nationalgrid

Groundwater Sampling, NAPL Monitoring/Recovery and Groundwater Treatment Performance Report for the Third Quarter of 2014 (July - September 2014) 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:

URS Corporation - New York
257 West Genesee Street, Suite 400
Buffalo, New York 14202-2657

URS

February 2015

GROUNDWATER SAMPLING, NAPL MONITORING/RECOVERY, AND GROUNDWATER TREATMENT PERFORMANCE REPORT FOR THE THIRD QUARTER OF 2014 (JULY-SEPTEMBER)

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

Prepared for:

National Grid
175 East Old Country Rd.
Hicksville, NY 11801

Prepared by:

URS Corporation
257 West Genesee Street
Suite 400
Buffalo, New York 14202

February 2015

TABLE OF CONTENTS

TABLES
(Following Text)

FIGURES
(Following Tables)

APPENDICES
(Following Figures)

ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
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
URS	URS Corporation
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 Third Quarter (July, August, and September) 2014.

Quarterly groundwater monitoring and sampling were conducted on September 8 – 18, 2014. This included measuring the depth to groundwater and NAPL thickness in approximately 47 wells. Groundwater samples were collected from 26 wells and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs).

NAPL monitoring and recovery was conducted on July 25, August 27, and September 8, 2014 for a total of three events in the Third Quarter of 2014.

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

- The general direction of groundwater flow in the Third Quarter 2014 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 100 µg/L dissolved-phase plume extended approximately 800 ft south of the site boundary.
- Dense non-aqueous phase liquid (DNAPL) was detected and recovered in one existing well during the Third Quarter. The well (HIMW-021), is located along the west side of Wendell Street, south of the Intersection Street site.
- Approximately 2.2 gallons of NAPL were recovered during the Third Quarter of 2014. A total of 831.5 gallons of NAPL have been recovered from all recovery wells between April 2007 through September 2014.

- Based on a comparison between the Third Quarter 2014 and Second Quarter 2014 data, the concentrations of total BTEX and total PAHs in the majority of monitoring wells remained stable or were decreasing; seventeen of 26 wells showed no change. Five monitoring wells adjacent to the Intersection Street property showed an increase in PAH concentrations (HIMW-005I, HIMW-0005D, HIMW-026D, HIMW-027S, and HIMW-028S). The remaining four wells that showed a change from last quarter had a decrease in BTEX and/or PAH concentrations.

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 Third Quarter of 2014. 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 Third Quarter of 2014.

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 Third Quarter of 2014, Island Pump & Tank monitored System No. 1 during three events and System No. 2 during two events.

1.0 INTRODUCTION

This quarterly report summarizes the field activities, analytical results, and data interpretations associated with groundwater sampling, gauging, and recovery of NAPL and the monitoring of the groundwater treatment systems during the Third Quarter of 2014 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.

URS Corporation (URS) performed the following activities during the Third Quarter of 2014:

- Measured the depth to groundwater and NAPL thickness in 47 off-site wells (on September 8, 2014), see Tables 1 and 2.
- Monitored NAPL from HIMW-021 on July 25, August 27, and September 8 and recovered product on the first two dates; see Table 3.
- Collected groundwater samples from 26 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 two events in the Third Quarter 2014. 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 URS during the Third Quarter of 2014 included the measurement of the depth to groundwater and NAPL thickness in 47 monitoring wells, the collection of groundwater samples from 26 monitoring wells, and recovery of NAPL from one monitoring well that contained measurable NAPL. The sampled wells include six new wells installed in March 2014.

Monitoring wells and piezometers used for these activities are listed in Table 1. Third Quarter 2014 groundwater elevations and NAPL thickness values are presented in Table 2, NAPL recovery amounts are presented in Table 3, and the results of groundwater sampling are presented in Table 4.

Island Pump & Tank performed measurements to monitor the performance of the groundwater treatment Systems No. 1 and No. 2 approximately monthly during the Third Quarter of 2014. Island Pump & Tank collected water level measurements with an electronic oil/water interface probe, well headspace monitoring data with a PID, and DO measurements with a YSI 55A dissolved oxygen meter on System No. 1 on July 31, August 25, and September 29, 2014 and on System No. 2 on August 20 and September 30, 2014. This data is presented in Table 5.

2.1 Groundwater Depth and NAPL Thickness Measurements

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

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 2007 and 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 on the south of the site in the sidewalk of the Professional Office Building (POB), outside the ISS area.

NAPL levels were monitored in well HIMW-021 during three gauging and recovery events: July 25, August 27, and September 8, 2014. During events, the well was gauged with a weighted cotton string to measure the DNAPL thickness. The DNAPL was recovered using a peristaltic pump on July 25 and August 27 and the recovered water and product was placed in a 55-gallon steel drum for subsequent offsite hazardous waste disposal. Recovery was not conducted on September 8 because of the small amount of measured product.

The quantity of recovered DNAPL was estimated based on gallon markings on the side of the bucket used to collect the purged liquids during recovery. Table 3 presents Third Quarter NAPL thickness and NAPL recovery amounts from HIMW-021.

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 26 monitoring wells sampled during the Third Quarter September 8 – September 18, 2014 groundwater sampling event. Analytical results from the quarterly groundwater sampling event and the additional monitoring wells are presented in Table 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 Third Quarter 2014 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 Third Quarter and were taken during three events for System No. 1 on July 31, August 25, and September 29, 2014 and during two events for System No. 2 on August 20 and September 30, 2014. System No. 2 was not operating during the end of July because the dryer unit had failed and was being replaced and therefore performance monitoring was not conducted. 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 Third Quarter 2014 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 970 feet south of the site boundary. Based on comparisons to previous quarterly groundwater monitoring data, the concentrations of total BTEX or PAHs in groundwater sampled during the Third Quarter in the majority of monitoring wells remained stable or decreasing. Seventeen of the twenty-six sampled well concentrations were approximately the same from Second to Third Quarter. There

were five monitoring wells close to the Intersection Street property that showed an increase in PAH concentrations (HIMW-005I, HIMW-0005D, HIMW-026D, HIMW-027S, and HIMW-028S). The four remaining wells showed BTEX and/or PAH concentrations that decreased from Second Quarter 2014.

In September 2014, the concentrations of total BTEX or total PAHs in the furthest downgradient well pair (HIMW-015I/D) ranged from "not detected" (deep well, HIMW-015D) to 12 µg/L for BTEX and 24 µg/L for PAHs (intermediate well, HIMW-015I). The concentrations of total BTEX or total PAHs in wells located between the site and the HIMW-015 cluster varied from "not detected" to 1,179 µg/L for BTEX (shallow well, HIMW-027S) and 3,054 µg/L for PAHs (intermediate well, HIMW-005I), see Figure 4 and Table 4.

The following summarizes changes noted during Third Quarter 2014 for Wells HIMW-005I, HIMW-005D, HIMW-024, HIMW-025, HIMW-026D, HIMW-027S, and HIMW-028S:

- For HIMW-005I, the total BTEX concentration decreased from 112 µg/L in the Second Quarter to 77 µg/L in the Third Quarter 2014. The total PAH concentration increased from 2,434 µg/L in the Second Quarter to 3,054 µg/L in the Third Quarter 2014. These values are within the range of historic values within the last year.

- For HIMW-005D, the total BTEX concentration was essentially the same from Second Quarter to Third Quarter 2014, 32 µg/L and 36 µg/L, respectively. The total PAH concentrations increased from 735 µg/L in the Second Quarter to 842 µg/L in the Third Quarter 2014. A similar total PAH value was last recorded in First Quarter 2013.

- For HIMW-024, total concentrations decreased in the Third Quarter to non-detect for both BTEX and PAHs, the same level as in Fourth Quarter 2013. In the Second Quarter, the total concentration for BTEX was 181 µg/L and PAHs was 42 µg/L.

- For HIMW-025, total concentrations decreased in the Third Quarter to non-detect for both BTEX and PAHs, the same level as in First through Third Quarter 2013. In the Second Quarter 2014, the total concentration for BTEX was 1,320 µg/L and PAHs was 240 µg/L.

- HIMW-026D was installed in March 2014. The measured groundwater concentrations for total BTEX have remained under 100 µg/L from First through Third Quarter 2014. The total PAH concentration was 1,749 µg/L in the Third Quarter 2014 compared to 794 µg/L in the Second Quarter.

- HIMW-027S was installed in March 2014. The total BTEX concentration decreased from 1,483 µg/L in the Second Quarter to 1,179 µg/L in the Third Quarter. The total PAH concentration was 1,748 µg/L in the Third Quarter compared to 1,441 µg/L in the Second Quarter.

- HIMW-028S was installed in March 2014. The total BTEX concentration has decreased from 175 µg/L in the Second Quarter to 131 µg/L in the Third Quarter. The total PAH concentration was 503 µg/L in the Third Quarter compared to 372 µg/L in the Second Quarter..

3.2 Potentiometric Heads and NAPL Thickness

Potentiometric heads and NAPL thickness measurements for Third Quarter 2014 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 Third Quarter 2014. The data for Third Quarter 2014 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 Third Quarter 2014. 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 Figure 4.

A Data Usability Summary Report (DUSR) was prepared following the guidelines provided in 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. An electronic copy of the DUSR is included as Appendix A. 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.

3.4 NAPL Recovery Volumes

In the Third Quarter, 2014, HIMW-021 was the only remaining product recovery well in the vicinity of the site. It is located south of the site in the sidewalk along the west side of Wendell Street. The volume of NAPL recovered in the Third Quarter 2014 from this well was approximately 2.2 gallons. Monitoring and recovery events occurred on July 25, August 27, and gauging only on September 8, 2014.

A total of approximately 831.5 gallons of NAPL have been recovered from all of the recovery wells for the period of April 2007 through September 2014. Table 3 lists the amount of DNAPL gauged in HIMW-021 and the total amount of product recovered during each event.

3.5 Groundwater Treatment System Performance

Groundwater treatment system performance data for Third Quarter 2014, as collected and reported by Island Pump & Tank, is presented in Table 5.

System No. 1

System No. 1 DO readings reported in the Third Quarter 2014 during events when the system was operating ranged from a low of 5.27 mg/L at MP-1-8 on August 25, 2014 to a high of 41.71 mg/L at MP-1-7 on September 29, 2014. The overall average DO reading for System No. 1

was 22.37 mg/L. DO readings were collected from either the middle or bottom of the water column. PID headspace readings above 1 ppm were observed in wells MP-1-3S, MP-1-3D, MP-1-4S, MP-1-4D, MP-1-7, and MP-1-8 in the Third Quarter 2014, primarily occurring on July 31 (ranging from 1.4 to 12 ppm), but decreasing to near 1 ppm or below during the third monitoring event of the quarter.

Based on the data collected during the Third Quarter of 2014, System No. 1 is performing as expected and creating an aerobic environment in the aquifer.

System No. 2

System No. 2 DO readings reported in the Third Quarter 2014 ranged from 4.07 mg/L at MP-2-4 on August 20, 2014 to 30.10mg/L at MP-2-3D on September 30, 2014. The average DO reading was 19.25 mg/L. DO readings for this quarter were collected from the bottom of the water column. There were no wells with high dissolved oxygen concentrations (over 40 mg/L) during Third Quarter. There were no PID headspace readings above 1 ppm for System No. 2 in the Third Quarter 2014. During the end of July, System No. 2 was not operating because the dryer unit was being replaced. The system was restarted on August 4, 2014.

Based on the data collected during the Third Quarter of 2014, System No. 2 is performing as expected and creating an aerobic environment in the aquifer.

4.0 SUMMARY

Following is a summary of the Third Quarter 2014 groundwater sampling, NAPL monitoring and recovery data, and groundwater treatment performance presented in this report:

- The general direction of groundwater flow in the Third Quarter 2014 in the shallow, intermediate, and deep water-bearing zones was south at an average gradient of approximately 0.002 ft/ft for shallow, intermediate, and deep water bearing zones.
- The 100 µg/L dissolved-phase plume extended approximately 970 ft south of the site boundary.
- DNAPL was detected in the one existing well (HIMW-021) monitored during the Third Quarter 2014. The well (HIMW-021) was located immediately south of the site along the west side of Wendell Street. 2.2 gallons of NAPL was recovered from this well during three events during Third Quarter 2014.
- Approximately 831.5 gallons of NAPL has been recovered from all the recovery wells for the period of April 2007 through the Third Quarter 2014.
- Based on a comparison between the Second Quarter and Third Quarter 2014 data and previous quarterly data, the concentrations of total BTEX and total PAHs remained relatively stable or were decreasing.
- The first of two oxygen delivery systems (System No. 2), brought on line in October 2010, is promoting aerobic conditions in the aquifer near the system.
- The second of two oxygen delivery systems (System No. 1), brought on line in April 2011, is promoting aerobic conditions in the aquifer near the system.
- Monthly headspace and water quality parameters were collected from the monitoring points for Systems No. 1 and No. 2 by Island Pump & Tank. During the Third Quarter 2014, Island Pump & Tank monitored System No. 1 during three events and No. 2 during two events. Both systems are performing as expected and creating an aerobic environment in the aquifer.

REFERENCES

URS, 2007. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Second and Third Quarters of 2007 (April 2007 and July-August 2007) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* November.

URS, 2008a. *2007 Annual Groundwater Sampling and NAPL Monitoring/Recovery Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* February.

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.

URS, 2009a. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Third Quarter of 2008 (July - September 2008) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* January.

URS, 2009b. *2008 Annual Groundwater Sampling and NAPL Monitoring/Recovery Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* March.

URS, 2009c. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the First Quarter of 2009 (January - March 2009) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* June.

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.

URS, 2009e. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Third Quarter of 2009 (July - September 2009) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* November.

URS, 2010a. *2009 Annual Groundwater Sampling and NAPL Monitoring/Recovery Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* February.

URS, 2010b. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the First Quarter of 2010 (January - March 2010) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* April.

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.

URS, 2010d. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Third Quarter of 2010 (July - September 2010) for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. December.

URS, 2010e. *2010 Annual Groundwater Sampling and NAPL Monitoring/Recovery Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. December.

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.

URS, 2011b. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Second Quarter of 2011 (April - June 2011) for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. September.

URS, 2011c. *Groundwater Sampling and NAPL Monitoring/Recovery Report for the Third Quarter of 2011 (July- September 2011) for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. December.

URS, 2012a. *2011 Annual Groundwater Sampling and NAPL Monitoring/Recovery Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. May.

URS, 2012b. *Groundwater Sampling and Groundwater Treatment Performance Report for the First Quarter of 2012 (January – March 2012) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* October.

URS, 2012c. *Groundwater Sampling and Groundwater Treatment Performance Report for the Second Quarter of 2012 (April - June 2012) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* December.

URS, 2013a. *2012 Annual Groundwater Sampling, NAPL Monitoring, and Groundwater Treatment Performance Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. May.

URS, 2013b. *Groundwater Sampling and Groundwater Treatment Performance Report for the First Quarter of 2013 (January – March 2013) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* September.

URS, 2013c. *Groundwater Sampling and Groundwater Treatment Performance Report for the Second Quarter of 2013 (April – June 2013) for the Hempstead Intersection Street Former Manufactured Gas Plant Site*.

URS, 2014a. *2013 Annual Groundwater Sampling, NAPL Monitoring/Recovery, and Groundwater Treatment Performance Report for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. June.

URS, 2014b. *Groundwater Sampling and Groundwater Treatment Performance Report for the First Quarter of 2014 (January – March 2014) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* January.

URS, 2015. *Groundwater Sampling and Groundwater Treatment Performance Report for the Second Quarter of 2014 (April – June 2014) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.* January.

TABLES

Table 1

Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling
Third Quarter 2014 [1], [2]
Hempstead Intersection Street Former MGP Site

Well ID	Third Quarter (September 8 - 18, 2014)			NAPL Monitoring and DNAPL Recovery Events		
	Water Level	NAPL Thickness	Water Quality	July 25, 2014	August 27, 2014	September 8, 2014
HIMW-003S	X					
HIMW-003I	X					
HIMW-003D	X					
HIMW-004S	X					
HIMW-004I	X					
HIMW-004D	X					
HIMW-005S	X		X			
HIMW-005I	X		X			
HIMW-005D	X		X			
HIMW-008S	X		X			
HIMW-008I	X		X			
HIMW-008D	X		X			
HIMW-009S	X					
HIMW-009I	X					
HIMW-009D	X					
HIMW-010S	X					
HIMW-010I	X					
HIMW-011S	X					
HIMW-011I	X					
HIMW-011D	X					
HIMW-012S	X		X			
HIMW-012I	X		X			
HIMW-012D	X		X			
HIMW-013S	X					
HIMW-013I	X		X			
HIMW-013D	X		X			
HIMW-014I	X		X			
HIMW-014D	X					
HIMW-015I	X		X			
HIMW-015D	X		X			
HIMW-020S	X		X			
HIMW-020I	X		X			
HIMW-021	X	X		X	X	X
HIMW-022	X		X			
HIMW-023	X		X			
HIMW-024	X		X			
HIMW-025	X		X			
HIMW-026I	X		X			
HIMW-026D	X		X			
HIMW-027S	X		X			
HIMW-027I	X		X			
HIMW-028S	X		X			
HIMW-028I	X		X			
PZ-02	X					
PZ-03	X					
OSMW-02	X					
OSMW-03	X					

Notes:

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

2 Blank field indicates that the activity was not performed.

Shaded cell indicates abandoned or destroyed well.

Table 2
Groundwater and NAPL Measurements
Third Quarter 2014
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	9/8/2014	65.00	ND	18.56	ND	34.39	0	0.00	46.44
HIMW-003I	9/8/2014	64.94	ND	18.91	ND	85.10	0	0.00	46.03
HIMW-003D	9/8/2014	65.26	ND	19.64	ND	142.58	0	0.00	45.62
HIMW-004S	9/8/2014	72.74	ND	27.00	ND	41.55	0	0.00	45.74
HIMW-004I	9/8/2014	72.78	ND	27.17	ND	90.45	0	0.00	45.61
HIMW-004D	9/8/2014	72.65	ND	27.93	ND	176.99	0	0.00	44.72
HIMW-005S	9/8/2014	67.19	ND	21.33	ND	38.90	0	0.00	45.86
HIMW-005I	9/8/2014	67.22	ND	21.54	ND	90.51	0	0.00	45.68
HIMW-005D	9/8/2014	67.22	ND	22.25	ND	136.15	0	0.00	44.97
HIMW-008S	9/8/2014	65.04	ND	19.48	ND	36.92	0	0.00	45.56
HIMW-008I	9/8/2014	65.14	ND	19.73	ND	75.03	0	0.00	45.41
HIMW-008D	9/8/2014	64.93	ND	19.54	ND	114.55	0	0.00	45.39
HIMW-009S	9/8/2014	70.03	ND	24.09	ND	39.66	0	0.00	45.94
HIMW-009I	9/8/2014	69.93	ND	24.06	ND	80.41	0	0.00	45.87
HIMW-009D	9/8/2014	69.96	ND	24.19	ND	122.93	0	0.00	45.77
HIMW-010S	9/8/2014	71.60	ND	24.75	ND	39.19	0	0.00	46.85
HIMW-010I	9/8/2014	71.47	ND	24.54	ND	89.66	0	0.00	46.93
HIMW-011S	9/8/2014	71.62	ND	25.17	ND	40.19	0	0.00	46.45
HIMW-011I	9/8/2014	71.43	ND	25.02	ND	93.25	0	0.00	46.41
HIMW-011D	9/8/2014	71.39	ND	25.02	ND	122.31	0	0.00	46.37
HIMW-012S	9/8/2014	61.58	ND	17.18	ND	33.14	0	0.00	44.40
HIMW-012I	9/8/2014	61.59	ND	17.06	ND	74.50	0	0.00	44.53
HIMW-012D	9/8/2014	61.82	ND	19.92	ND	128.14	0	0.00	41.90
HIMW-013S	9/8/2014	72.83	ND	30.13	ND	48.66	0	0.00	42.70
HIMW-013I	9/8/2014	72.60	ND	29.91	ND	81.63	0	0.00	42.69
HIMW-013D	9/8/2014	72.53	ND	29.92	ND	122.03	0	0.00	42.61
HIMW-014I	9/8/2014	71.71	ND	28.96	ND	95.99	0	0.00	42.75
HIMW-014D	9/8/2014	71.59	ND	32.84	ND	151.87	0	0.00	38.75
HIMW-015I	9/8/2014	64.18	ND	24.74	ND	92.63	0	0.00	39.44
HIMW-015D	9/8/2014	63.96	ND	27.70	ND	152.31	0	0.00	36.26
HIMW-020S	9/8/2014	70.43	ND	25.37	ND	36.78	0	0.00	45.06
HIMW-020I	9/8/2014	70.30	ND	25.22	ND	74.85	0	0.00	45.08

Table 2
Groundwater and NAPL Measurements
Third Quarter 2014
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	9/8/2014	NM	ND	19.81	45.0	45.30	0	0.30	NM
HIMW-022	9/8/2014	74.07	ND	30.19	ND	64.35	0	0.00	43.88
HIMW-023	9/8/2014	74.41	ND	30.35	ND	75.32	0	0.00	44.06
HIMW-024	9/8/2014	59.83	ND	14.95	ND	54.93	0	0.00	44.88
HIMW-025	9/8/2014	62.75	ND	17.39	ND	52.21	0	0.00	45.36
HIMW-26I	9/8/2014	NM	ND	23.28	ND	84.77	0	0.00	NM
HIMW-26D	9/8/2014	NM	ND	23.36	ND	137.38	0	0.00	NM
HIMW-27S	9/8/2014	NM	ND	24.32	ND	41.53	0	0.00	NM
HIMW-27I	9/8/2014	NM	ND	23.76	ND	70.26	0	0.00	NM
HIMW-28S	9/8/2014	NM	ND	24.71	ND	41.35	0	0.00	NM
HIMW-28I	9/8/2014	NM	ND	24.38	ND	71.55	0	0.00	NM
PZ-02	9/8/2014	72.96	ND	25.84	ND	35.42	0	0.00	47.12
PZ-03	9/8/2014	64.58	ND	17.78	ND	29.88	0	0.00	46.80
OSMW-02	9/8/2014	71.59	ND	25.25	ND	45.13	0	0.00	46.34
OSMW-03	9/8/2014	71.39	ND	25.13	ND	44.65	0	0.00	46.26

Notes:

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

SHEEN	Sheen = assumed thickness of 0.01 ft
NM	not measured
LNAPL	light non-aqueous phase liquid
DNAPL	dense non-aqueous phase liquid
TOR	top of riser
amsl	above mean sea level
ND	NAPL not detected

Table 3
NAPL Recovery
Third Quarter 2014
Hempstead Intersection Street Former MGP Site

Well ID	Well Diameter (inches)	Third Quarter 2014								
		July 25, 2014			August 27, 2014			September 8, 2014		
		Thickness of LNAPL	Thickness of DNAPL	Volume of NAPL Removed(1)	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]	[ft]	[ft]	[gal]
HIMW-021	6	N/A	0.80	1.20	N/A	0.66	1.00	N/A	0.30	0.00
		Volume Removed		**1.20**	Volume Removed		**1.00**	Volume Removed		**0.00**
		Total product volume recovered during the Third Quarter 2014:								**2.20**

Total volume of NAPL recovered in Third Quarter 2014: **2.20** gallons

Total volume of NAPL recovered from April 2007 to Third Quarter 2014: **831.5** gallons

Notes:

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

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

Table 4

Dissolved-Phase Concentrations of Total BTEX and Total PAH Compounds Third Quarter of 2014 Hempstead Intersection Street Former MGP Site

Well ID	Third Quarter 2014 September 8 to 18, 2014	
	BTEX [ug/L]	PAH [ug/L]
HIMW-003S		
HIMW-003I		
HIMW-003D		
HIMW-004S		
HIMW-004I		
HIMW-004D		
HIMW-005S	ND	ND
HIMW-005I	77	3,054
HIMW-005D	36	842
HIMW-008S	19	2
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	8	88
HIMW-012D	ND	ND
HIMW-013S		
HIMW-013I	10	26
HIMW-013D	3	26
HIMW-014I	5	40
HIMW-014D		
HIMW-015I	12	24
HIMW-015D	ND	ND
HIMW-020S	ND	ND
HIMW-020I	3	7
HIMW-021		
HIMW-022	ND	ND
HIMW-023	ND	ND
HIMW-024	ND	ND
HIMW-025	ND	ND
HIMW-026I	ND	ND
HIMW-026D	70	1,749
HIMW-027S	1,179	1,748
HIMW-027I	ND	ND
HIMW-028S	131	503
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	Poly Aromatic Hydrocarbons
ug/L	micrograms per liter
ND	Not Detected.
NA	Not Analyzed For

Table 5
Groundwater Treatment Performance Monitoring
Third Quarter 2014
Hempstead Intersection Street Former MGP Site

System #1

	July 31, 2014			August 25, 2014			September 29, 2014		
ID	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)
MP-1-1S	26.46	0.0	16.36	26.33	0.0	17.68	27.08	0.0	20.21
MP-1-1D	26.38	0.0	19.49	26.26	0.0	26.72	27.04	0.0	27.12
MP-1-2S	20.95	0.2	18.03	20.85	0.3	19.79	21.65	0.1	16.54
MP-1-2D	20.75	0.0	25.55	20.66	0.0	35.14	21.43	0.0	40.12
MP-1-3S	18.76	2.9	20.13	18.65	1.1	21.98	19.48	0.6	18.36
MP-1-3D	18.89	1.4	14.48	18.85	0.7	9.27	19.63	0.3	21.46
MP-1-4S	21.74	5.7	21.12	21.65	2.9	31.76	22.43	1.8	33.21
MP-1-4D	21.72	5.0	18.00	21.60	3.1	27.42	22.40	1.1	26.66
MP-1-5	26.17	3.2	28.63	26.06	0.7	36.42	26.88	0.2	30.49
MP-1-6	18.43	0.0	12.11	18.32	0.0	11.26	19.10	0.0	12.61
MP-1-7	21.75	12.2	30.25	21.63	6.7	34.97	22.45	1.1	41.71
MP-1-8	23.32	2.1	9.08	23.17	0.8	5.27	23.99	0.2	5.76

System #2

	August 20, 2014			September 30, 2014		
ID	DTW (ft)	PID (ppm)	DO (mg/L) Bottom	DTW (ft)	PID (ppm)	DO (mg/L) Bottom
MP-2-1	29.12	0.3	16.37	29.95	0.0	15.75
MP-2-2	30.45	0.0	16.72	31.28	0.0	27.31
MP-2-3S	30.32	0.0	27.75	31.98	0.3	23.96
MP-2-3D	30.47	0.0	30.00	31.44	0.0	30.10
MP-2-4	19.03	0.0	4.07	19.90	0.0	17.57
MP-2-5	17.20	0.5	14.72	18.08	0.0	6.69

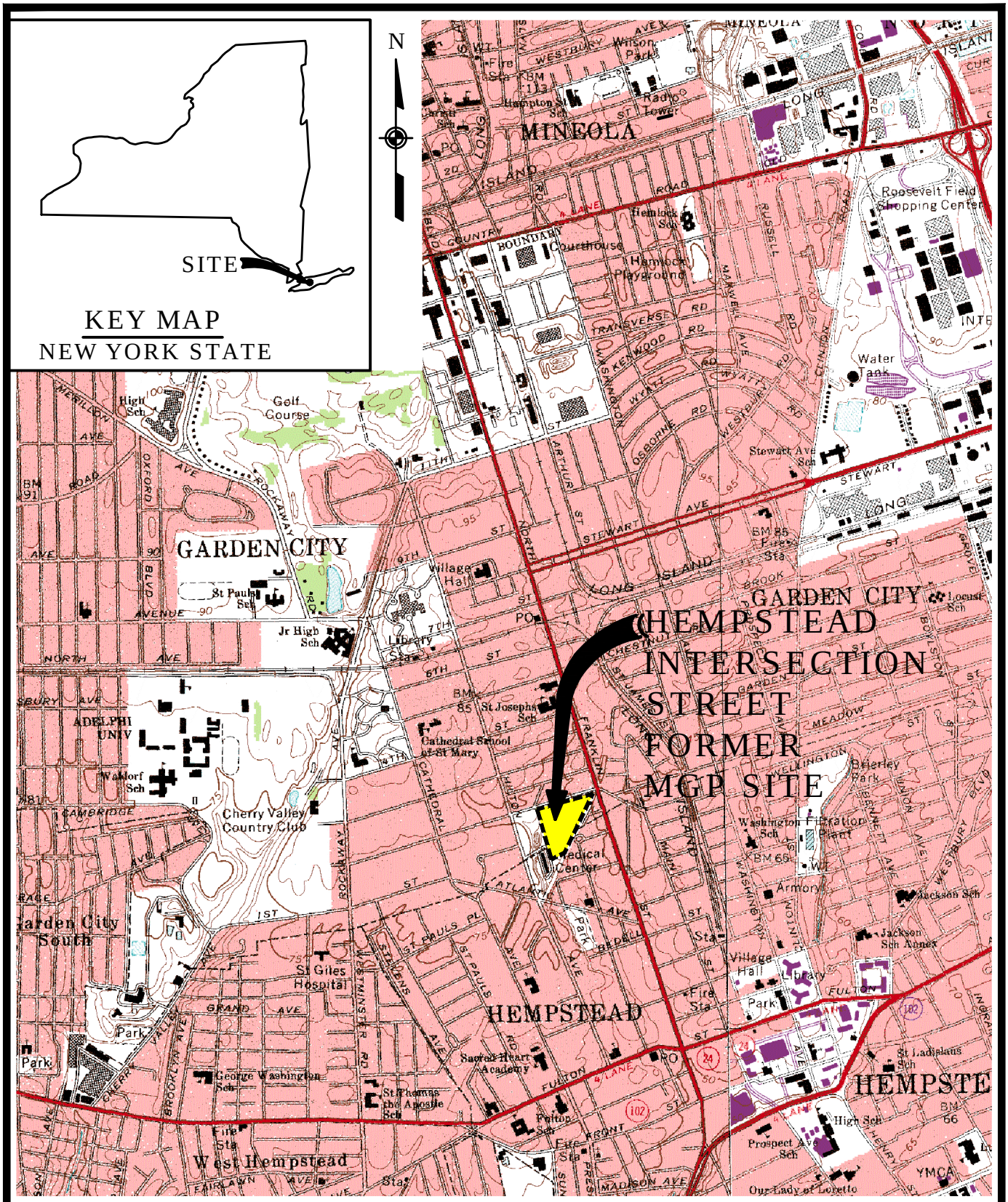
Abbreviations

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

Note

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

FIGURES



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

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

URS Corporation

LOCATION MAP

FIGURE 1

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\SECOND QUARTER 2014\FIGURE-1.dwg 6/11/14 - 1 RAL

J:\Projects\11175065.00000\DB\GIS\ARCMAP\SITE MAP 032014.mxd 12/9/2014

N

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

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
HIMW-018S,I
PZ-03
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-2-5
MP-2-4
MP-2-1
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

400 0 400 Feet

URS

NATIONAL GRID HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY
SITE MAP - SEPTEMBER 2014

FIGURE 2

J:\Projects\11175065.00000\DB\GIS\ARCMAP\GROUNDWATER TREATMENT LOCATIONS (2nd Qtr 2014).mxd 1/28/2015

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
MP-1-4S,4D
HISB-103
HISB-104
HIMW-008S,I,D
MP-1-8
HIGP-051
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-004S,I,D
HIMW-009S,I,D
HIGP-050
HIGP-048
HIVP-19
HIGP-047
MP-1-4S,D
HISB-104
MP-1-8
MP-1-6
MP-1-7
HISB-100
MP-1-3S
HISB-101
HIMW-025
MP-1-2S,D
SEE INSET 1
SEE INSET 2
HISB-114
HIGP-057
MP-1-1S,D
MP-1-5
HIGP-053
HISB-106
HIMW-024
HIGP-055
HIVP-17
HIGP-056
HIMW-012S,I,D
HISB-107
MP-2-1
MP-2-5
MP-2-3S,D
MP-2-4
HIGP-068
HISB-115
MP-2-2
HIMW-023
HIGP-061
HISB-109
HIGP-049
HIMW-022
HISB-108
HIGP-064
HIGP-063
HIGP-067
HIGP-062
HIGP-059
HIGP-065
HIMW-013S,I,D
HIVP-18
HIGP-070
HIGP-066
HIMW-014I,D
HIGP-058
HIGP-069
HIGP-072
HIGP-071
HIMW-015I,D

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

Legend

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

Estimated Extent of Groundwater Plume:

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

300 0 300 Feet

URS

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	1–474 (3)	ND–3,968 (7)

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	28	ND
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
80.5–90.5	ND–13	ND
133–143	ND–8.2	ND–30

HIMW-012S,I,D

DEPTH	TOT. BTEX	TOT. PAHs
22–32	ND–338.8 (ND)	ND–1,301 (ND)
63–73	8–256 (8)	65–527 (88)
117–127	ND–6 (ND)	ND–2 (ND)

HIMW-024

DEPTH	TOT. BTEX	TOT. PAHs
44.6–54.6	ND–900 (ND)	ND–1,020 (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
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 (10)	5–156 (26)
110–120	2–30 (3)	ND–28 (26)

HIMW-025

DEPTH	TOT. BTEX	TOT. PAHs
42–52	ND–1,320 (ND)	ND–573 (ND)

HIMW-026 I,D

DEPTH	TOT. BTEX	TOT. PAHs
65–85	ND (ND)	ND (ND)
115–135	24–70 (70)	794–1,749 (1,749)

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	70–439 (77)	1,454–5,337 (3,054)
130–140	ND–359 (36)	ND–2,698 (842)

HIMW-014 I,D

DEPTH	TOT. BTEX	TOT. PAHs
85–95	5–273 (5)	26–288 (40)
140–150	ND–15	ND

HIMW-027S, I

DEPTH	TOT. BTEX	TOT. PAHs
20–40	765–1,483 (1,179)	1,441–1,748 (1,748)
50–70	ND (ND)	ND (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

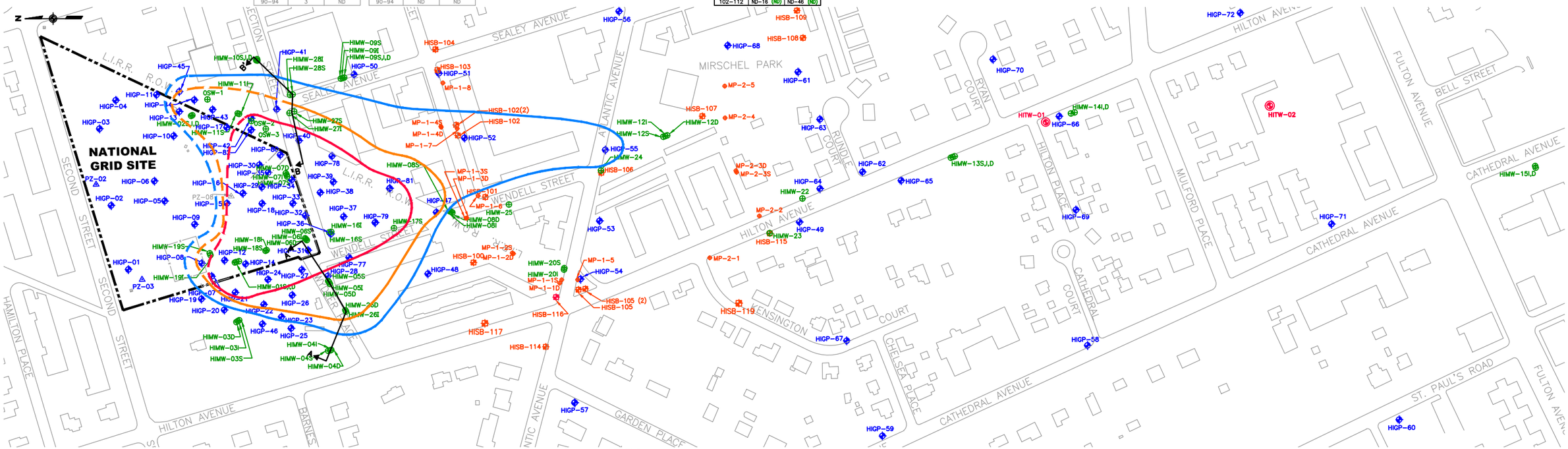
DEPTH	TOT. BTEX	TOT. PAHs
25–35	ND–8,240 (19)	ND–3,069 (2)
63–73	ND–457 (ND)	ND–251 (ND)
102–112	ND–16 (ND)	ND–46 (ND)

HIMW-015 I,D

DEPTH	TOT. BTEX	TOT. PAHs
80–90	5–111 (12)	ND–273 (24)
141.5–151.5	ND–94 (ND)	ND–1 (ND)

HIMW-028S,I

DEPTH	TOT. BTEX	TOT. PAHs
20–40	131–175 (131)	372–503 (503)
50–70	ND (ND)	ND (ND)



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

LEGEND:

LOCATION ID → HIMW-015 I,D

DEPTH (ft bgs)	TOT. BTEX	TOT. PAHs
80–90	5–111 (12)	ND–273 (24)
141.5–151.5	ND–94 (ND)	ND–1 (ND)

← CONCENTRATION UNITS ARE ug/L (SEPTEMBER 2014 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\THIRD QUARTER 2014\FIGURE 4.dwg 1/28/15 - 5 RAL

URS Corporation

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

EXTENT OF DISSOLVED-PHASE PLUME AND GROUNDWATER ANALYTICAL RESULTS - SEPTEMBER 2014

FIGURE 4

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\SEPT 2014\FIGURE 5.dwg 12/11/14 - 1 RAL

N

PZ-02, 47.12

47.0

PZ-03, 46.80

NATIONAL GRID
FORMER MGP SITE

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

46.5

HIMW-11S, 46.45

HIMW-03S, 46.44

OSMW-3, 46.26

HIMW-10S, 46.85

OSMW-2, 46.34

HIMW-27S, NM

HIMW-28S, NM

HIMW-04S, 45.74

46.0

HIMW-09S, 45.94

HIMW-05S, 45.86

HIMW-8S, 45.56

45.5

45.0

HIMW-20S, 45.06

44.5

HIMW-12S, 44.40

44.0

43.5

43.0

HIMW-13S, 42.70

MAIN STREET
MEADOW PLACE
STOWE PLACE
SECOND STREET
HILTON AVENUE
FRANKLIN AVENUE
OLD FRANKLIN STREET
SAMMIS PLACE
MILLER PLACE
UNION PLACE
BARNES LANE
WYDLER PLACE
WENDELL STREET
SEALEY AVENUE
INTERSECTION STREET
SMITH STREET
ATLANTIC AVENUE
GARDEN PLACE
KELLUM PLACE
KENSINGTON COURT
MIRSCHEL PARK
TERRACE AVENUE
MARGARET COURT
BEDELL STREET
NORTH FRANKLIN STREET
WEST COLUMBIA ST
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
△	PIEZOMETER
→	GROUNDWATER FLOW DIRECTION
44	POTENTIOMETRIC SURFACE CONTOUR
— - - —	FORMER MGP SITE BOUNDARY
HIMW-8S, 45.56	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

URS Corporation

HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR SHALLOW GROUNDWATER
SEPTEMBER 8, 2014

FIGURE 5

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\SEPT 2014\FIGURE 6.dwg 12/11/14 - 3 RAL

N

NATIONAL GRID
FORMER MGP SITE

HIMW-03I, 46.03
HIMW-11I, 46.41
HIMW-27I, NM
HIMW-10I, 46.93
HIMW-28I, NM
HIMW-05I, 45.68
HIMW-04I, 45.61
HIMW-09I, 45.87
HIMW-26I, NM
HIMW-08I, 45.41
HIMW-25, 45.36
HIMW-20I, 45.08
HIMW-24, 44.88
HIMW-12I, 44.53
HIMW-23, 44.06
HIMW-22, 43.88
HIMW-13I, 42.69
HIMW-14I, 42.75
HIMW-15I, 39.44

46
45
44
43
42
41
40

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

LEGEND:

- MONITORING WELL
- IPR WELL
- GROUNDWATER FLOW DIRECTION
- 44 — POTENTIOMETRIC SURFACE CONTOUR
- FORMER MGP SITE BOUNDARY
- HIMW-08I, 45.41 — 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

URS Corporation

HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR INTERMEDIATE GROUNDWATER
SEPTEMBER 8, 2014

FIGURE 6

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\SEPT 2014\FIGURE 7.dwg 1/28/15 - 2 RAL

N

NATIONAL GRID
FORMER MGP SITE

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

HIMW-03D, 46.62
HIMW-11D, 46.37
HIMW-05D, 44.97
HIMW-04D, 44.72
HIMW-09D, 45.77
HIMW-26D, NM
HIMW-08D, 45.39
HIMW-12D, 41.90
HIMW-13D, 42.61
HIMW-14D, 38.75
HIMW-15D, 36.26

46
45
44
43
42
41
40
39
38
39

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

LEGEND:

⊕	MONITORING WELL
→	GROUNDWATER FLOW DIRECTION
43	POTENTIOMETRIC SURFACE CONTOUR
— - - —	FORMER MGP SITE BOUNDARY
HIMW-12D, 43.13	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

URS Corporation

HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR DEEP GROUNDWATER
SEPTEMBER 8, 2014

FIGURE 7

J:\Projects\11175065.00000\DB\GIS\ARCMAP\0914 BTEXPAH-NAPL.mxd 12/9/2014

Well ID	BTEX [ug/L]	PAH [ug/L]	DNAPL (ft)	LNAPL (ft)
HIMW-003S				
HIMW-003I				
HIMW-003D				
HIMW-004S				
HIMW-004I				
HIMW-004D				
HIMW-005S	ND	ND		
HIMW-005I	77	3,054		
HIMW-005D	36	842		
HIMW-008S	19	2		
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	8	88		
HIMW-012D	ND	ND		
HIMW-013S				
HIMW-013I	10	26		
HIMW-013D	3	26		
HIMW-014I	5	40		
HIMW-014D				
HIMW-015I	12	24		
HIMW-015D	ND	ND		
HIMW-020S	ND	ND		
HIMW-020I	3	7		
HIMW-021			0.30	
HIMW-022	ND	ND		
HIMW-023	ND	ND		
HIMW-024	ND	ND		
HIMW-025	ND	ND		
HIMW-026I	ND	ND		
HIMW-026D	70	1,749		
HIMW-027S	1,179	1,748		
HIMW-027I	ND	ND		
HIMW-028S	131	503		
HIMW-028I	ND	ND		
PZ-02				
PZ-03				
OSMW-02				
OSMW-03				

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

URS

HEMPSTEAD/GARDEN CITY, NY
TOTAL DISSOLVED-PHASE BTEX/PAH CONCENTRATIONS
AND FREE PRODUCT THICKNESS
THIRD QUARTER 2014

FIGURE 8

APPENDIX A

DATA USABILITY SUMMARY REPORT

APPENDIX A
DATA USABILITY SUMMARY REPORT
THIRD QUARTER 2014

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

OCTOBER 2014

TABLE OF CONTENTS

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-six (26) groundwater samples, two (2) field duplicates, two (2) matrix spike/matrix spike duplicate (MS/MSD) pairs, one (1) field blank, and four (4) trip blanks collected by URS personnel on September 9-19, 2014. 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 twenty (20) of groundwater samples were collected as part of the 2014 3rd 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) (Total and Dissolved) – USEPA Method SW8270D.

Only three (3) groundwater samples were analyzed for dissolved PAHs (i.e., HIMW-05I, -05D, and –26D), which were collected to verify that a majority of the contamination present in the groundwater is in the dissolved phase.

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, SOP HW-24, Rev. 2,* August 2008; 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, interference check standards, matrix spike recoveries, field duplicate analyses, laboratory control sample (LCS) recoveries, serial dilutions, and surrogate/internal standard recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

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

III. DATA DELIVERABLE COMPLETENESS

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

IV. SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

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

V. NON-CONFORMANCES

There were no analytical non-conformances noted during the data validation.

VI. SAMPLE RESULTS AND REPORTING

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

Field duplicates were collected from monitoring well locations HIMW-12S, and HIMW-28S, 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: Peter R. Fairbanks _____ **Date:** 10/28/14

Peter R. Fairbanks, Senior Chemist

Reviewed By: _____ **Date:** 10/28/14

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
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-005D	HIMW-005I	HIMW-005S	HIMW-008D	HIMW-008I
Sample ID			HIMW-05D	HIMW-05I	HIMW-05S	HIMW-8D	HIMW-8I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/14	09/10/14	09/10/14	09/17/14	09/17/14
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	2	2	1 U	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	-	34	75	1 U	1 U	1 U
Total BTEX	UG/L	100	36	77	ND	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	97 DJ	470 DJ	10 U	10 U	10 U
Acenaphthene	UG/L	-	4 J	15	10 U	10 U	10 U
Acenaphthylene	UG/L	-	44	210 DJ	10 U	10 U	10 U
Anthracene	UG/L	-	10 U	3 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	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	-	7 J	34	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	-	690 D	2,300 D	10 U	10 U	10 U
Phenanthrene	UG/L	-	10 U	22	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	842	3,054	ND	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.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-005D	HIMW-005I	HIMW-005S	HIMW-008D	HIMW-008I
Sample ID			HIMW-05D	HIMW-05I	HIMW-05S	HIMW-8D	HIMW-8I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/14	09/10/14	09/10/14	09/17/14	09/17/14
Parameter	**Units**	**Criteria***					
Dissolved Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	40	330 DJ	NA	NA	NA
Acenaphthene	UG/L	-	2 J	12	NA	NA	NA
Acenaphthylene	UG/L	-	28	180 DJ	NA	NA	NA
Anthracene	UG/L	-	10 U	10 U	NA	NA	NA
Benzo(a)anthracene	UG/L	-	10 U	10 U	NA	NA	NA
Benzo(a)pyrene	UG/L	-	10 U	10 U	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	NA	NA	NA
Chrysene	UG/L	-	10 U	10 U	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	NA	NA	NA
Fluoranthene	UG/L	-	10 U	10 U	NA	NA	NA
Fluorene	UG/L	-	2 J	21	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	NA	NA	NA
Naphthalene	UG/L	-	430 D	1,900 D	NA	NA	NA
Phenanthrene	UG/L	-	10 U	1 J	NA	NA	NA
Pyrene	UG/L	-	10 U	10 U	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	502	2,444	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-008S	HIMW-012D	HIMW-012I	HIMW-012S	HIMW-012S
Sample ID			HIMW-8S	HIMW-12D	HIMW-12I	DUP-091814	HIMW-12S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/14	09/18/14	09/18/14	09/18/14	09/18/14
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatile Organic Compounds							
Benzene	UG/L	-	19	1 U	8	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	1 U	1 U
Total BTEX	UG/L	100	19	ND	8	ND	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	26	10 U	10 U
Acenaphthylene	UG/L	-	2 J	10 U	26	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	-	10 U	10 U	21	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	-	10 U	10 U	13	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	2	ND	88	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

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-008S	HIMW-012D	HIMW-012I	HIMW-012S	HIMW-012S
Sample ID			HIMW-8S	HIMW-12D	HIMW-12I	DUP-091814	HIMW-12S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/17/14	09/18/14	09/18/14	09/18/14	09/18/14
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Dissolved Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthylene	UG/L	-	NA	NA	NA	NA	NA
Anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Chrysene	UG/L	-	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA	NA	NA
Fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Fluorene	UG/L	-	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA	NA	NA
Naphthalene	UG/L	-	NA	NA	NA	NA	NA
Phenanthrene	UG/L	-	NA	NA	NA	NA	NA
Pyrene	UG/L	-	NA	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-013D	HIMW-013I	HIMW-014I	HIMW-015D	HIMW-015I
Sample ID			HIMW-13D	HIMW-13I	HIMW-14I	HIMW-15D	HIMW-15I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/09/14	09/09/14	09/09/14	09/16/14	09/16/14
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	3	9	5	1 U	10
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	1 U	1 U	2
Total BTEX	UG/L	100	3	10	5	ND	12
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Acenaphthene	UG/L	-	9 J	2 J	12	10 U	7 J
Acenaphthylene	UG/L	-	17	16	11	10 U	15
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	-	10 U	10 U	6 J	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	-	10 U	8 J	9 J	10 U	2 J
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	26	26	40	ND	24

*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.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-013D	HIMW-013I	HIMW-014I	HIMW-015D	HIMW-015I
Sample ID			HIMW-13D	HIMW-13I	HIMW-14I	HIMW-15D	HIMW-15I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/09/14	09/09/14	09/09/14	09/16/14	09/16/14
Parameter	**Units**	**Criteria***					
Dissolved Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthylene	UG/L	-	NA	NA	NA	NA	NA
Anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Chrysene	UG/L	-	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA	NA	NA
Fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Fluorene	UG/L	-	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA	NA	NA
Naphthalene	UG/L	-	NA	NA	NA	NA	NA
Phenanthrene	UG/L	-	NA	NA	NA	NA	NA
Pyrene	UG/L	-	NA	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-020I	HIMW-020S	HIMW-022	HIMW-023	HIMW-024
Sample ID			HIMW-20I	HIMW-20S	HIMW-22	HIMW-23	HIMW-24
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/15/14	09/15/14	09/18/14	09/16/14	09/15/14
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	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	-	3	1 U	1 U	1 U	1 U
Total BTEX	UG/L	100	3	ND	ND	ND	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	10 U	10 U
Acenaphthylene	UG/L	-	6 J	10 U	10 U	10 U	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	-	1 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	-	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	7	ND	ND	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

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-020I	HIMW-020S	HIMW-022	HIMW-023	HIMW-024
Sample ID			HIMW-20I	HIMW-20S	HIMW-22	HIMW-23	HIMW-24
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/15/14	09/15/14	09/18/14	09/16/14	09/15/14
Parameter	**Units**	**Criteria***					
Dissolved Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthene	UG/L	-	NA	NA	NA	NA	NA
Acenaphthylene	UG/L	-	NA	NA	NA	NA	NA
Anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Chrysene	UG/L	-	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA	NA	NA
Fluoranthene	UG/L	-	NA	NA	NA	NA	NA
Fluorene	UG/L	-	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA	NA	NA
Naphthalene	UG/L	-	NA	NA	NA	NA	NA
Phenanthrene	UG/L	-	NA	NA	NA	NA	NA
Pyrene	UG/L	-	NA	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-025	HIMW-026D	HIMW-026I	HIMW-027I	HIMW-027S
Sample ID			HIMW-25	HIMW-26D	HIMW-26I	HIMW-27I	HIMW-27S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/16/14	09/10/14	09/19/14	09/17/14	09/17/14
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	1 U	4
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U	530 D
Toluene	UG/L	-	1 U	1 U	1 U	1 U	45
Xylene (total)	UG/L	-	1 U	70	1 U	1 U	600 D
Total BTEX	UG/L	100	ND	70	ND	ND	1,179
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	270 D	10 U	10 U	420 D
Acenaphthene	UG/L	-	10 U	8 J	10 U	10 U	100 DJ
Acenaphthylene	UG/L	-	10 U	130 DJ	10 U	10 U	4 J
Anthracene	UG/L	-	10 U	10 U	10 U	10 U	11
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	3 J
Fluorene	UG/L	-	10 U	23	10 U	10 U	46
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	1,300 D	10 U	10 U	1,100 D
Phenanthrene	UG/L	-	10 U	18	10 U	10 U	61
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	3 J
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	1,749	ND	ND	1,748

*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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

J:\Projects\11175065.00000\DB\Program\EDMS.md
Printed: 1/27/2015 3:05:21 PM
[LOGDATE] BETWEEN #9/9/2014# AND #9/19/2014# AND [MATRIX] = 'WG

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-025	HIMW-026D	HIMW-026I	HIMW-027I	HIMW-027S
Sample ID			HIMW-25	HIMW-26D	HIMW-26I	HIMW-27I	HIMW-27S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/16/14	09/10/14	09/19/14	09/17/14	09/17/14
Parameter	**Units**	**Criteria***					
Dissolved Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	150 DJ	NA	NA	NA
Acenaphthene	UG/L	-	NA	6 J	NA	NA	NA
Acenaphthylene	UG/L	-	NA	98 DJ	NA	NA	NA
Anthracene	UG/L	-	NA	10 U	NA	NA	NA
Benzo(a)anthracene	UG/L	-	NA	10 U	NA	NA	NA
Benzo(a)pyrene	UG/L	-	NA	10 U	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	NA	10 U	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	NA	10 U	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	NA	10 U	NA	NA	NA
Chrysene	UG/L	-	NA	10 U	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	NA	10 U	NA	NA	NA
Fluoranthene	UG/L	-	NA	10 U	NA	NA	NA
Fluorene	UG/L	-	NA	11	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	10 U	NA	NA	NA
Naphthalene	UG/L	-	NA	950 D	NA	NA	NA
Phenanthrene	UG/L	-	NA	1 J	NA	NA	NA
Pyrene	UG/L	-	NA	10 U	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	1,216	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-028I	HIMW-028S	HIMW-028S
Sample ID			HIMW-28I	DUP-091914	HIMW-28S
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			09/19/14	09/19/14	09/19/14
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)	
Volatile Organic Compounds					
Benzene	UG/L	-	1 U	18	18
Ethylbenzene	UG/L	-	1 U	94	95
Toluene	UG/L	-	1 U	1	1
Xylene (total)	UG/L	-	1 U	17	17
Total BTEX	UG/L	100	ND	130	131
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/L	-	10 U	34	38
Acenaphthene	UG/L	-	10 U	37	37
Acenaphthylene	UG/L	-	10 U	3 J	3 J
Anthracene	UG/L	-	10 U	6 J	6 J
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U
Chrysene	UG/L	-	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U	10 U
Fluorene	UG/L	-	10 U	34	33
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U
Naphthalene	UG/L	-	10 U	310 D	350 D
Phenanthrene	UG/L	-	10 U	37	36
Pyrene	UG/L	-	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	461	503

*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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-028I	HIMW-028S	HIMW-028S
Sample ID			HIMW-28I	DUP-091914	HIMW-28S
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			09/19/14	09/19/14	09/19/14
Parameter	**Units**	**Criteria***		Field Duplicate (1-1)	
Dissolved Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/L	-	NA	NA	NA
Acenaphthene	UG/L	-	NA	NA	NA
Acenaphthylene	UG/L	-	NA	NA	NA
Anthracene	UG/L	-	NA	NA	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA
Chrysene	UG/L	-	NA	NA	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA
Fluoranthene	UG/L	-	NA	NA	NA
Fluorene	UG/L	-	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA
Naphthalene	UG/L	-	NA	NA	NA
Phenanthrene	UG/L	-	NA	NA	NA
Pyrene	UG/L	-	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	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. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis.

NA - The sample was not analyzed for this parameter.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

TABLE A-2
VALIDATED FIELD QC SAMPLE ANALYTICAL RESULTS
3RD QUARTER 2014
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			FIELDQC	FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID			TB091014	TB091514	TB-091714	FB-091914	TB-091914
Matrix			Water Quality	Water Quality	Water Quality	Water Quality	Water Quality
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/10/14	09/15/14	09/17/14	09/19/14	09/19/14
Parameter	**Units**	**Criteria***	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)	Field Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	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	1 U	1 U
Total BTEX	UG/L	100	ND	ND	ND	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	NA	NA	10 U	NA
Acenaphthene	UG/L	-	NA	NA	NA	10 U	NA
Acenaphthylene	UG/L	-	NA	NA	NA	10 U	NA
Anthracene	UG/L	-	NA	NA	NA	10 U	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA	10 U	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA	10 U	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA	10 U	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA	10 U	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA	10 U	NA
Chrysene	UG/L	-	NA	NA	NA	10 U	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA	10 U	NA
Fluoranthene	UG/L	-	NA	NA	NA	10 U	NA
Fluorene	UG/L	-	NA	NA	NA	10 U	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA	10 U	NA
Naphthalene	UG/L	-	NA	NA	NA	10 U	NA
Phenanthrene	UG/L	-	NA	NA	NA	10 U	NA
Pyrene	UG/L	-	NA	NA	NA	10 U	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	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.

Made By_PRF 10/28/14_; Checked By_AMK 10/28/14_

Detection Limits shown are PQL

J:\Projects\11175065.00000\DB\Program\EDMS.md
Printed: 1/27/2015 3:07:29 PM
[LOGDATE] BETWEEN #9/9/2014# AND #9/19/2014# 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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-004B

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27952.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-004A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68531.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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

1C

EPA SAMPLE NO.

HIMW-05I TOTAL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-002A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68521.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	2300 ~~720~~	~~E~~ D
91-57-6	2-Methylnaphthalene	470 ~~350~~	~~E~~ DJ
208-96-8	Acenaphthylene	210 ~~200~~	~~E~~ DJ
83-32-9	Acenaphthene	15	
86-73-7	Fluorene	34	
85-01-8	Phenanthrene	22	
120-12-7	Anthracene	3	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

10/24/14

1C

EPA SAMPLE NO.

HIMW-05IDL
TOTAL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-002ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68553.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/18/14

Injection Volume: 2 (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	2300	D
91-57-6	2-Methylnaphthalene	470	DJ
208-96-8	Acenaphthylene	210	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

10/24/14

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05I DISSOLVED

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-002A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68526.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	1900 ~~680~~	~~E~~ D
91-57-6	2-Methylnaphthalene	330 ~~270~~	~~E~~ DJ
208-96-8	Acenaphthylene	180 ~~170~~	~~E~~ DJ
83-32-9	Acenaphthene	12	
86-73-7	Fluorene	21	
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

10/27/14
2

1C

EPA SAMPLE NO.

HIMW-05IDL DISSOLVED

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-002ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68554.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/18/14

Injection Volume: 2 (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	1900	D
91-57-6	2-Methylnaphthalene	330	DJ
208-96-8	Acenaphthylene	180	DJ
83-32-9	Acenaphthene	400	U
86-73-7	Fluorene	400	U
85-01-8	Phenanthrene	400	U
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

10/27/14

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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-006A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27954.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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)	34	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05D
TOTAL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-001A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68520.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	690 ~~470~~	~~E~~ D
91-57-6	2-Methylnaphthalene	97 ~~99~~	~~E~~ DJ
208-96-8	Acenaphthylene	44	
83-32-9	Acenaphthene	4	J
86-73-7	Fluorene	7	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

10/16/14
ra

1C

EPA SAMPLE NO.

HIMW-05DDL TOTAL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-001ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68533.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	690	D
91-57-6	2-Methylnaphthalene	97	DJ
208-96-8	Acenaphthylene	42	DJ
83-32-9	Acenaphthene	200	U
86-73-7	Fluorene	200	U
85-01-8	Phenanthrene	200	U
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

10/16/14

1C

EPA SAMPLE NO.

HIMW-05D
DISSOLVED

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-001A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68525.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	430 ~~320~~	~~E~~ D
91-57-6	2-Methylnaphthalene	40	
208-96-8	Acenaphthylene	28	
83-32-9	Acenaphthene	2	J
86-73-7	Fluorene	2	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

10/27/14

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05DDL
DISSOLVED

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-001ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68536.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (µL) Dilution Factor: 10.00

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	430	D
91-57-6	2-Methylnaphthalene	40	DJ
208-96-8	Acenaphthylene	27	DJ
83-32-9	Acenaphthene	100	U
86-73-7	Fluorene	100	U
85-01-8	Phenanthrene	100	U
120-12-7	Anthracene	100	U
206-44-0	Fluoranthene	100	U
129-00-0	Pyrene	100	U
56-55-3	Benzo(a)anthracene	100	U
218-01-9	Chrysene	100	U
205-99-2	Benzo(b)fluoranthene	100	U
207-08-9	Benzo(k)fluoranthene	100	U
50-32-8	Benzo(a)pyrene	100	U
193-39-5	Indeno(1,2,3-cd)pyrene	100	U
53-70-3	Dibenzo(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	U

(1) Cannot be separated from Diphenylamine

10/27/14
2

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-007B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27967.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/L	Q
71-43-2	Benzene	19	
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-8S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-007A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24565.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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	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-8I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-008B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27978.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-8I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-008A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24566.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-009B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27968.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-009A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24569.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-001B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28178.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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-12S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-001A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24580.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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.

DUP-091814 (HIMW -)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-009B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28188.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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.

DUP-091814 (HIMW-)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-009A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24588.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/25/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-12I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-002B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28179.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/L	Q
71-43-2	Benzene	8	
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-12I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-002A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24581.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	26	
83-32-9	Acenaphthene	26	
86-73-7	Fluorene	21	
85-01-8	Phenanthrene	13	
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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-12D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-003B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28181.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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-12D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-003A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24582.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-001B

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27949.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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	9	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	

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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-001A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68528.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	16	
83-32-9	Acenaphthene	2	J
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	8	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-13D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-002B

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27950.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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	3	
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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-002A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68529.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	17	
83-32-9	Acenaphthene	9	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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-003B

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27951.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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	5	
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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-003A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68530.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	12	
86-73-7	Fluorene	6	J
85-01-8	Phenanthrene	9	J
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

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-004B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27964.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/L	Q
71-43-2	Benzene	10	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	2	

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-15I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-004A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24562.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	15	
83-32-9	Acenaphthene	7	J
86-73-7	Fluorene	10	U
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-15D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-003B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27963.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-15D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-003A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24561.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/23/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-20S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-001B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27961.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-20S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-001A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24559.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/23/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-002B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27962.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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)	3	

1C

EPA SAMPLE NO.

HIMW-20I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-002A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24560.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/23/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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	10	U
86-73-7	Fluorene	1	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

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-004B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28182.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-004A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24583.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-005B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27965.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-005A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24563.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409B00-001A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27957.

Level: (low/med) LOW Date Received: 09/15/14

% Moisture: not dec. Date Analyzed: 09/18/14

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-24

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409B00-001B

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68663.D

Level: (low/med) LOW Date Received: 09/15/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/16/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/22/14

Injection Volume: 2 (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-25

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-006B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27966.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-25

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-006A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24564.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-005B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28183.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-005A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24584.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-007A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27955.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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)	70	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-26D TOTAL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-003A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68522.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	1300 ~~570~~	~~E~~ D
91-57-6	2-Methylnaphthalene	270 ~~230~~	~~E~~ D
208-96-8	Acenaphthylene	130	~~E~~ DJ
83-32-9	Acenaphthene	8	J
86-73-7	Fluorene	23	
85-01-8	Phenanthrene	18	
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

10/24/14

2

1C

EPA SAMPLE NO.

HIMW-26DDL TOTAL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409843-003ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68535.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/12/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	1300	D
91-57-6	2-Methylnaphthalene	270	D
208-96-8	Acenaphthylene	130	DJ
83-32-9	Acenaphthene	200	U
86-73-7	Fluorene	200	U
85-01-8	Phenanthrene	200	U
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

10/24/14

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-26D DISSOLVED

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-003A

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 4\N68527.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	950 ~~480~~	~~E~~ D
91-57-6	2-Methylnaphthalene	150 ~~130~~	~~E~~ DJ
208-96-8	Acenaphthylene	98 ~~97~~	~~E~~ DJ
83-32-9	Acenaphthene	6	J
86-73-7	Fluorene	11	
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

10/27/14

1C

EPA SAMPLE NO.

HIMW-26DDL DISSOLVED

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS186

Matrix: (soil/water) WATER Lab Sample ID: 1409847-003ADL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4\N68538.D

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/15/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/17/14

Injection Volume: 2 (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	950	D
91-57-6	2-Methylnaphthalene	150	DJ
208-96-8	Acenaphthylene	98	DJ
83-32-9	Acenaphthene	200	U
86-73-7	Fluorene	200	U
85-01-8	Phenanthrene	200	U
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

10/27/14 2

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-010B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27976.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/L	Q
71-43-2	Benzene	4	
108-88-3	Toluene	45	
100-41-4	Ethylbenzene	530 ~~520~~	~~E~~ D
1330-20-7	Xylene (total)	600 ~~610~~	~~E~~ D

10/28/14

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-010BDL

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27977.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/L	Q
71-43-2	Benzene	5	U
108-88-3	Toluene	42	D
100-41-4	Ethylbenzene	530	D
1330-20-7	Xylene (total)	600	D

10/28/14

1C

SEMIVOLATILE 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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-010A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24570.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	1100 ~~950~~	~~E~~ D
91-57-6	2-Methylnaphthalene	420 ~~390~~	~~E~~ D
208-96-8	Acenaphthylene	4	J
83-32-9	Acenaphthene	100 ~~92~~	~~E~~ D J
86-73-7	Fluorene	46	
85-01-8	Phenanthrene	61	
120-12-7	Anthracene	11	
206-44-0	Fluoranthene	3	J
129-00-0	Pyrene	3	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

10/28/14

1C

EPA SAMPLE NO.

HIMW-27SDL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-010ADL

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24590.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/25/14

Injection Volume: 2 (µL) Dilution Factor: 20.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	1100	D
91-57-6	2-Methylnaphthalene	420	D
208-96-8	Acenaphthylene	200	U
83-32-9	Acenaphthene	100	DJ
86-73-7	Fluorene	51	DJ
85-01-8	Phenanthrene	67	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

10/28/14

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-011B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27969.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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-27I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-011A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24571.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/18/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-007B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28185.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/L	Q
71-43-2	Benzene	18	
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	95	
1330-20-7	Xylene (total)	17	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-091914 (HIMW-285)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-008B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28187.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/L	Q
71-43-2	Benzene	18	
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	94	
1330-20-7	Xylene (total)	17	

1C

SEMIVOLATILE 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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-007A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24586.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	350 ~~370~~	E (1)
91-57-6	2-Methylnaphthalene	38	
208-96-8	Acenaphthylene	3	J
83-32-9	Acenaphthene	37	
86-73-7	Fluorene	33	
85-01-8	Phenanthrene	36	
120-12-7	Anthracene	6	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

10/28/14

2

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-28SDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-007ADL

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24612.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/26/14

Injection Volume: 2 (µL) Dilution Factor: 10.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	350	D
91-57-6	2-Methylnaphthalene	40	DJ
208-96-8	Acenaphthylene	100	U
83-32-9	Acenaphthene	39	DJ
86-73-7	Fluorene	35	DJ
85-01-8	Phenanthrene	37	DJ
120-12-7	Anthracene	100	U
206-44-0	Fluoranthene	100	U
129-00-0	Pyrene	100	U
56-55-3	Benzo(a)anthracene	100	U
218-01-9	Chrysene	100	U
205-99-2	Benzo(b)fluoranthene	100	U
207-08-9	Benzo(k)fluoranthene	100	U
50-32-8	Benzo(a)pyrene	100	U
193-39-5	Indeno(1,2,3-cd)pyrene	100	U
53-70-3	Dibenzo(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	U

(1) Cannot be separated from Diphenylamine

10/23/14

2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-091914 (HIMW-285)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-008A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24587.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/25/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	310 ~~360~~	E (1)
91-57-6	2-Methylnaphthalene	34	
208-96-8	Acenaphthylene	3	J
83-32-9	Acenaphthene	37	
86-73-7	Fluorene	34	
85-01-8	Phenanthrene	37	
120-12-7	Anthracene	6	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

10/28/14

2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-091914DL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-008ADL

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24613.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/26/14

Injection Volume: 2 (µL) Dilution Factor: 10.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	310	D
91-57-6	2-Methylnaphthalene	32	DJ
208-96-8	Acenaphthylene	100	U
83-32-9	Acenaphthene	35	DJ
86-73-7	Fluorene	33	DJ
85-01-8	Phenanthrene	35	DJ
120-12-7	Anthracene	100	U
206-44-0	Fluoranthene	100	U
129-00-0	Pyrene	100	U
56-55-3	Benzo(a)anthracene	100	U
218-01-9	Chrysene	100	U
205-99-2	Benzo(b)fluoranthene	100	U
207-08-9	Benzo(k)fluoranthene	100	U
50-32-8	Benzo(a)pyrene	100	U
193-39-5	Indeno(1,2,3-cd)pyrene	100	U
53-70-3	Dibenzo(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	U

(1) Cannot be separated from Diphenylamine

10/28/14

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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-006B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28184.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-006A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24585.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/24/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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.

TB091014

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409848-008A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27956.

Level: (low/med) LOW Date Received: 09/10/14

% Moisture: not dec. Date Analyzed: 09/18/14

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.

TB091514

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS187

Matrix: (soil/water) WATER Lab Sample ID: 1409B00-002A

Sample wt/vol: 5 (g/mL) ML Lab File ID: 14\G27960.

Level: (low/med) LOW Date Received: 09/15/14

% Moisture: not dec. Date Analyzed: 09/19/14

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.

TB-091714

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409D63-012A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G27970.D

Level: (low/med) LOW Date Received: 09/17/14

% Moisture: not dec. Date Analyzed: 09/19/14

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) µg/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.

FB-091914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-010B

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28177.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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

FB-091914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-010A

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R24589.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: Decanted: (Y/N) N Date Extracted: 09/23/14

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 09/25/14

Injection Volume: 2 (µL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (µg/L or µg/Kg) µg/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.

TB-091914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS188

Matrix: (soil/water) WATER Lab Sample ID: 1409F57-011A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G28176.D

Level: (low/med) LOW Date Received: 09/19/14

% Moisture: not dec. Date Analyzed: 09/27/14

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) µg/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

H 2 M labs

575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04415 0.8°C 1.4°C

EXTERNAL CHAIN OF CUSTODY

KEY URS 186F

CLIENT: URS Corp

H2M SDG NO: K64-URS 186

PROJECT NAME/NUMBER
National Grid Hempstead
11176098.00004

SAMPLERS: (Signature)/Client
Megan Dascoli/URS
John Crespo/URS

DELIVERABLES:

TURNAROUND TIME:
EXPEDITED - 7day

NOTES:
Please run these samples for 7-day TAT. "filtered" samples were field filtered

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	Sample Container Description: 1 liter amber - filtered	1 liter amber - unfiltered	(T) LAB I.D. NO.	(DISS) REMARKS:
					PAH	PAH		
9/10/14	1118	GW	HIMW-05D	4	X	X	1409843-001	1409843-001
9/10/14	1345	GW	HIMW-05I	4	X	X	002	2
9/10/14	1455	GW	HIMW-26D	4	X	X	003	3

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Megan Dascoli	9/10/14	15:35		9/10/14	15:35
	9/10	17:30		9/10	1730

LABORATORY USE ONLY

Samples were:
1. Shipped ___ or Hand Delivered ___ Airbill # _____

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N

WHITE COPY - ORIGINAL YELLOW COPY - CLIENT PINK COPY - LABORATORY

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 9/10/14
SDG #: KEY-URS186

For Sample(s):

HIMW-05D
HIMW-05I
HIMW-26D

The above sample(s) was/were analyzed for a select list of polynuclear aromatics (PNAs) by EPA method 8270D and reported with the requested deliverables.

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

No sample was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis, but a lab fortified blank was analyzed and results indicate good method efficiency.

All samples were reanalyzed at a dilution due to concentration levels of a targeted analytes above the calibration range. Both sets of data are reported. In one dilution (for sample HIMW-05I), no surrogate recoveries were reportable, because the surrogates were diluted out.

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: October 4, 2014

****
*
*
****

Ursula Middel
Quality Analyst

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 9/10/14
SDG #: KEY-URS186F

For Sample(s):

HIMW-05D
HIMW-05I
HIMW-26D

The filtered sample(s) was/were analyzed for a select list of polynuclear aromatics (PNAs) by EPA method 8270D and reported with the requested deliverables.

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

No sample was submitted for matrix spike/matrix spike duplicate (MS/MSD) analysis, but a lab fortified blank was analyzed and results indicate good method efficiency.

All samples were reanalyzed at a dilution due to concentration levels of a targeted analytes above the calibration range. Both sets of data are reported.

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: October 4, 2014

****
* *
* *
****
Ursula Middel
Quality Analyst

H 2 M labs

575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04414

EXTERNAL CHAIN OF CUSTODY

0.8°C, 1.4°C

CLIENT: URS Corp. **H2M SDG NO:** KEY-URS187

PROJECT NAME/NUMBER: National Grid Hempstead, NY
11176098.00004

SAMPLERS: (Signature)/Client
Megan Dascoli / URS
Mike Angelo / URS, John Crespo / URS

DELIVERABLES:

TURNAROUND TIME: Standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

Sample Container Description: BTEX - amber HCl 40 ml; PAH - amber glass 1 liter

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	BTEX	PAH	LAB I.D. NO.	REMARKS:
9/9/14	0920	GW	HIMW-13I	4	X	X	1409848-01	
9/9/14	1155	GW	HIMW-13D	4	X	X	2	
9/9/14	1415	GW	HIMW-14I	4	X	X	3	
9/10/14	0835	GW	HIMW-05S	4	X	X	4	
9/10/14	1345	GW	HIMW-05I	2	X		5	
9/10/14	1118	GW	HIMW-05D	2	X		6	
9/10/14	1455	GW	HIMW-26D	2	X		7	
9/10/14	1455	W	TB 09/10/14	2	X		8	

ANALYSIS REQUESTED

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Megan Dascoli	9/10/14	15:35		9/10	15:35
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	9/10	17:30		9/10	1730
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

LABORATORY USE ONLY

Samples were:
1. Shipped ____ or Hand Delivered ____ Airbill # _____

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N

WHITE COPY - ORIGINAL YELLOW COPY - CLIENT PINK COPY - LABORATORY

H2M labs
575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04418

EXTERNAL CHAIN OF CUSTODY

CLIENT: URS Corp

H2M SDG NO: URS187

PROJECT NAME/NUMBER: Nat Grid Hempstead 11176098.00004

SAMPLERS: (Signature)/Client: MeganDascoli/URS

DELIVERABLES:

TURNAROUND TIME: standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

1409B00

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	Sample Container Description: 1 liter amber glass	40ml clear glass, HCl	ANALYSIS REQUESTED: PAH	BTEX	LAB I.D. NO.	REMARKS:
9/15/14	1020	GW	H1MW-24	4	X		X		-001	
9/15/14	1025	GW	H1MW-24MS/MSD	8	X		X			
9/15/14		W	TB 091514	2				X	-002	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
John Lupo	9/15/14	11:40	George W. Cappellone	9/15/14	11:40
George W. Cappellone	9/15/14	14:00		9/15/14	14:00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

LABORATORY USE ONLY

Samples were:
1. Shipped ____ or Hand Delivered ____ Airbill # _____

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N

1.4°C

WHITE COPY - ORIGINAL

YELLOW COPY - CLIENT

PINK COPY - LABORATORY

Pace Long Island

SDG NARRATIVE FOR VOLATILE ORGANICS
SAMPLE(S) RECEIVED: 9/10/14 & 9/15/14
SDG #: KEY-URS187

For Sample(s):

HIMW-13I	HIMW-05I	TB091014
HIMW-13D	HIMW-05D	HIMW-24
HIMW-14I	HIMW-26D	TB091514
HIMW-05S		

The above water sample(s) and blank(s) was/were analyzed for a select list of volatile organic analytes by EPA method 8260C and reported with the requested deliverables.

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

HIMW-24

~~No sample~~ was submitted for matrix spike/ matrix spike duplicate (MS/MSD), ~~but sample HIMW-24 was selected for in-house batch Q. C. MS/MSD analysis.~~ All recoveries and RPDs met Q. C. limits. A lab fortified blank was analyzed, and recoveries indicate good method efficiency.

10/27/14 AF

Average response factors were employed for all targeted analytes in the initial calibrations, and the continuous calibration had acceptable variability for the targeted analytes.

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: October 14, 2014

****
* *
* *
****

Ursula Middel
Quality Analyst

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 9/10/14 & 9/15/14
SDG #: KEY-URS187

For Sample(s):

HIMW-13I	HIMW-05S
HIMW-13D	HIMW-24
HIMW-14I	

The above sample(s) was/were analyzed for a select list of polynuclear aromatics (PNAs) by EPA method 8270D and reported with the requested deliverables.

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:

HIMW-24
~~No sample~~ was submitted for matrix spike/ matrix spike duplicate (MS/MSD), ~~but sample HIMW-24 was selected for in-house batch Q. C. MS/MSD analysis.~~ All recoveries and RPDs met Q. C. limits. A lab fortified blank was analyzed, and recoveries indicate good method efficiency.

10/27/14 mc
The variability for the surrogate standard nitrobenzene-d5 of 20.3% slightly exceeded the limit for %D of 20% for the continuing calibration (CCV) on 9/22/14. Results for this surrogate are regarded estimated and may be biased slightly high for analyses on that day, which includes HIMW-24 and the MS/MSD.

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: October 14, 2014

****
* *
* *
****

Ursula Middel
Quality Analyst

H 2 M labs

575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04614

EXTERNAL CHAIN OF CUSTODY

CLIENT: URS Corporation

H2M SDG NO: KEY-URS188

PROJECT NAME/NUMBER
National Grid Hempstead
11176098.00004

SAMPLERS: (Signature)/Client
Megan Dascoli/Megan Randolves

DELIVERABLES:

TURNAROUND TIME: standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	Sample Container Description: 40ml clear glass, HCl	Sample Container Description: 1 L amber glass	ANALYSIS REQUESTED: BTEX	ANALYSIS REQUESTED: PAH	LAB I.D. NO.	REMARKS:
9/15/14	1235	GW	H1MW-20S	4	X	X			1409D63-001	
9/15/14	1400	GW	H1MW-20I	4	X	X			-002	
9/16/14	0815	GW	H1MW-15D	4	X	X			-003	
9/16/14	0935	GW	H1MW-15I	4	X	X			-004	
9/16/14	12:00	GW	H1MW-23	4	X	X			-005	
9/16/14	1405	GW	A1MW-25	4	X	X			-006	
9/17/14	0915	GW	H1MW-8S	4	X	X			-007	
9/17/14	1040	GW	H1MW-8I	4	X	X			-008	
9/17/14	1045	GW	H1MW-8I MS/MSD	8	X	X			↓	
9/17/14	1440	W	TB091714	2	X				-012	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Megan Randolves	9/17/14	15:25		9/17	15:25
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	9/17	17:15		9-17-14	1715
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

LABORATORY USE ONLY

Samples were:
1. Shipped ____ or Hand Delivered ✓ Airbill # _____

COC Tape was:
1. Present on outer package: Y or (N)
2. Unbroken on outer package: Y or (N)

1.1°C 4.1°C 5.1°C

WHITE COPY - ORIGINAL

YELLOW COPY - CLIENT

PINK COPY - LABORATORY

H2M labs
575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04420

EXTERNAL CHAIN OF CUSTODY p2of2

CLIENT: URS Corp.

H2M SDG NO: KEYURS188

PROJECT NAME/NUMBER: National Grid Hempstead
11176098.00004

SAMPLERS: (Signature)/Client
Megan Dascoli / URS
John Crespo / URS

DELIVERABLES:

TURNAROUND TIME: Standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	Sample Container Description: 40ml clear glass, HCl	Sample Container Description: 1L amber glass	ANALYSIS REQUESTED: BTEX	ANALYSIS REQUESTED: PAH	LAB I.D. NO.	REMARKS:
9/17/14	1150	GW	HIMW-8D	4	X	X			1409D63-009	
9/17/14	1322	GW	HIMW-27S	4	X	X			-010	
9/17/14	1440	GW	HIMW-27I	4	X	X			-011	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Megan Dascoli	9/17/14	15:25		9/17	15:25
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	9/17	17:15		9-17-14	1715
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

LABORATORY USE ONLY

Samples were:
1. Shipped ___ or Hand Delivered ___ Airbill # _____

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N

WHITE COPY - ORIGINAL YELLOW COPY - CLIENT PINK COPY - LABORATORY

H2M labs
575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04613

EXTERNAL CHAIN OF CUSTODY 1 of 2

CLIENT: URS Corp | **H2M SDG NO:** KEY-URS1800

PROJECT NAME/NUMBER: National Grid Hempstead 11176098.00004

SAMPLERS: (Signature)/Client: Megan Dascoli/URS, John Crespo/URS

DELIVERABLES:

TURNAROUND TIME: Standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

Sample Container Description: 40ml, clear glass, HCl | 1L amber glass

ANALYSIS REQUESTED

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	BTEX	PAH	LAB I.D. NO.	REMARKS:
9/18/14	0925	GW	H1MW-12S	4	X	X	1409F57-001	
9/18/14	1115	GW	H1MW-12I	4	X	X	-002	
9/18/14	1240	GW	H1MW-12D	4	X	X	-003	
9/18/14	1405	GW	H1MW-22	4	X	X	-004	
9/19/14	0835	GW	H1MW-26I	4	X	X	-005	
9/19/14	1025	GW	H1MW-28I	4	X	X	-006	
9/19/14	1145	GW	H1MW-28S	4	X	X	-007	
9/19/14	1200	GW	DUP091914	4	X	X	-008	
9/18/14	1200	GW	DUP091814	4	X	X	-009	
9/19/14	1215	W	TB091914	2	X		-011	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				9/19/14	13:00
	9/19/14	14:15		9-19-14	14:15

LABORATORY USE ONLY

Samples were:
1. Shipped ___ or Hand Delivered ✓ Airbill # _____

COC Tape was:
1. Present on outer package: Y or (N)
2. Unbroken on outer package: Y or (N)

T=4.3°C / 3.9°C / 4.1°C

WHITE COPY - ORIGINAL | YELLOW COPY - CLIENT | PINK COPY - LABORATORY

H 2 M labs

575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436
www.h2mlabs.com

04608

EXTERNAL CHAIN OF CUSTODY

p2 of 2

CLIENT: URS Corp,

H2M SDG NO: KEY-URS 1B8

PROJECT NAME/NUMBER
National Grid Hempstead
11176098.00004

SAMPLERS: (Signature)/Client
Megan Dascoli/URS
~~Tiffany M~~ John Crespo/URS

DELIVERABLES:

TURNAROUND TIME: Standard

NOTES:

Project Contact: Peter Fairbanks

Phone Number: 716-856-5636

PIS/Quote #

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	Sample Container Description: 40ml, Clear, HCl	Sample Container Description: 1L amber	ANALYSIS REQUESTED: BTEX	ANALYSIS REQUESTED: PAH	LAB I.D. NO.	REMARKS:
9/19/14	1215	W	FB091914	4	X	X			1409F57-010	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Megan Dascoli	9/19/14			9/19/14	13:20
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	9/19/14	14:15		9-19-14	14:15
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

LABORATORY USE ONLY

Samples were:
1. Shipped ___ or Hand Delivered ___ Airbill # _____

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N

T = 4.3 °C

WHITE COPY - ORIGINAL

YELLOW COPY - CLIENT

PINK COPY - LABORATORY

Pace Long Island

SDG NARRATIVE FOR VOLATILE ORGANICS
SAMPLE(S) RECEIVED: 9/17/14 & 9/19/14
SDG #: KEY-URS188

For Sample(s):

HIMW-20S	HIMW-8S	HIMW-12S	HIMW-28S
HIMW-20I	HIMW-8I	HIMW-12I	DUP-091914
HIMW-15D	HIMW-8D	HIMW-12D	DUP-091814
HIMW-15I	HIMW-27S	HIMW-22	FB-091914
HIMW-23	HIMW-27I	HIMW-26I	TB-091914
HIMW-25	TB-091714	HIMW-28I	

The above water sample(s) and blank(s) was/were analyzed for a select list of volatile organic analytes by EPA method 8260C and reported with the requested deliverables.

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

Sample HIMW-8I was submitted for matrix spike/ matrix spike duplicate (MS/MSD) analysis. All recoveries and RPDs met Q. C. limits. Three lab fortified blanks were analyzed, and recoveries indicate good method efficiency.

Sample HIMW-27S was re-analyzed at a dilution due to concentrations of targeted analyte(s) above the calibration range. Both sets of data are submitted.

Average response factors were employed for all targeted analytes in the initial calibrations, and the continuous calibration had acceptable variability for the targeted analytes.

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: October 16, 2014

****
* *
* *
****

Ursula Middel
Quality Analyst

Pace Long Island

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 9/17/14 & 9/19/14
SDG #: KEY-URS188

For Sample(s):

HIMW-20S	HIMW-8S	HIMW-12S	HIMW-28I
HIMW-20I	HIMW-8I	HIMW-12I	HIMW-28S
HIMW-15D	HIMW-8D	HIMW-12D	DUP-091914
HIMW-15I	HIMW-27S	HIMW-22	DUP-091814
HIMW-23	HIMW-27I	HIMW-26I	FB-091914
HIMW-25			

The above water sample(s) was/were analyzed for a select list of polynuclear aromatics (PNAs) by EPA method 8270D and reported with the requested deliverables.

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-8I was submitted for matrix spike/ matrix spike duplicate (MS/MSD) analysis. All recoveries and RPDs met Q. C. limits. Two lab fortified blanks were analyzed, and recoveries indicate good method efficiency.

Three samples were re-analyzed at a dilution due to concentration level(s) of targeted analyte(s) above the calibration range. Both sets of data are submitted.

In all continuing calibrations the variability for the surrogate standard nitrobenzene-d5 exceeded the limit for %D of 20%. Results for this surrogate are regarded estimated and may be biased slightly high. The reported recoveries for two samples slightly exceeded the Q. C. limits.

The recovery for the surrogate 4-terphenyl-d14 was below the Q.C. limit in sample HIMW-8S.

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: October 16, 2014

****
* *
* *
****

Ursula Middel
Quality Analyst

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:	7/31/2014
Time:	18:30
Weather:	Clear
Outdoor Temperature:	~70° F
Inside Trailer Temperature:	~68° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	9,871.4	
Feed Air Pressure *	110	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	100	(psi)
Oxygen Purity	80.6	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	120	(psi)
(readings below are made from control panel)		
Delivery Air	114	(psi)
Element Outlet Temperature	162	(oF)
Running Hours	11,262	(hours)
Loading Hours	7,120	(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	28	OW-1-5S	67.3	45	18	OW-1-9D	88.5	25	26
OW-1-2	96.5	40	29	OW-1-6S	67.0	55	19	OW-1-10D	87.2	30	27
OW-1-3	96.3	40	30	OW-1-7S	66.9	40	18	OW-1-11D	86.1	35	27
OW-1-4	95.0	55	30	OW-1-8S	66.7	50	17	OW-1-12D	85.3	30	28
OW-1-5D	93.9	65	29	OW-1-9S	66.0	50	18	OW-1-13D	84.7	30	27
OW-1-6D	92.4	60	26	OW-1-10S	54.6	20	16	OW-1-14D	84.1	30	27
OW-1-7D	91.1	30	28	OW-1-11S	54.1	10	13	OW-1-15D	83.3	40	27
OW-1-8D	89.6	30	27	OW-1-12S	53.6	15	13	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: 7/31/2014

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	45	15	OW-1-17D	79.5	30	16	OW-1-21S	49.3	25	16
OW-1-14S	52.7	55	16	OW-1-18D	78.3	30	25	OW-1-22S	49.3	40	15
OW-1-15S	52.2	65	15	OW-1-19D	78.9	40	24	OW-1-23S	48.8	40	14
OW-1-16SR	51.8	60	24	OW-1-20D	79.5	30	27	OW-1-24S	48.4	40	13
OW-1-17S	50.7	70	22	OW-1-21D	79.5	45	28	OW-1-25S	48.8	30	14
OW-1-18S	50.2	75	14	OW-1-22D	79.5	30	27	OW-1-26SR	48.3	30	15
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	25	OW-1-27S	48.3	35	15
OW-1-20S	49.3	45	14	OW-1-24D	78.2	35	26	OW-1-28S	48.3	40	16

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #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	24	OW-1-29S	48.5	20	14	OW-1-33D	83.2	30	25
OW-1-26D	78.1	35	24	OW-1-30S	48.8	20	14	OW-1-34D	84.5	30	30
OW-1-27D	77.9	45	28	OW-1-31S	49.3	25	14	OW-1-35D	85.0	40	28
OW-1-28D	78.0	40	28	OW-1-32S	49.3	35	14	OW-1-36D	85.0	30	27
OW-1-29D	78.4	50	26	OW-1-33S	49.7	40	13	OW-1-37D	84.0	30	28
OW-1-30D	79.0	30	35	OW-1-34S	50.1	45	13	OW-1-38D	82.0	40	36
OW-1-31D	80.5	35	24	OW-1-35S	50.3	35	13	OW-1-39D	78.0	40	26
OW-1-32D	81.6	40	28	OW-1-36S	50.3	20	13	OW-1-40D	76.0	50	25

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

Date: 7/31/2014

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	20	15	OW-1-41D	73.6	30	21	OW-1-43	67.4	25	18
OW-1-38S	50.6	25	16	OW-1-42D	71.0	20	22	OW-1-44	66.6	35	21
OW-1-39S	50.7	20	15	OW-1-45	65.7	30	20	OW-1-51R	60.6	45	20
OW-1-40S	51.1	35	15	OW-1-46	64.3	30	18	OW-1-52	59.3	40	17
OW-1-41S	51.5	30	13	OW-1-47	63.4	30	19	OW-1-53	60.0	30	17
OW-1-42S	51.3	30	14	OW-1-48	62.5	35	17	OW-1-54	60.0	25	17
				OW-1-49	61.5	40	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	26.38		0	MP-1-5	26.17	28.63	3.2	MP-1-1D	19.49
MP-1-1S	26.46	16.36	0	MP-1-6	18.43	12.11	0	MP-1-2D	25.55
MP-1-2D	20.75		0	MP-1-7	21.75	30.25	12.2	MP-1-3D	14.48
MP-1-2S	20.95	18.03	0.2	MP-1-8	23.32	9.08	2.1	MP-1-4D	18.00
MP-1-3D	18.89		1.4						
MP-1-3S	18.76	20.13	2.9						
MP-1-4D	21.72		5.0						
MP-1-4S	21.74	21.12	5.7						

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: 7/31/2014

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) 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:

Added small amount of oil to compressor. Cleaned all fresh air vent filters. Found low oxygen level and cleaned valves of dust buildup. Soaked up small amount of oil and water from separator unit for disposal. Wiped down all equipment and cleaned up all garbage from around fence areas. Cut down heavy weed growth around fence areas.

Injection point OW-1-19S remains off due to leaking line that needs further investigation.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 97 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:	8/25/2014
Time:	13:10
Weather:	Sunny
Outdoor Temperature:	~82° F
Inside Trailer Temperature:	~65° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	10,145.0	
Feed Air Pressure *	105	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	100	(psi)
Oxygen Purity	82.7	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	110	(psi)
(readings below are made from control panel)		
Delivery Air	115	(psi)
Element Outlet Temperature	172	(oF)
Running Hours	11,568	(hours)
Loading Hours	7,314	(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	35	19	OW-1-9D	88.5	55	26
OW-1-2	96.5	50	28	OW-1-6S	67.0	40	21	OW-1-10D	87.2	60	27
OW-1-3	96.3	45	30	OW-1-7S	66.9	40	20	OW-1-11D	86.1	60	27
OW-1-4	95.0	45	30	OW-1-8S	66.7	30	18	OW-1-12D	85.3	40	27
OW-1-5D	93.9	35	31	OW-1-9S	66.0	30	18	OW-1-13D	84.7	30	27
OW-1-6D	92.4	25	30	OW-1-10S	54.6	30	16	OW-1-14D	84.1	35	26
OW-1-7D	91.1	30	27	OW-1-11S	54.1	35	13	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	27	OW-1-12S	53.6	45	13	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: 8/25/2014

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	25	16	OW-1-17D	79.5	35	16	OW-1-21S	49.3	40	16
OW-1-14S	52.7	35	16	OW-1-18D	78.3	40	25	OW-1-22S	49.3	35	16
OW-1-15S	52.2	30	15	OW-1-19D	78.9	40	25	OW-1-23S	48.8	35	15
OW-1-16SR	51.8	30	25	OW-1-20D	79.5	30	27	OW-1-24S	48.4	35	14
OW-1-17S	50.7	20	21	OW-1-21D	79.5	40	27	OW-1-25S	48.8	45	14
OW-1-18S	50.2	30	14	OW-1-22D	79.5	50	27	OW-1-26SR	48.3	40	15
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	45	25	OW-1-27S	48.3	30	16
OW-1-20S	49.3	45	14	OW-1-24D	78.2	40	26	OW-1-28S	48.3	20	16

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #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	25	25	OW-1-29S	48.5	15	14	OW-1-33D	83.2	30	25
OW-1-26D	78.1	30	24	OW-1-30S	48.8	20	15	OW-1-34D	84.5	25	29
OW-1-27D	77.9	30	28	OW-1-31S	49.3	30	15	OW-1-35D	85.0	20	28
OW-1-28D	78.0	30	28	OW-1-32S	49.3	30	14	OW-1-36D	85.0	20	27
OW-1-29D	78.4	45	27	OW-1-33S	49.7	20	13	OW-1-37D	84.0	20	27
OW-1-30D	79.0	40	36	OW-1-34S	50.1	30	13	OW-1-38D	82.0	20	36
OW-1-31D	80.5	30	24	OW-1-35S	50.3	35	13	OW-1-39D	78.0	20	25
OW-1-32D	81.6	40	28	OW-1-36S	50.3	40	13	OW-1-40D	76.0	20	25

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

Date: 8/25/2014

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	15	OW-1-41D	73.6	30	21	OW-1-43	67.4	30	18
OW-1-38S	50.6	40	15	OW-1-42D	71.0	30	22	OW-1-44	66.6	30	20
OW-1-39S	50.7	30	16	OW-1-45	65.7	35	20	OW-1-51R	60.6	30	20
OW-1-40S	51.1	30	15	OW-1-46	64.3	45	19	OW-1-52	59.3	20	17
OW-1-41S	51.5	35	13	OW-1-47	63.4	30	18	OW-1-53	60.0	35	17
OW-1-42S	51.3	25	14	OW-1-48	62.5	30	17	OW-1-54	60.0	35	17
				OW-1-49	61.5	20	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	26.26		0	MP-1-5	26.06	36.42	0.7	MP-1-1D	26.72
MP-1-1S	26.33	17.68	0	MP-1-6	18.32	11.26	0	MP-1-2D	35.14
MP-1-2D	20.66		0	MP-1-7	21.63	34.97	6.7	MP-1-3D	9.27
MP-1-2S	20.85	19.79	0.3	MP-1-8	23.17	5.27	0.8	MP-1-4D	27.42
MP-1-3D	18.85		0.7						
MP-1-3S	18.65	21.98	1.1						
MP-1-4D	21.60		3.1						
MP-1-4S	21.65	31.76	2.9						

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: 8/25/2014

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 X No
5) Oil filter changed Yes X No
6) Air filter Changed Yes X No
7) Oil separator changed Yes No X
8) Terminal strips checked Yes X No

AS-80 O_2 Generator

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

Found air leaking from both water knock canisters along with a leak in the air separator unit. Started 6-month maintenance on all equipment. Oxygen level was found to be low. Soaked up small amount of oil and water from separator unit for disposal. Wiped down all equipment and cleaned up all garbage from around fence areas. Cut down heavy weed growth around fence areas.

8-27-14 - Continued 6-month maintenance on system. Changed belt, filters, oil and readjusted tensions on air compressor. Repaired auto drains that were leaking air. Started rebuilding auto drains on both air tanks. Ozygen level in system continues to remain low.

8-29-14 - Completed O&M on system. Rebuilt two auto drains and changed all filters. Made adjustments to filters and solenoids on air separator unit and the oxygen level increased to 95%.

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

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 97 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:	9/29/2014
Time:	11:30
Weather:	Sunny
Outdoor Temperature:	~68° F
Inside Trailer Temperature:	~74° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	10,523.0	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	105	(psi)
Oxygen Purity	94.8	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	110	(psi)
(readings below are made from control panel)		
Delivery Air	107	(psi)
Element Outlet Temperature	127	(oF)
Running Hours	11,993	(hours)
Loading Hours	7,583	(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	28
OW-1-2	96.5	20	23	OW-1-6S	67.0	45	18	OW-1-10D	87.2	30	28
OW-1-3	96.3	20	29	OW-1-7S	66.9	55	18	OW-1-11D	86.1	30	29
OW-1-4	95.0	20	28	OW-1-8S	66.7	50	18	OW-1-12D	85.3	25	28
OW-1-5D	93.9	40	29	OW-1-9S	66.0	60	19	OW-1-13D	84.7	20	28
OW-1-6D	92.4	30	28	OW-1-10S	54.6	70	14	OW-1-14D	84.1	30	28
OW-1-7D	91.1	20	28	OW-1-11S	54.1	70	15	OW-1-15D	83.3	40	29
OW-1-8D	89.6	15	28	OW-1-12S	53.6	35	12	OW-1-16D	82.5	55	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: 9/29/2014

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	20	13	OW-1-17D	79.5	35	14	OW-1-21S	49.3	20	11
OW-1-14S	52.7	15	14	OW-1-18D	78.3	45	26	OW-1-22S	49.3	10	11
OW-1-15S	52.2	15	13	OW-1-19D	78.9	40	27	OW-1-23S	48.8	20	11
OW-1-16SR	51.8	35	25	OW-1-20D	79.5	50	28	OW-1-24S	48.4	25	11
OW-1-17S	50.7	30	11	OW-1-21D	79.5	40	25	OW-1-25S	48.8	30	12
OW-1-18S	50.2	30	12	OW-1-22D	79.5	60	25	OW-1-26SR	48.3	30	12
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	24	OW-1-27S	48.3	30	13
OW-1-20S	49.3	20	13	OW-1-24D	78.2	15	27	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	45	28
OW-1-26D	78.1	30	27	OW-1-30S	48.8	45	13	OW-1-34D	84.5	45	9
OW-1-27D	77.9	40	28	OW-1-31S	49.3	40	13	OW-1-35D	85.0	45	24
OW-1-28D	78.0	40	28	OW-1-32S	49.3	40	13	OW-1-36D	85.0	30	28
OW-1-29D	78.4	10	26	OW-1-33S	49.7	40	13	OW-1-37D	84.0	35	28
OW-1-30D	79.0	30	28	OW-1-34S	50.1	30	13	OW-1-38D	82.0	30	28
OW-1-31D	80.5	40	18	OW-1-35S	50.3	30	13	OW-1-39D	78.0	30	27
OW-1-32D	81.6	30	28	OW-1-36S	50.3	30	13	OW-1-40D	76.0	30	26

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: 9/29/2014

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	25	15	OW-1-41D	73.6	30	21	OW-1-43	67.4	30	19
OW-1-38S	50.6	20	15	OW-1-42D	71.0	25	22	OW-1-44	66.6	30	20
OW-1-39S	50.7	30	16	OW-1-45	65.7	30	21	OW-1-51R	60.6	20	21
OW-1-40S	51.1	30	15	OW-1-46	64.3	30	19	OW-1-52	59.3	30	18
OW-1-41S	51.5	40	14	OW-1-47	63.4	25	18	OW-1-53	60.0	20	17
OW-1-42S	51.3	40	14	OW-1-48	62.5	30	17	OW-1-54	60.0	25	17
				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	27.04		0	MP-1-5	26.88	30.49	0.2	MP-1-1D	27.12
MP-1-1S	27.08	20.21	0	MP-1-6	19.10	12.61	0	MP-1-2D	40.12
MP-1-2D	21.43		0	MP-1-7	22.45	41.71	1.1	MP-1-3D	21.46
MP-1-2S	21.65	16.54	0.1	MP-1-8	23.99	5.76	0.2	MP-1-4D	26.66
MP-1-3D	19.63		0.3						
MP-1-3S	19.48	18.36	0.6						
MP-1-4D	22.40		1.1						
MP-1-4S	22.43	33.21	1.8						

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: 9/29/2014

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 changed 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:

Found system running with good oxygen purity. Soaked up small amount of oil and water from separator unit for disposal. Cleaned and tested each of the auto drains for proper function. Adjusted the pressure switch associated with the air tank relief vale. Wiped down all equipment and cleaned up all garbage from around fence areas.

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

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 97 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:	8/20/2014
Time:	12:58
Weather:	Sunny
Outdoor Temperature:	~85° F
Inside Trailer Temperature:	~65° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	22,902	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	60	(psi)
Oxygen Receiver Pressure *	79	(psi)
Oxygen Purity	77.6	(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	172	(^{o}F)
Running Hours	23,341	(hours)
Loading Hours	22,677	(hours)

* maximum reading during loading cycle

O_2 Injection System #2

Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	30	28	OW-2-9S	75'	30	20	OW-2-10D	97.2'	15	25
OW-2-3	94.3'	30	27	OW-2-10S	75'	35	19	OW-2-11D	100.8'	20	33
OW-2-4	94.7'	35	30	OW-2-11S	76.5'	30	18	OW-2-12	94'	35	20
OW-2-5	95.3'	45	30	OW-2-13S	75'	30	19	OW-2-13D	97'	30	33
OW-2-6	95.7'	40	28	OW-2-15S	75'	30	17	OW-2-14	96.4'	30	27
OW-2-7	96'	30	27	OW-2-16S	75.5'	30	19	OW-2-15D	94.6'	30	27
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	45	19	OW-2-16D	94.1'	40	27
OW-2-9D	96.7'	20	30	OW-2-20S	79'	40	20	OW-2-17	95'	30	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.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 8/20/2014

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

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'	25	19	OW-2-45	61.1'	25	19	MP-2-1	29.12	16.37	0.3
OW-2-38	62.1'	45	20	OW-2-46	61'	15	20	MP-2-2	30.45	16.72	0
OW-2-39	60'	40	20	OW-2-47	60.5'	15	20	MP-2-3S	30.32	27.75	0
OW-2-40	61.7'	30	19					MP-2-3D	30.47	30.00	0
OW-2-41	61.7'	30	20					MP-2-4	19.03	4.07	0
OW-2-42	61.6'	30	20					MP-2-5	17.20	14.72	0.5
OW-2-43	61.4'	30	19								
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: 8/20/2014

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 X No
5) Oil filter changed Yes X No
6) Air filter Changed Yes X No
7) Oil separator cleaned Yes No X
8) Terminal strips checked Yes X No

AS-80 O_2 Generator

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

8-4-14 Installed new Kaeser Dryer unit at site. Added small amount of oil to compressor unit and restarted system. Oxygen level was a little low so started to check solenoid valves for debris buildup.

8-12-14 - Started 6-month maintenance on system. Removed all solenoids on air-separator unit and cleaned dust buildup. None of the valves were bad which may require replacement of the molecular sieve material in the system. Keep finding disconnect switch on the street shut off over the last few visits.

8-20-14 - Completed 6-month maintenance on system. Found system off due to a broken belt in the compressor. Replaced belt, oil filters, oil and all air filters in system. Adjusted air separator unit to try an increase oxygen level. Took apart auto drains and cleaned silt buildup. Wiped down all equipment and cleaned up debris around shed. Left system running.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 97 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:	9/30/2014
Time:	14:00
Weather:	Rain
Outdoor Temperature:	~75° F
Inside Trailer Temperature:	~68° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	23,451	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	60	(psi)
Oxygen Receiver Pressure *	120	(psi)
Oxygen Purity		(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	90	(psi)
(readings below are made from control panel)		
Delivery Air	105	(psi)
Element Outlet Temperature	171	(^{o}F)
Running Hours	23,879	(hours)
Loading Hours	23,156	(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	21	OW-2-10D	97.2'	20	30
OW-2-3	94.3'	20	24	OW-2-10S	75'	25	29	OW-2-11D	100.8'	10	31
OW-2-4	94.7'	30	32	OW-2-11S	76.5'	30	23	OW-2-12	94'	10	23
OW-2-5	95.3'	30	28	OW-2-13S	75'	30	22	OW-2-13D	97'	20	31
OW-2-6	95.7'	35	32	OW-2-15S	75'	30	19	OW-2-14	96.4'	10	31
OW-2-7	96'	40	30	OW-2-16S	75.5'	35	20	OW-2-15D	94.6'	15	30
OW-2-8	96.3'	30	30	OW-2-18S	74.5'	40	19	OW-2-16D	94.1'	30	31
OW-2-9D	96.7'	30	30	OW-2-20S	79'	30	23	OW-2-17	95'	25	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: 9/30/2014

O_2 Injection System #2

Injection Bank D				Injection Bank E				Injection Bank F			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-18D	95.5'	30	30	OW-2-22S	76'	40	21	OW-2-26D	95'	35	36
OW-2-19	96.1'	40	31	OW-2-24S	77.8'	50	24	OW-2-27	93.5'	35	30
OW-2-20D	96.6'	30	30	OW-2-26S	74'	55	26	OW-2-28D	92.1'	45	28
OW-2-21	96.6'	30	30	OW-2-28S	76'	40	17	OW-2-29	92.2'	45	30
OW-2-22D	96.3'	35	28	OW-2-30S	67.8'	30	19	OW-2-30D	88'	40	31
OW-2-23	97.2'	40	30	OW-2-34	71'	30	20	OW-2-31	86'	30	31
OW-2-24D	97'	30	30	OW-2-35	69.2'	20	22	OW-2-32	84'	30	35
OW-2-25	96'	40	31	OW-2-36	64.8'	30	21	OW-2-33	82'	30	31

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'	20	19	OW-2-45	61.1'	20	20	MP-2-1	29.95	15.75	0
OW-2-38	62.1'	30	20	OW-2-46	61'	15	22	MP-2-2	31.28	27.31	0
OW-2-39	60'	40	21	OW-2-47	60.5'	15	21	MP-2-3S	31.98	23.96	0.3
OW-2-40	61.7'	30	20					MP-2-3D	31.44	30.10	0
OW-2-41	61.7'	40	20					MP-2-4	19.90	17.57	0
OW-2-42	61.6'	50	21					MP-2-5	18.08	6.69	0
OW-2-43	61.4'	35	20								
OW-2-44R	60.6'	30	19								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 9/30/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O_3 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:

9-8-14 Arrived at site and checked oxygen level (80%). Performed troubleshooting steps provided by Matrix. Took apart brass check valves at top of canisters and repaired small leak in regulator control. Turned pressure up to 70 PSI on feed and checked oxygen level at each exhaust to make sure both area even flow rates. Double checked all solenoid valves and the voltage at each valve.

9-29-14 - Found system off with a low oil level alarm and a broken telemetry unit antenna on top of shed. Found oil leak and added oil as needed. Soaked up small amount of oil and water from the separator unit for disposal. Need to return to pressure test oil chamber to find leak. Repaired antenna damaged by falling tree limb. Found manhole covers removed at monitoring points #4 and #5 in the field with all bolts missing. No damage was noted to the wells and we replaced the bolts. Wiped down all equipment and cleaned up debris around shed. Left system running.

10-2-14 - Took apart all air separator solenoid valves and replaced with rebuild kits. Removed and cleaned all check valves. Utilized air compressor to pressurize cooling oil chamber and found leak in brass fitting on top of chamber flange. Restarted system and left system running.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 97 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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Action Items: