaphthalene	UG/L	-	NA	NA	10 U	NA
Acenaphthene	UG/L	-	NA	NA	10 U	NA
Acenaphthylene	UG/L	-	NA	NA	10 U	NA
Anthracene	UG/L	-	NA	NA	10 U	NA
Benzo(a)anthracene	UG/L	-	NA	NA	10 U	NA
Benzo(a)pyrene	UG/L	-	NA	NA	10 U	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	10 U	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	10 U	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	10 U	NA
Chrysene	UG/L	-	NA	NA	10 U	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	10 U	NA
Fluoranthene	UG/L	-	NA	NA	10 U	NA
Fluorene	UG/L	-	NA	NA	10 U	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	10 U	NA
Naphthalene	UG/L	-	NA	NA	10 U	NA
Phenanthrene	UG/L	-	NA	NA	10 U	NA
Pyrene	UG/L	-	NA	NA	10 U	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	ND	NA

*Criteria- 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 Criteria

U - Not detected above the reported quantitation limit.

NA - The sample was not analyzed for this parameter. ND - Not detected.

Made By_PRF 05/10/16_; Checked By_AMK 05/10/16_

Detection Limits shown are PQL

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[LOGDATE] >= #3/7/2016# AND [MATRIX] = 'WQ'

ATTACHMENT A

VALIDATED FORM 1'S

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-009A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90363.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-05S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-009B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5365.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-010A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90364.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene (total)	60	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-010B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5366.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~870~~ 870	~~E~~ D
91-57-6	2-Methylnaphthalene	~~190~~ 230	~~E~~ DJ
208-96-8	Acenaphthylene	~~160~~ 130	~~E~~ DJ
83-32-9	Acenaphthene	11	
86-73-7	Fluorene	26	
85-01-8	Phenanthrene	15	
120-12-7	Anthracene	2	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

4/18/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05IDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-010BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5411.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 50.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	870	D
91-57-6	2-Methylnaphthalene	230	DJ
208-96-8	Acenaphthylene	130	DJ
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	500	U
56-55-3	Benzo(a)anthracene	500	U
218-01-9	Chrysene	500	U
205-99-2	Benzo(b)fluoranthene	500	U
207-08-9	Benzo(k)fluoranthene	500	U
50-32-8	Benzo(a)pyrene	500	U
193-39-5	Indeno(1,2,3-cd)pyrene	500	U
53-70-3	Dibenzo(a,h)anthracene	500	U
191-24-2	Benzo(g,h,i)perylene	500	U

(1) Cannot be separated from Diphenylamine

4/18/16 pm

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-011A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90367.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	2	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	110	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-011B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5367.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~1000~~ 830	~~E~~ D
91-57-6	2-Methylnaphthalene	~~96~~ 91	~~E~~ DJ
208-96-8	Acenaphthylene	41	
83-32-9	Acenaphthene	2	J
86-73-7	Fluorene	6	J
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

4/18/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05DDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-011BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5412.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 50.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	830	D
91-57-6	2-Methylnaphthalene	91	DJ
208-96-8	Acenaphthylene	500	U
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	500	U
56-55-3	Benzo(a)anthracene	500	U
218-01-9	Chrysene	500	U
205-99-2	Benzo(b)fluoranthene	500	U
207-08-9	Benzo(k)fluoranthene	500	U
50-32-8	Benzo(a)pyrene	500	U
193-39-5	Indeno(1,2,3-cd)pyrene	500	U
53-70-3	Dibenzo(a,h)anthracene	500	U
191-24-2	Benzo(g,h,i)perylene	500	U

(1) Cannot be separated from Diphenylamine

4/18/16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP20160310 (HIMW-05D)

4/13/16

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-016A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90354.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	2	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	97	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP20160310 (HIMW-05D)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-016B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5371.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~980~~ 970	~~E~~ D
91-57-6	2-Methylnaphthalene	~~98~~ 84	~~E~~ DJ
208-96-8	Acenaphthylene	37	
83-32-9	Acenaphthene	2	J
86-73-7	Fluorene	5	J
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

4/18/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP20160310DL (HIMW-05D)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-016BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5414.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (uL) Dilution Factor: 50.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	970	D
91-57-6	2-Methylnaphthalene	84	DJ
208-96-8	Acenaphthylene	500	U
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	500	U
56-55-3	Benzo(a)anthracene	500	U
218-01-9	Chrysene	500	U
205-99-2	Benzo(b)fluoranthene	500	U
207-08-9	Benzo(k)fluoranthene	500	U
50-32-8	Benzo(a)pyrene	500	U
193-39-5	Indeno(1,2,3-cd)pyrene	500	U
53-70-3	Dibenzo(a,h)anthracene	500	U
191-24-2	Benzo(g,h,i)perylene	500	U

(1) Cannot be separated from Diphenylamine

4/12/16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-8S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-002A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90345.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	30	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene (total)	2	

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-8S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-002B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5252.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/09/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/12/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	2	J
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	J
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	2	J

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-8I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90349.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-8

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-004B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5335.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-8D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90348.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-8D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-003B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5334.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-12S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90359.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-12S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-005B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5361.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/16/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-13I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90357.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-13I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-003B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5341.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-13D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90358.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	2	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-13D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-004B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5360.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/16/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	6	J
83-32-9	Acenaphthene	3	J
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-14I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-001A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90344.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	6	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-14I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-001B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5251.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/09/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/12/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	11	
83-32-9	Acenaphthene	10	
86-73-7	Fluorene	2	J
85-01-8	Phenanthrene	2	J
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-15I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-001A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90355.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	4	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-15I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-001B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5339.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	12	
83-32-9	Acenaphthene	4	J
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	1	J
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-15D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-002A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90356.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-15D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-002B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5340.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-20S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90361.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-20S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-007B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5363.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-20I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90362.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	2	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-20I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-JRS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-008B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5364.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	1	J
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-22

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90351.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-22

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-006B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5337.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-23

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90352.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-23

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-007B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5338.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-24

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90360.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	10	
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	100	
1330-20-7	Xylene (total)	25	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-24

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-006B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5362.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/16/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~360~~ 320	ED
91-57-6	2-Methylnaphthalene	38	
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	31	
86-73-7	Fluorene	22	
85-01-8	Phenanthrene	24	
120-12-7	Anthracene	4	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-24DL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-006BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5410.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 20.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	320	D
91-57-6	2-Methylnaphthalene	35	DJ
208-96-8	Acenaphthylene	200	U
83-32-9	Acenaphthene	30	DJ
86-73-7	Fluorene	200	U
85-01-8	Phenanthrene	23	DJ
120-12-7	Anthracene	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-25

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90350.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-25

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-005B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5336.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/11/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-26I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-001A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90386.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-26I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-001B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5415.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-26D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-002A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90389.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	42	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EIMW-26D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-002B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5418.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~930~~ 1000	~~E~~ D
91-57-6	2-Methylnaphthalene	~~170~~ 190	~~E~~ DJ
208-96-8	Acenaphthylene	78	
83-32-9	Acenaphthene	5	J
86-73-7	Fluorene	15	
85-01-8	Phenanthrene	12	
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

4/19/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-26DDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-002BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5439.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/21/16

Injection Volume: 1 (µL) Dilution Factor: 50.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	1000	D
91-57-6	2-Methylnaphthalene	190	DJ
208-96-8	Acenaphthylene	81	DJ
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
206-44-0	Fluoranthene	500	U
129-00-0	Pyrene	500	U
56-55-3	Benzo(a)anthracene	500	U
218-01-9	Chrysene	500	U
205-99-2	Benzo(b)fluoranthene	500	U
207-08-9	Benzo(k)fluoranthene	500	U
50-32-8	Benzo(a)pyrene	500	U
193-39-5	Indeno(1,2,3-cd)pyrene	500	U
53-70-3	Dibenzo(a,h)anthracene	500	U
191-24-2	Benzo(g,h,i)perylene	500	U

(1) Cannot be separated from Diphenylamine

4/19/16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-27S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-012A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90368.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	6	
108-88-3	Toluene	5	
100-41-4	Ethylbenzene	~~280~~ 290	~~E~~ D
1330-20-7	Xylene (total)	~~390~~ 410	D

4/18/16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-27SDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-012ADL

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90383.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 5.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	6	D
108-88-3	Toluene	6	D
100-41-4	Ethylbenzene	290 300	D
1330-20-7	Xylene (total)	410	D

4/18/16

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-27S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-012B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5368.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	~~770~~ 700	~~E~~ D
91-57-6	2-Methylnaphthalene	130	~~E~~ DJ
208-96-8	Acenaphthylene	3	J
83-32-9	Acenaphthene	51	
86-73-7	Fluorene	29	
85-01-8	Phenanthrene	48	
120-12-7	Anthracene	8	J
206-44-0	Fluoranthene	4	J
129-00-0	Pyrene	4	J
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

4/18/16

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-27SDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-012BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S5413.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 40.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	700	D
91-57-6	2-Methylnaphthalene	130	DJ
208-96-8	Acenaphthylene	400	U
83-32-9	Acenaphthene	46	DJ
86-73-7	Fluorene	400	U
85-01-8	Phenanthrene	45	DJ
120-12-7	Anthracene	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenzo(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

(1) Cannot be separated from Diphenylamine

4/18/16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-27I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-014A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90370.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-27I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-014B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5370.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-28S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-013A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90382.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-28S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-013B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5369.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/14/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/17/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-28I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-003A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90390.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP20160311 (HIMW-28I)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-004A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90391.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-28I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-003B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5419.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP20160311 (HIMW-28I)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-004B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5420.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB03082016

Lab Name: PACE ANALYTICAL Contract: _____

4/13/16 2

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS202

Matrix: (soil/water) WATER Lab Sample ID: 1603655-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90343.D

Level: (low/med) LOW Date Received: 03/08/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB20150310

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS204

Matrix: (soil/water) WATER Lab Sample ID: 1603894-015A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90353.D

Level: (low/med) LOW Date Received: 03/10/16

% Moisture: not dec. Date Analyzed: 03/15/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB20160311

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-005A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90385.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB20160311

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-005B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: S5421.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: Decanted: (Y/N) N Date Extracted: 03/16/16

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/18/16

Injection Volume: 1 (µL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB20160311

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS205

Matrix: (soil/water) WATER Lab Sample ID: 1603965-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 6\A90384.D

Level: (low/med) LOW Date Received: 03/11/16

% Moisture: not dec. Date Analyzed: 03/16/16

GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume: _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L	Q
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

ATTACHMENT B

SUPPORT DOCUMENTATION

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® www.pacelabs.com

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

KEY-URS202

Page: 1 of 1

1978364

Section A Required Client Information:

Company: AECOM
Address: 125 Broad St NY, NY
Email To: peter.fairbanks@aecom.com
Phone: 716-856-5636 Fax:
Requested Due Date/TAT: Standard TAT

Section B Required Project Information:

Report To: Peter Fairbanks
Copy To: Jon Sundquist
Purchase Order No.:
Project Name: National Grid Hempstead
Project Number: 60411920.1176098.00004

Section C Invoice Information:

Attention: Jon Sundquist
Company Name: AECOM
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

ITEM #	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: VOC 8260	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HMW-14I	WT	G	—	—	3/7/16	1410	13	4	2			2					X	X		16036655 004
2	HMW-8S			—	—	3/8/16	845	15	4	2			2					X	X		003
3	HMW-8S MS/MSD			—	—	3/8/16	850	15	8	4			4					X	X		
4	HMW-8D			—	—	3/8/16	928	15	4	2			2					X	X		001
5	HMW-8I			—	—	3/8/16	1100	16	4	2			2					X	X		002
6	HMW-25			—	—	3/8/16	1100	15	4	2			2					X	X		007
7	HMW-22			—	—	3/8/16	1235	15	4	2			2					X	X		005
8	HMW-23	↓	↓	—	—	3/8/16	1315	15	4	2			2					X	X		006
9																					
10																					
11																					
12	TB03082018 6 4/8/16 2	WT	GC						2				2					X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Megan Dascoli	Megan Dascoli	3/8/16	1430		3/8/16	1430	
		3/8/16	1610		3/8/16	16:10	3.9

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Megan Dascoli
SIGNATURE of SAMPLER: Megan Dascoli DATE Signed (MM/DD/YY): 3/8/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*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.

F-LI-C-0 EY-

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR VOLATILE ORGANICS
SAMPLES RECEIVED: 3/8/16
SDG #: KEY-URS202

For Sample(s):

6
TB03082013
HIMW-8S
HIMW-8I
HIMW-8D
HIMW-25
HIMW-23
HIMW-22
HIMW-14I

4/13/16

The above water sample(s) was/were analyzed for a select list of volatile organic analytes by EPA method 8260C .

All Q. C. data and calibrations met the requirements of the method unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

Sample HIMW-8S was submitted for matrix spike/ matrix spike duplicate (MS/MSD) analysis. All percent recoveries and RPDs were met. A lab fortified blank was analyzed, and recoveries indicate good method efficiency.

In the initial calibrations, average response factors were employed.

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

Date Reported: April 8, 2016

****
* *
* *
****
Joann Slavin
General Manager

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLES RECEIVED: 3/8/16
SDG #: KEY-URS202

For Samples:

HIMW-8S
HIMW-8I
HIMW-8D
HIMW-25
HIMW-23
HIMW-22
HIMW-14I

The above samples were analyzed for the STARS list of base–neutral extractables by EPA method 8270D and reported with the deliverables of NYSDEC ASP Rev. 2005, Category B.

All Q. C. data and calibrations met the requirements of the method. The following should be noted:

Sample HIMW-8S was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis. 2 out of 34 percent recoveries were outside QC limits. 3 RPDs were high. A lab fortified blank (LFB) was analyzed, and results indicate good method efficiency.

One surrogate standard had a low recovery in sample HIMW-23.

In the initial calibrations, average response factors were employed. Analyses were performed on multiple days. In the continuing calibration verifications (CCV), some compounds had variability above 20%. Results for these analytes are regarded estimated, and - if found - results would have been flagged with the qualifier "Z".

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

Date Reported: March 25, 2016

****
* *
* *
****
Joann Slavin
General Manager

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

KEY-URS204

Page: 1 of 2

1978363

Section A Required Client Information:

Company: AECOM
Address: 125 Broad St NY, NY
Email To: peter.fairbanks@AECOM.com
Phone: 716-856-5636 Fax:
Requested Due Date/TAT: Standard TAT

Section B Required Project Information:

Report To: Peter Fairbanks
Copy To: Jon Sundquist
Purchase Order No.:
Project Name: National Grid Hempstead
Project Number: 60411920.11176098.00004

Section C Invoice Information:

Attention: Jon Sundquist
Company Name: AECOM
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

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	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED 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	Requested Analysis Filtered (Y/N): Y/N	Analysis Test: ~~VOC~~ 8260 BTEX	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HMW-15I	WT	G	—	—	3/9/16	830	15	4	X									X	X			11603894
2	HMW-15D			—	—		1030	15	4	2									X	X			
3	HMW-13I			—	—		845	15	4	2									X	X			
4	HMW-13D			—	—		1015	15	4	2									X	X			
5	HMW-12S			—	—		1205	15	4	2									X	X			
6	HMW-24			—	—		1340	15	4	2									X	X			
7	HMW-20S			—	—		1335	15	4	2									X	X			
8	HMW-20I			—	—	↓	1512	15	4	2									X	X			
9	HMW-05S			—	—	3/10/16	825	16	4	2									X	X			
10	HMW-05I			—	—		1020	16	4	2									X	X			
11	HMW-05D			—	—		1015	16	4	2									X	X			
12	HMW-27S	↓	↓	—	—	↓	1240	16	4	2									X	X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Megan Dascoli	3/10/16	1410	Megan N. Campbell	3/10/16	1410				
	George A. Campbell	3/10/16	1445	Jaclyn Lin/Pace	3/10/16	14:45	2.1	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Megan Dascoli
SIGNATURE of SAMPLER: Megan Dascoli DATE Signed (MM/DD/YY): 3/10/16

Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*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.

F-NJ-R-030-rev.07, 15-May-2007

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

KEY-URS204

Page: 2 of 2

1934441

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: AECOM	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: National Grid Hempstead	Pace Project Manager:
Requested Due Date/TAT:	Project Number: 60041920.11176098.0000	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NY

Requested Analysis Filtered (Y/N)

ITEM #	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	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	Y/N	Analysis Test: VOC 8260 BTEX	SVOC 8270 PAH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HMW-28S		WT	G	—	—	3/10/16	1340	16	4	2			2					X	X	X	16038944
2	HMW-21I		WT	G	—	—	3/10/16	1405	16	4	2			2					X	X	X	
3	TB20150310		WT	QC	—	—	3/10/16	1340	16	2				2					X			
4	DUP20150310		WT	G	—	—	3/10/16	0700	16	4	2			2					X	X	X	
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

6

4/13/16

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)
	Megan Dascoli / AECOM	3/10/16	1410	Jorge A. Cappadona	3/10/16	1410				
	Jorge A. Cappadona	3/10/16	1445	Jaclyn K. Rao	3/10/16	1445	2.1	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: M Dascoli

SIGNATURE of SAMPLER: Megan Dascoli DATE Signed (MM/DD/YY): 3/10/16

*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 Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR VOLATILE ORGANICS
SAMPLES RECEIVED: 3/10/16
SDG #: KEY-URS204

For Sample(s):

TB20150310	HIMW-15D
HIMW-28S	HIMW-13I
HIMW-27S	HIMW-13D
HIMW-27I	HIMW-12S
HIMW-24	HIMW-05S
HIMW-20S	HIMW-05I
HIMW-20I	HIMW-05D
HIMW-15I	DUP20150310

The above water sample(s) was/were analyzed for a select list of volatile organic analytes by EPA method 8260C .

All Q. C. data and calibrations met the requirements of the method unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

No sample was submitted for matrix spike/ matrix spike duplicate (MS/MSD) analysis. Lab fortified blanks were analyzed, and recoveries indicate good method efficiency.

Sample HIMW-27S was reanalyzed at a dilution due to concentration levels of targeted analytes above the calibration range. Both sets of data re submitted.

In the initial calibrations, average response factors were employed.

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

Date Reported: April 8, 2016

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* *
* *
****
Joann Slavin
General Manager

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLES RECEIVED: 3/10/16
SDG #: KEY-URS204

For Samples:

HIMW-28S	HIMW-13I
HIMW-27S	HIMW-13D
HIMW-27I	HIMW-12S
HIMW-24	HIMW-05S
HIMW-20S	HIMW-05I
HIMW-20I	HIMW-05D
HIMW-15I	DUP20150310
HIMW-15D	

The above samples were analyzed for the STARS list of base–neutral extractables by EPA method 8270D and reported with the deliverables of NYSDEC ASP Rev. 2005, Category B.

All Q. C. data and calibrations met the requirements of the method. The following should be noted:

No sample was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis. Lab fortified blanks (LFB) were analyzed, and results indicate good method efficiency.

Five samples were reanalyzed at a dilution due to concentration levels of targeted analytes above the calibration range. One or more surrogate standards are diluted out in the dilutions. Both sets of data are submitted.

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

Date Reported: March 25, 2016

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Joann Slavin
General Manager

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

KEY-URS205

Page: 1 of 1

1934440

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: AECOM	Report To: Peter Fairbanks	Attention: Jon Sundquist
Address: Buffalo, NY	Copy To: Jon Sundquist	Company Name: AECOM
Email To: peter.fairbanks@AECOM.com	Purchase Order No.:	Address:
Phone: 716-856-5636 Fax:	Project Name: National Grid Hempstead	Pace Quote Reference:
Requested Due Date/TAT: Standard TAT	Project Number: 60471920.11176098.00004	Pace Project Manager: Jen Araceri
		Pace Profile #:

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

Site Location STATE: NY

Requested Analysis Filtered (Y/N)

ITEM #	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	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	Y/N	Analysis Test: VOC 8260	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HMW-26I		WT	G	—	—	3/11/16	900	17	4	2			2						X	X		16039165-001
2	HMW-26D		WT	G	—	—	3/11/16	1030	18	4	2			2						X	X		
3	HMW-26I MS/MSD		WT	G	—	—	3/11/16	905	17	8	4			4						X	X		
4	HMW-28I		WT	G	—	—	3/11/16	1210	18	4	2			2						X	X		
5	DUP20160311		WT	G	—	—	3/11/16	700	18	4	2			2						X	X		
6	FB20160311		WT	G	—	—	3/11/16	1245	18	4	2			2						X	X		
7	TB20160311		WT	GC	—	—	3/11/16	1210	25	2				2						X			007A
8																							
9																							
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)
	Megan Dascoli	3/11/16	13:00	George A. Cappadona	3/11/16	13:00	1.4			
	George A. Cappadona	3/11/16	14:00	Jaclyn R / Pace	3/11/16	14:00	0.8			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Megan Dascoli

SIGNATURE of SAMPLER: Megan Dascoli DATE Signed (MM/DD/YY): 3/11/16

*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 Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR VOLATILE ORGANICS
SAMPLES RECEIVED: 3/11/16
SDG #: KEY-URS205

For Sample(s):

TB20160311
HIMW-28I
HIMW-26I
HIMW-26D
FB20160311
DUP20160311

The above water sample(s) was/were analyzed for a select list of volatile organic analytes by EPA method 8260C .

All Q. C. data and calibrations met the requirements of the method unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

Sample HIMW-26I was submitted for matrix spike/ matrix spike duplicate (MS/MSD) analysis. All percent recoveries and RPDs were met except for a 118 percent recovery for total xylene (upper limit 115%). Lab fortified blanks were analyzed, and recoveries indicate good method efficiency.

In the initial calibrations, average response factors were employed.

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

Date Reported: April 8, 2016

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* *
* *
****
Joann Slavin
General Manager

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLES RECEIVED: 3/11/16
SDG #: KEY-URS205

For Samples:

~~TB20160311~~
HIMW-28I
HIMW-26I
HIMW-26D
FB20160311
DUP20160311

4/12/16

The above samples were analyzed for the STARS list of base–neutral extractables by EPA method 8270D and reported with the deliverables of NYSDEC ASP Rev. 2005, Category B.

All Q. C. data and calibrations met the requirements of the method. The following should be noted:

Sample HIMW-26I was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis. All percent recoveries and RPDs were met. Lab fortified blanks (LFB) were analyzed and results indicate good method efficiency.

One sample was reanalyzed at a dilution due to concentration levels of targeted analytes above the calibration range. One or more surrogate standards are diluted out in the dilution. Both sets of data are submitted.

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

Date Reported: March 30, 2016

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Joann Slavin
General Manager

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:	1/28/2016
Time:	12:30
Weather:	Sunny
Outdoor Temperature:	~40° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	15,735.0	
Feed Air Pressure *	110	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	95	(psi)
Oxygen Purity	88.4	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	110	(psi)
(readings below are made from control panel)		
Delivery Air	111	(psi)
Element Outlet Temperature	148	(oF)
Running Hours	18,112	(hours)
Loading Hours	11,707	(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	31	OW-1-5S	67.3	35	18	OW-1-9D	88.5	30	30
OW-1-2	96.5	40	18	OW-1-6S	67.0	35	18	OW-1-10D	87.2	30	25
OW-1-3	96.3	40	31	OW-1-7S	66.9	35	19	OW-1-11D	86.1	30	29
OW-1-4	95.0	30	30	OW-1-8S	66.7	30	18	OW-1-12D	85.3	30	29
OW-1-5D	93.9	30	30	OW-1-9S	66.0	30	18	OW-1-13D	84.7	30	31
OW-1-6D	92.4	30	30	OW-1-10S	54.6	30	12	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	28
OW-1-8D	89.6	30	31	OW-1-12S	53.6	40	15	OW-1-16D	82.5	30	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 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: 1/28/2016

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	14	OW-1-17D	79.5	30	14	OW-1-21S	49.3	30	13
OW-1-14S	52.7	25	15	OW-1-18D	78.3	30	25	OW-1-22S	49.3	35	13
OW-1-15S	52.2	35	13	OW-1-19D	78.9	30	26	OW-1-23S	48.8	35	13
OW-1-16SR	51.8	30	28	OW-1-20D	79.5	30	27	OW-1-24S	48.4	30	13
OW-1-17S	50.7	30	26	OW-1-21D	79.5	30	26	OW-1-25S	48.8	40	13
OW-1-18S	50.2	30	12	OW-1-22D	79.5	30	26	OW-1-26SR	48.3	30	13
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	27	OW-1-27S	48.3	30	13
OW-1-20S	49.3	30	9	OW-1-24D	78.2	30	28	OW-1-28S	48.3	30	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	27	OW-1-29S	48.5	35	13	OW-1-33D	83.2	30	30
OW-1-26D	78.1	30	28	OW-1-30S	48.8	35	13	OW-1-34D	84.5	30	30
OW-1-27D	77.9	30	28	OW-1-31S	49.3	35	14	OW-1-35D	85.0	30	29
OW-1-28D	78.0	30	28	OW-1-32S	49.3	35	14	OW-1-36D	85.0	30	29
OW-1-29D	78.4	30	27	OW-1-33S	49.7	30	14	OW-1-37D	84.0	35	28
OW-1-30D	79.0	30	35	OW-1-34S	50.1	30	13	OW-1-38D	82.0	25	29
OW-1-31D	80.5	30	20	OW-1-35S	50.3	30	13	OW-1-39D	78.0	20	27
OW-1-32D	81.6	30	30	OW-1-36S	50.3	30	13	OW-1-40D	76.0	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.

Date: 1/28/2016

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	35	13	OW-1-41D	73.6	30	22	OW-1-43	67.4	35	20
OW-1-38S	50.6	35	13	OW-1-42D	71.0	30	21	OW-1-44	66.6	30	19
OW-1-39S	50.7	30	14	OW-1-45	65.7	30	20	OW-1-51R	60.6	30	17
OW-1-40S	51.1	25	13	OW-1-46	64.3	30	18	OW-1-52	59.3	30	17
OW-1-41S	51.5	25	14	OW-1-47	63.4	30	17	OW-1-53	60.0	35	16
OW-1-42S	51.3	20	13	OW-1-48	62.5	30	18	OW-1-54	60.0	30	17
				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	28.62		0.2	MP-1-5	28.41	NM	0	MP-1-1D	NM
MP-1-1S	28.67	NM	0	MP-1-6	20.65	NM	0	MP-1-2D	NM
MP-1-2D	23.00		0	MP-1-7	23.91	NM	0	MP-1-3D	NM
MP-1-2S	23.20	NM	0	MP-1-8	25.45	NM	0	MP-1-4D	NM
MP-1-3D	21.15		0.4						
MP-1-3S	21.10	NM	0.6						
MP-1-4D	23.86		0						
MP-1-4S	23.90	NM	0.3						

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: 1/28/2016

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

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

1-28-16 Found system running. Soaked up small amount of oil and water from separator unit for disposal. Added small amount of oil to the compressor. Repaired oxygen leaks in one manifold. Adjusted fresh air vents to allow more air flow to compressor. Wiped down all equipment and cleaned up all garbage and leaves from around fence areas. Cleared snow and ice to access shed and monitoring points. DO meter would not turn on in the field and readings could not be recorded.

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

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

Electric Meter # 96-934-323 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:	2/17/2016
Time:	12:45
Weather:	Clear
Outdoor Temperature:	~39° F
Inside Trailer Temperature:	~60° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	15,972.0	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	95	(psi)
Oxygen Purity	79.5	(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	159	(oF)
Running Hours	18,380	(hours)
Loading Hours	11,912	(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	18	OW-1-9D	88.5	30	30
OW-1-2	96.5	30	18	OW-1-6S	67.0	30	19	OW-1-10D	87.2	30	24
OW-1-3	96.3	40	30	OW-1-7S	66.9	25	18	OW-1-11D	86.1	30	31
OW-1-4	95.0	30	31	OW-1-8S	66.7	25	18	OW-1-12D	85.3	35	30
OW-1-5D	93.9	35	30	OW-1-9S	66.0	35	17	OW-1-13D	84.7	30	30
OW-1-6D	92.4	30	30	OW-1-10S	54.6	30	12	OW-1-14D	84.1	30	30
OW-1-7D	91.1	30	31	OW-1-11S	54.1	30	15	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	30	OW-1-12S	53.6	30	14	OW-1-16D	82.5	30	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 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: 2/17/2016

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	14	OW-1-17D	79.5	25	14	OW-1-21S	49.3	35	13
OW-1-14S	52.7	35	15	OW-1-18D	78.3	30	26	OW-1-22S	49.3	35	13
OW-1-15S	52.2	45	13	OW-1-19D	78.9	30	27	OW-1-23S	48.8	30	13
OW-1-16SR	51.8	40	28	OW-1-20D	79.5	30	28	OW-1-24S	48.4	30	13
OW-1-17S	50.7	40	25	OW-1-21D	79.5	30	27	OW-1-25S	48.8	25	13
OW-1-18S	50.2	35	12	OW-1-22D	79.5	30	26	OW-1-26SR	48.3	30	13
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	26	OW-1-27S	48.3	30	13
OW-1-20S	49.3	30	10	OW-1-24D	78.2	30	28	OW-1-28S	48.3	30	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	27	OW-1-29S	48.5	30	13	OW-1-33D	83.2	30	30
OW-1-26D	78.1	30	28	OW-1-30S	48.8	30	14	OW-1-34D	84.5	30	30
OW-1-27D	77.9	35	29	OW-1-31S	49.3	30	13	OW-1-35D	85.0	30	31
OW-1-28D	78.0	30	27	OW-1-32S	49.3	30	13	OW-1-36D	85.0	30	29
OW-1-29D	78.4	30	28	OW-1-33S	49.7	30	13	OW-1-37D	84.0	30	28
OW-1-30D	79.0	30	36	OW-1-34S	50.1	30	12	OW-1-38D	82.0	30	28
OW-1-31D	80.5	30	21	OW-1-35S	50.3	30	13	OW-1-39D	78.0	35	27
OW-1-32D	81.6	30	30	OW-1-36S	50.3	30	13	OW-1-40D	76.0	35	28

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: 2/17/2016

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	23	OW-1-43	67.4	40	20
OW-1-38S	50.6	35	13	OW-1-42D	71.0	30	22	OW-1-44	66.6	30	20
OW-1-39S	50.7	35	13	OW-1-45	65.7	30	20	OW-1-51R	60.6	40	17
OW-1-40S	51.1	30	14	OW-1-46	64.3	30	18	OW-1-52	59.3	35	17
OW-1-41S	51.5	30	14	OW-1-47	63.4	30	17	OW-1-53	60.0	30	17
OW-1-42S	51.3	30	14	OW-1-48	62.5	35	18	OW-1-54	60.0	30	17
				OW-1-49	61.5	30	18				
				OW-1-50	61.0	35	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	28.32		0	MP-1-5	28.11	28.68	0	MP-1-1D	23.68
MP-1-1S	28.35	37.36	0	MP-1-6	20.30	18.77	0	MP-1-2D	29.88
MP-1-2D	22.83		0	MP-1-7	23.52	40.09	0	MP-1-3D	18.55
MP-1-2S	22.88	24.96	0	MP-1-8	25.08	4.95	0	MP-1-4D	26.85
MP-1-3D	21.14		0.3						
MP-1-3S	20.85	17.71	0.2						
MP-1-4D	23.46		0						
MP-1-4S	23.53	24.76	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: 2/17/2016

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

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

2-17-16 Found system running. Soaked up small amount of oil and water from separator unit for disposal. Added small amount of oil to the compressor. Found booster pump tripping out and auto drain on dryer continuously cycling. Checked amps on booster pump and found in normal range. Took apart hoses, fittings, and check valves. Found 1/2 inch check valve stuck closed. Replaced valve and reinstalled all fittings and hoses. Took apart auto drain and found clogged with silt. Cleaned out silt, realigned springs and reinstalled unit. Wiped down all equipment and cleaned up all garbage and leaves from around fence areas.

2-18-16 Checked system to make sure everything was running correctly and found small puddle of water on the floor. Checked all piping and found water to be coming from the roof. Cleared off snow and ice and found several missing shingles from room. Covered damaged area with poly to avoid more leaking into shed until permanent repairs can be completed in the Spring.

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

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

Electric Meter # 96-934-323 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:	3/18/2016
Time:	14:15
Weather:	Sunny
Outdoor Temperature:	~55° F
Inside Trailer Temperature:	~68° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	16,314.0	
Feed Air Pressure *	110	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	105	(psi)
Oxygen Purity	78.5	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	110	(psi)
(readings below are made from control panel)		
Delivery Air	105	(psi)
Element Outlet Temperature	168	(oF)
Running Hours	18,841	(hours)
Loading Hours	12,219	(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	25	18	OW-1-9D	88.5	30	29
OW-1-2	96.5	35	18	OW-1-6S	67.0	30	19	OW-1-10D	87.2	30	25
OW-1-3	96.3	35	30	OW-1-7S	66.9	30	19	OW-1-11D	86.1	20	30
OW-1-4	95.0	40	30	OW-1-8S	66.7	30	18	OW-1-12D	85.3	25	30
OW-1-5D	93.9	30	30	OW-1-9S	66.0	35	18	OW-1-13D	84.7	25	29
OW-1-6D	92.4	30	31	OW-1-10S	54.6	30	12	OW-1-14D	84.1	30	30
OW-1-7D	91.1	30	30	OW-1-11S	54.1	25	14	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	31	OW-1-12S	53.6	30	14	OW-1-16D	82.5	30	14

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: 3/18/2016

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	14	OW-1-17D	79.5	30	15	OW-1-21S	49.3	30	13
OW-1-14S	52.7	35	14	OW-1-18D	78.3	30	26	OW-1-22S	49.3	40	13
OW-1-15S	52.2	35	13	OW-1-19D	78.9	30	26	OW-1-23S	48.8	40	13
OW-1-16SR	51.8	35	28	OW-1-20D	79.5	30	28	OW-1-24S	48.4	35	13
OW-1-17S	50.7	30	25	OW-1-21D	79.5	30	26	OW-1-25S	48.8	30	13
OW-1-18S	50.2	30	12	OW-1-22D	79.5	30	27	OW-1-26SR	48.3	30	13
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	27	OW-1-27S	48.3	30	13
OW-1-20S	49.3	30	9	OW-1-24D	78.2	30	28	OW-1-28S	48.3	30	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	27	OW-1-29S	48.5	30	13	OW-1-33D	83.2	30	29
OW-1-26D	78.1	30	28	OW-1-30S	48.8	40	14	OW-1-34D	84.5	35	30
OW-1-27D	77.9	30	28	OW-1-31S	49.3	30	14	OW-1-35D	85.0	35	29
OW-1-28D	78.0	30	27	OW-1-32S	49.3	35	13	OW-1-36D	85.0	35	29
OW-1-29D	78.4	30	27	OW-1-33S	49.7	30	14	OW-1-37D	84.0	30	29
OW-1-30D	79.0	30	36	OW-1-34S	50.1	25	12	OW-1-38D	82.0	30	29
OW-1-31D	80.5	35	19	OW-1-35S	50.3	30	13	OW-1-39D	78.0	25	27
OW-1-32D	81.6	30	30	OW-1-36S	50.3	20	13	OW-1-40D	76.0	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.

Date: 3/18/2016

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

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	27.90		0	MP-1-5	27.63	27.28	0	MP-1-1D	37.44
MP-1-1S	27.82	21.11	0.2	MP-1-6	19.10	12.05	0	MP-1-2D	46.25
MP-1-2D	22.10		0	MP-1-7	23.17	42.25	0	MP-1-3D	27.71
MP-1-2S	22.41	18.48	0	MP-1-8	24.71	5.45	0	MP-1-4D	31.02
MP-1-3D	20.38		0						
MP-1-3S	20.32	20.32	0.4						
MP-1-4D	23.12		0.6						
MP-1-4S	23.15	23.15	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: 3/18/2016

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

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

3-18-16 Found system running. Soaked up small amount of oil and water from separator unit for disposal. Added small amount of oil to the compressor. Repaired leaks found in Bank #2 and Bank #3 along with leak in pressure gauge on air sep unit. Wiped down all equipment and cleaned up all garbage and leaves from around fence areas.

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

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 # 96-934-323 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:	1/29/2016
Time:	11:50
Weather:	Sunny
Outdoor Temperature:	~35° F
Inside Trailer Temperature:	~68° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours	32,425	
Feed Air Pressure *	95	(psi)
Cycle Pressure *	65	(psi)
Oxygen Receiver Pressure *	125	(psi)
Oxygen Purity	81.5	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	95	(psi)
(readings below are made from control panel)		
Delivery Air	110	(psi)
Element Outlet Temperature	171	(^{o}F)
Running Hours	33,025	(hours)
Loading Hours	31,901	(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	31	OW-2-9S	75'	25	18	OW-2-10D	97.2'	30	27
OW-2-3	94.3'	30	30	OW-2-10S	75'	35	31	OW-2-11D	100.8'	30	32
OW-2-4	94.7'	35	32	OW-2-11S	76.5'	30	23	OW-2-12	94'	30	19
OW-2-5	95.3'	30	30	OW-2-13S	75'	30	20	OW-2-13D	97'	30	36
OW-2-6	95.7'	30	30	OW-2-15S	75'	30	19	OW-2-14	96.4'	40	29
OW-2-7	96'	35	30	OW-2-16S	75.5'	30	20	OW-2-15D	94.6'	40	31
OW-2-8	96.3'	40	31	OW-2-18S	74.5'	25	20	OW-2-16D	94.1'	30	31
OW-2-9D	96.7'	40	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: 1/29/2016

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

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	22	OW-2-45	61.1'	25	20	MP-2-1	31.51	NM	0.3
OW-2-38	62.1'	30	21	OW-2-46	61'	25	21	MP-2-2	32.87	NM	0.4
OW-2-39	60'	30	20	OW-2-47	60.5'	30	21	MP-2-3S	32.69	NM	0
OW-2-40	61.7'	30	20					MP-2-3D	32.81	NM	0
OW-2-41	61.7'	30	21					MP-2-4	21.41	NM	0
OW-2-42	61.6'	30	18					MP-2-5	CNL		
OW-2-43	61.4'	30	21								
OW-2-44R	60.6'	30	20								

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: 1/29/2016

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:

1-29-16 - Found system running. Soaked up small amount of oil and water from separator unit. Repaired leak in air separator regulator valve. Adjusted fresh air vents to allow more air flow to compressor. Wiped down all equipment and cleaned up debris around shed. Left system running. Unable to locate monitoring point MP-2-5 due to snow and ice in the fields. DO meter would not turn on in the field and readings could not be recorded.

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 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:	2/19/2016
Time:	14:10
Weather:	Clear
Outdoor Temperature:	~38° F
Inside Trailer Temperature:	~65° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours	32,600	
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		(^{o}F)
Running Hours	33,198	(hours)
Loading Hours	32,057	(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'			OW-2-9S	75'			OW-2-10D	97.2'		
OW-2-3	94.3'			OW-2-10S	75'			OW-2-11D	100.8'		
OW-2-4	94.7'			OW-2-11S	76.5'			OW-2-12	94'		
OW-2-5	95.3'			OW-2-13S	75'			OW-2-13D	97'		
OW-2-6	95.7'			OW-2-15S	75'			OW-2-14	96.4'		
OW-2-7	96'			OW-2-16S	75.5'			OW-2-15D	94.6'		
OW-2-8	96.3'			OW-2-18S	74.5'			OW-2-16D	94.1'		
OW-2-9D	96.7'			OW-2-20S	79'			OW-2-17	95'		

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: 2/19/2016

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'			OW-2-22S	76'			OW-2-26D	95'		
OW-2-19	96.1'			OW-2-24S	77.8'			OW-2-27	93.5'		
OW-2-20D	96.6'			OW-2-26S	74'			OW-2-28D	92.1'		
OW-2-21	96.6'			OW-2-28S	76'			OW-2-29	92.2'		
OW-2-22D	96.3'			OW-2-30S	67.8'			OW-2-30D	88'		
OW-2-23	97.2'			OW-2-34	71'			OW-2-31	86'		
OW-2-24D	97'			OW-2-35	69.2'			OW-2-32	84'		
OW-2-25	96'			OW-2-36	64.8'			OW-2-33	82'		

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'			OW-2-45	61.1'			MP-2-1	31.17	10.21	0.2
OW-2-38	62.1'			OW-2-46	61'			MP-2-2	32.52	16.55	0
OW-2-39	60'			OW-2-47	60.5'			MP-2-3S	32.40	24.20	0.2
OW-2-40	61.7'							MP-2-3D	32.46	22.12	0.5
OW-2-41	61.7'							MP-2-4	21.00	20.01	0
OW-2-42	61.6'							MP-2-5	19.15	14.31	0
OW-2-43	61.4'										
OW-2-44R	60.6'										

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: 2/19/2016

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:

2-5-16 Alarm Code 102 triggered at 7:05 AM.

2-6-16 Dispatched Mike and found all equipment off. Found air compressor belt shredded to pieces and found foam insulation around motor compartment broken apart. Cleaned up all debris and replaced belt. Restart system and checked amp draw which was in normal range. Noticed that motor sound had changed a bit, but all reading were normal so system was left operational.

2-9-16 Returned to site after alarm was triggered again. Restarted system and checked amp draw and found all normal. Checked all fuses, relays and motor controls and found all normal. Opened up unit and found fan blades shredded insulation around motor and that the unit had developed a vibration. Shut off unit until repairs can be arranged with Kaeser representative.

2-19-16 - Collected monitoring point data for monthly visit. Tried to repair manholes in the field as they are broken and need to be replaced.

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 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:	3/18/2016
Time:	10:15
Weather:	Clear
Outdoor Temperature:	~57° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours: 32,600

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: _____ (^{o}F)

Running Hours: 33,198 (hours)

Loading Hours: 32,057 (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'			OW-2-9S	75'			OW-2-10D	97.2'		
OW-2-3	94.3'			OW-2-10S	75'			OW-2-11D	100.8'		
OW-2-4	94.7'			OW-2-11S	76.5'			OW-2-12	94'		
OW-2-5	95.3'			OW-2-13S	75'			OW-2-13D	97'		
OW-2-6	95.7'			OW-2-15S	75'			OW-2-14	96.4'		
OW-2-7	96'			OW-2-16S	75.5'			OW-2-15D	94.6'		
OW-2-8	96.3'			OW-2-18S	74.5'			OW-2-16D	94.1'		
OW-2-9D	96.7'			OW-2-20S	79'			OW-2-17	95'		

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: 3/18/2016

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'			OW-2-22S	76'			OW-2-26D	95'		
OW-2-19	96.1'			OW-2-24S	77.8'			OW-2-27	93.5'		
OW-2-20D	96.6'			OW-2-26S	74'			OW-2-28D	92.1'		
OW-2-21	96.6'			OW-2-28S	76'			OW-2-29	92.2'		
OW-2-22D	96.3'			OW-2-30S	67.8'			OW-2-30D	88'		
OW-2-23	97.2'			OW-2-34	71'			OW-2-31	86'		
OW-2-24D	97'			OW-2-35	69.2'			OW-2-32	84'		
OW-2-25	96'			OW-2-36	64.8'			OW-2-33	82'		

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'			OW-2-45	61.1'			MP-2-1	30.75	9.88	0
OW-2-38	62.1'			OW-2-46	61'			MP-2-2	32.08	15.29	0
OW-2-39	60'			OW-2-47	60.5'			MP-2-3S	31.97	20.20	0
OW-2-40	61.7'							MP-2-3D	32.07	25.27	0
OW-2-41	61.7'							MP-2-4	20.65	19.40	0
OW-2-42	61.6'							MP-2-5	18.82	18.82	0
OW-2-43	61.4'										
OW-2-44R	60.6'										

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: 3/18/2016

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes _____ No _____
   * 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 _____
4) Oil changed Yes _____ No _____
5) Oil filter changed Yes _____ No _____
6) Air filter Changed Yes _____ No _____
7) Oil separator cleaned Yes _____ No _____
8) Terminal strips checked Yes _____ No _____

AS-80 O_2 Generator

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

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:

2-18-16 SYSTEM OFF - Collected monitoring point data for monthly visit.

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: