

**Groundwater Sampling, NAPL
Monitoring/Recovery and Groundwater
Treatment Performance Report for the
First Quarter of 2014 (January - March 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

**GROUNDWATER SAMPLING, NAPL MONITORING/RECOVERY, AND
GROUNDWATER TREATMENT PERFORMANCE REPORT
FOR THE FIRST QUARTER OF 2014 (JANUARY – MARCH)**

**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**

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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 foot
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 First Quarter (January, February, and March) 2014.

Quarterly groundwater monitoring and sampling were conducted on March 17 – 28, 2014. This included measuring the depth to groundwater and NAPL thickness in approximately 41 wells. Groundwater samples were collected from 25 wells and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs).

NAPL monitoring and recovery was conducted on January 2, 2014, February 4, 2014, and March 6, 2014 for a total of three events in the First Quarter of 2014.

Six additional monitoring wells were installed to the east and south of the Intersection Street former MGP site in March and April in 2014. After installation, they were subsequently developed, sampled, and analyzed for BTEX and PAHs.

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

- The general direction of groundwater flow in the First 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 2,000 ft south of the site boundary.
- Dense non-aqueous phase liquid (DNAPL) was detected and recovered in one existing well during the First Quarter. The well (HIMW-021), is located along the west side of Wendell Street, south of the Intersection Street site.

- Approximately 6.75 gallons of NAPL were recovered during the First Quarter of 2014. A total of approximately 827.5 gallons of NAPL have been recovered from all recovery wells between April 2007 through March 2014.
- Based on a comparison between the First Quarter 2014 and Fourth Quarter 2013 data and the previous 2012 data, the concentrations of total BTEX and total PAHs in the majority of monitoring wells remained stable. There were three monitoring wells along Wendell Street (HIMW-005I, HIMW-024, and HIMW-025) that showed increases in both BTEX and PAH concentrations and one monitoring well (HIMW-8S) with an increase in BTEX only.

The first of two oxygen delivery systems (System No. 2) started operating in October 2010 and this system continued to promote aerobic conditions in the aquifer near the system during the First Quarter of 2014. The second of two oxygen delivery systems (System No. 1) started operating in April 2011 and promoted aerobic conditions in the aquifer near the system during the First Quarter of 2014.

Bimonthly headspace and water quality parameters were collected from the monitoring points for Systems No. 1 and No. 2 by Island Pump & Tank Corporation. During the First Quarter of 2014, Island Pump & Tank monitored System No. 1 during six events and System No. 2 during six events.

1.0 INTRODUCTION

This quarterly report summarizes the field activities, analytical results, and data interpretations associated with groundwater sampling, NAPL gauging and recovery, and the monitoring of the groundwater treatment systems during the First Quarter of 2014 at the Hempstead Intersection Street Former MGP site (refer to Figures 1 and 2).

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 First Quarter of 2014:

- Measured the depth to groundwater and NAPL thickness in 41 off-site wells (on March 17, 2014), see Tables 1 and 2.
- Recovered NAPL from HIMW-021 on January 2; February 4; and March 6, 2014; see Table 3.
- Collected groundwater samples from 25 monitoring wells for laboratory analysis during the scheduled round of quarterly groundwater sampling, see Table 4.
- Installed six additional monitoring wells to the east and south of the Intersection Street former MGP site. These wells were developed and then sampled after the regular round of groundwater sampling and analyzed for BTEX and PAHs. The analytical results are included in 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 six events and on System No. 2 during six events in the First Quarter 2014. Monitoring is conducted bi-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 First Quarter of 2014 included the measurement of the depth to groundwater and NAPL thickness in 41 monitoring wells, the collection of groundwater samples from 25 monitoring wells, and recovery of NAPL from one monitoring well that contained measurable NAPL. The sampled wells include 6 new wells installed in March, 2014, but not sampled until April, 2014.

Monitoring wells and piezometers used for these activities are listed in Table 1. First 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 twice monthly during the First 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 January 13, January 24, February 6, February 21, March 7, and March 22, 2014 and on System No. 2 on January 9, January 23, February 7, February 20, March 6, and March 19, 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 one well, HIMW-021, which is located on the south of the site in the sidewalk of the Professional Office Building, outside the ISS area.

NAPL levels were monitored in well HIMW-021 during three recovery events: January 2; February 4; and March 6, 2014; and during the quarterly groundwater gauging event on March 17, 2014. During the recovery and gauging events, the well was gauged with a weighted cotton string to measure the DNAPL thickness. The DNAPL was recovered using a dedicated bailer and recovered water and product was placed in a 55-gallon steel drum for subsequent offsite hazardous waste disposal.

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 First 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., ± 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 25 monitoring wells sampled during the First Quarter March 17 – 28, 2014 groundwater sampling event. Six additional monitoring wells were installed in March and April. They were developed and then sampled after the regular round of First Quarter groundwater sampling. Analytical results from the quarterly groundwater sampling event and the additional monitoring wells are presented in Table 4.

2.4 Groundwater Oxygenation System Operation

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

The performance of System No. 1 and System No. 2 was monitored by Island Pump & Tank during the First Quarter 2014 through the measurement of water levels, headspace gas, and water quality parameters in the groundwater approximately twice per month, see Table 5. Island Pump & Tank performed water level measurements with an electronic oil/water interface probe, well headspace monitoring with a PID, and DO measurements with a DO meter (YSI 55A). These measurements were collected during the First Quarter and were taken during six events for System No. 1 on January 13, January 24, February 6, February 21, March 7, and March 22, 2014 and during six events for System No. 2 on January 9, January 23, February 7, February 20, March 6, and March 19, 2014. The full system data is included in Appendix B.

2.5 Installation of Additional Monitoring Wells

Six additional monitoring wells were installed by Aquifer Drilling and Testing in March and April 2014. A cluster of two wells, HIMW-026I and HIMW-026D were installed approximately 90 feet to the west of the HIMW-005 cluster, on Wydler Place. Clusters HIMW-027S and HIMW-027I and HIMW-028S and HIMW-028I were installed on the west side and east side, respectively, of Sealy Avenue near Intersection Street. The deeper installation of each cluster was first soil sampled and screened for environmental impacts.

These wells were developed at least 24-hours after installation and the groundwater was sampled at least 48-hours after development. Boring logs and well construction diagrams are presented in Appendix C.

3.0 RESULTS

3.1 Dissolved-Phase Plume

The extent of the dissolved-phase groundwater plume boundary and the data for First 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 2,000 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 First Quarter in the majority of monitoring wells remained stable. There were three monitoring wells along Wendell Street (HIMW-005I, HIMW-024, and HIMW-025) that showed increases in both BTEX and PAH concentrations and one monitoring well (HIMW-008S) that showed an increase in BTEX only.

In March 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 17 µg/L for BTEX and 34 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 2,941 µg/L for BTEX (shallow well, HIMW-008S) and 3,117 µg/L for PAHs (intermediate well, HIMW-005I), see Figure 4 and Table 4.

The following summarizes observed concentration changes. For wells HIMW-005I, HIMW-008S, HIMW-008I, HIMW-024, HIMW-025 in the First Quarter of 2014:

- For HIMW-005I, total BTEX concentrations increased slightly from 70 µg/L in the Fourth Quarter 2013 to 142 µg/L in the First Quarter 2014. PAH concentrations increased to a greater degree from 2,115 µg/L in the Fourth Quarter to 3,117 µg/L in the First Quarter 2014. These values are within the range of historic values within the last year.

- For HIMW-008S, total BTEX concentrations increased from 48 µg/L in the Fourth Quarter 2013 to 2,941 ug/L in the First Quarter 2014. PAH concentrations were essentially the same for both quarters.
- For HIMW-008I, total BTEX concentrations decreased from 457 µg/L in the Fourth Quarter 2013 to 3 µg/L in the First Quarter 2014. The 457 µg/L in the Fourth Quarter 2013 was a higher than usual reading following more than a year of non-detect values in this well.
- For HIMW-024, total BTEX concentrations increased from non-detect in the Fourth Quarter 2013 to 447 µg/L in the First Quarter 2014. PAH concentrations also increased from non-detect in the Fourth Quarter 2013 to 669 µg/L in the First Quarter 2014. Similar concentrations to First Quarter 2014 levels were not observed since Second Quarter 2012.
- For HIMW-025, total BTEX concentrations increased from 86 µg/L in the Fourth Quarter 2013 to 532 µg/L in the First Quarter 2014. PAH concentrations increased from 9 µg/L in the Fourth Quarter 2013 to 131 µg/L in the First Quarter 2014.

3.2 Potentiometric Heads and NAPL Thickness

Potentiometric heads and NAPL thickness measurements for First 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 for First Quarter 2014. The data for First 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 zone. These values are consistent with historical data.

DNAPL was observed in one well during the First Quarter 2014. The well (HIMW-021) is located along the west side of Wendell Street near the Professional Office Building (POB) located south of the site (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 First Quarter, 2014, NAPL recovery was performed for well HIMW-021 which is the only remaining product recovery well for the Site. This well is located on the south of the site in the sidewalk of the Professional Office Building along Wendell Street. The volume of NAPL recovered in the First Quarter 2014 from this well was approximately 2.25 gallons during each of the January 2, February 4, and March 6, 2014 events for a total of approximately 6.75 gallons of product.

A total of approximately 827.5 gallons of NAPL have been recovered from all of the recovery wells for the period of April 2007 through March 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 First 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 First Quarter 2014 during events when the system was operating ranged from a low of 7.50 mg/L at MP-1-8 on January 13, 2014 to a high of 51.01 mg/L at MP-1-7 on March 22, 2014. The overall average DO reading was 25.68 mg/L. DO readings were collected from either the middle or bottom of the water column. The average DO readings from the bottom of the water column was 23.80 mg/L and the average DO in the middle of the water column was 29.62 mg/L. There were only a few high dissolved oxygen concentration readings (over 40 mg/L) during the First Quarter, primarily for MP-1-4S and MP-1-4D. During the last monitoring event at System No. 1, MP-1-7 and MP-1-2D also had DO readings over 40 mg/L. There were no PID headspace readings above 1 ppm for System No. 1 in the First Quarter 2014.

Based on the data collected during the First 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 First Quarter 2014 ranged from 11.22 mg/L at MP-2-4 on January 23, 2014 to 51.33 mg/L at MP-2-3S on February 20, 2014. The average DO reading was 35.08 mg/L. DO readings for this quarter were only collected from the bottom of the water column. The wells with consistently high dissolved oxygen concentrations (over 40 mg/L) were MP-2-2, MP-2-3S, and MP-2-3D. There were no PID headspace readings above 1 ppm for System No. 2 in the First Quarter 2014.

Based on the data collected during the First 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 First 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 First 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 2,000 ft south of the site boundary, to HIMW-013I.
- DNAPL was recovered from one existing well (HIMW-021) monitored during the First Quarter 2014. The well (HIMW-021) is located immediately south of the site along the west side of Wendell Street near the POB. 6.75 gallons of NAPL was recovered from this well during three events during First Quarter 2014.
- Approximately 827.5 gallons of NAPL has been recovered from all the recovery wells for the period of April 2007 through the First Quarter 2014.
- Based on a comparison between the Fourth Quarter 2013 and First Quarter 2014 data and previous quarterly data, the concentrations of total BTEX and total PAHs remained relatively stable.
- 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.
- Bimonthly headspace and water quality parameters were collected from the monitoring points for Systems No. 1 and No. 2 by Island Pump & Tank. During the First Quarter 2014, Island Pump & Tank monitored System No. 1 and No. 2 during six events. Both systems are performing as expected and creating an aerobic environment in the aquifer.

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TABLES

Table 1

Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling

First Quarter 2014 ^{(1), (2)}

Hempstead Intersection Street Former MGP Site

Well ID	First Quarter (March 17 to March 28, 2014)			March and April 2014			NAPL Monitoring and DNAPL Recovery Events		
	Water Level	NAPL Thickness	Water Quality	Water Level	NAPL Thickness	Water Quality	January 2, 2014	February 4, 2014	March 6, 2014
HIMW-003S	X	X	X						
HIMW-003I	X	X	X						
HIMW-003D	X	X	X						
HIMW-004S	X	X							
HIMW-004I	X	X							
HIMW-004D	X	X							
HIMW-005S	X	X	X						
HIMW-005I	X	X	X						
HIMW-005D	X	X	X						
HIMW-008S	X	X	X						
HIMW-008I	X	X	X						
HIMW-008D	X	X	X						
HIMW-009S	X	X							
HIMW-009I	X	X							
HIMW-009D	X	X							
HIMW-010S	X	X							
HIMW-010I	X	X							
HIMW-011S	X	X							
HIMW-011I	X	X							
HIMW-011D	X	X							
HIMW-012S	X	X	X						
HIMW-012I	X	X	X						
HIMW-012D	X	X	X						
HIMW-013S	X	X	X						
HIMW-013I	X	X	X						
HIMW-013D	X	X	X						
HIMW-014I	X	X	X						
HIMW-014D	X	X	X						
HIMW-015I	X	X	X						
HIMW-015D	X	X	X						
HIMW-020S	X	X	X						
HIMW-020I	X	X	X						
HIMW-021	X	X					X	X	X
HIMW-022	X	X	X						
HIMW-023	X	X	X						
HIMW-024	X	X	X						
HIMW-025	X	X	X						
HIMW-026I				X	X	X			
HIMW-026D				X	X	X			
HIMW-027S				X	X	X			
HIMW-027I				X	X	X			
HIMW-028S				X	X	X			
HIMW-028I				X	X	X			

Table 1

**Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling
First Quarter 2014 ^{(1), (2)}
Hempstead Intersection Street Former MGP Site**

Well ID	First Quarter (March 17 to March 28, 2014)			March and April 2014			NAPL Monitoring and DNAPL Recovery Events		
	Water Level	NAPL Thickness	Water Quality	Water Level	NAPL Thickness	Water Quality	January 2, 2014	February 4, 2014	March 6, 2014
PZ-02	X	X							
PZ-03	X	X							
OSMW-02	X	X	X						
OSMW-03	X	X	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⁽¹⁾
First 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 ⁽²⁾
		[ft amsl]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-003S	3/17/2014	65.00	ND	19.43	ND	34.30	0	0.00	45.57
HIMW-003I	3/17/2014	64.94	ND	19.43	ND	84.72	0	0.00	45.51
HIMW-003D	3/17/2014	65.26	ND	20.25	ND	145.00	0	0.00	45.01
HIMW-004S	3/17/2014	72.74	ND	27.77	ND	41.54	0	0.00	44.97
HIMW-004I	3/17/2014	72.78	ND	27.88	ND	91.10	0	0.00	44.90
HIMW-004D	3/17/2014	72.65	ND	28.3	ND	177.11	0	0.00	44.35
HIMW-005S	3/17/2014	67.19	ND	22.14	ND	38.90	0	0.00	45.05
HIMW-005I	3/17/2014	67.22	ND	22.31	ND	90.50	0	0.00	44.91
HIMW-005D	3/17/2014	67.22	ND	22.77	ND	142.00	0	0.00	44.45
HIMW-008S	3/17/2014	65.04	ND	20.36	ND	37.00	0	0.00	44.68
HIMW-008I	3/17/2014	65.14	ND	20.64	ND	74.90	0	0.00	44.50
HIMW-008D	3/17/2014	64.93	ND	20.42	ND	115.60	0	0.00	44.51
HIMW-009S	3/17/2014	70.03	ND	24.98	ND	39.65	0	0.00	45.05
HIMW-009I	3/17/2014	69.93	ND	24.88	ND	81.25	0	0.00	45.05
HIMW-009D	3/17/2014	69.96	ND	24.73	ND	124.90	0	0.00	45.23
HIMW-010S	3/17/2014	71.60	ND	25.57	ND	38.72	0	0.00	46.03
HIMW-010I	3/17/2014	71.47	ND	25.37	ND	90.10	0	0.00	46.10
HIMW-011S	3/17/2014	71.62	ND	25.96	ND	40.01	0	0.00	45.66
HIMW-011I	3/17/2014	71.43	ND	25.81	ND	94.15	0	0.00	45.62
HIMW-011D	3/17/2014	71.39	ND	25.80	ND	122.33	0	0.00	45.59
HIMW-012S	3/17/2014	61.58	ND	18.62	ND	32.50	0	0.00	42.96
HIMW-012I	3/17/2014	61.59	ND	18.05	ND	74.58	0	0.00	43.54
HIMW-012D	3/17/2014	61.82	ND	19.71	ND	129.95	0	0.00	42.11
HIMW-013S	3/17/2014	72.83	ND	31.34	ND	48.75	0	0.00	41.49
HIMW-013I	3/17/2014	72.60	ND	31.11	ND	81.69	0	0.00	41.49
HIMW-013D	3/17/2014	72.53	ND	31.10	ND	122.48	0	0.00	41.43
HIMW-014I	3/17/2014	71.71	ND	30.29	ND	96.11	0	0.00	41.42
HIMW-014D	3/17/2014	71.59	ND	32.09	ND	154.35	0	0.00	39.50
HIMW-015I	3/17/2014	64.18	ND	25.65	ND	92.85	0	0.00	38.53
HIMW-015D	3/17/2014	63.96	ND	26.94	ND	154.20	0	0.00	37.02
HIMW-020S	3/17/2014	70.43	ND	26.31	ND	36.75	0	0.00	44.12
HIMW-020I	3/17/2014	70.30	ND	26.17	ND	74.89	0	0.00	44.13

Table 2
Groundwater and NAPL Measurements⁽¹⁾
First 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 ⁽²⁾
		[ft amsl]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-021	3/17/2014	NM	ND	20.69	43.9	45.00	0	1.10	NM
HIMW-022	3/17/2014	74.07	ND	31.24	ND	64.50	0	0.00	42.83
HIMW-023	3/17/2014	74.41	ND	31.43	ND	75.63	0	0.00	42.98
HIMW-024	3/17/2014	59.83	ND	15.90	ND	55.10	0	0.00	43.93
HIMW-025	3/17/2014	62.75	ND	18.32	ND	52.10	0	0.00	44.43
PZ-02	3/17/2014	72.96	ND	26.63	NM	35.43	0	0.00	46.33
PZ-03	3/17/2014	64.58	ND	18.56	NM	29.88	0	0.00	46.02
OSMW-02	3/17/2014	71.59	ND	26.07	NM	45.11	0	0.00	45.52
OSMW-03	3/17/2014	71.39	ND	25.90	NM	44.65	0	0.00	45.49

Notes:

- (1) Six additional wells installed in March and April are not included.
- (2) Potentiometric heads in wells containing LNAPL are corrected using a specific gravity = 0.96

Shaded cell indicates abandoned or destroyed well.

- 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
First Quarter 2014
Hempstead Intersection Street Former MGP Site**

		First Quarter 2014										
Well ID	Well Diameter (inches)	January 2, 2014			February 4, 2014			March 6, 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	ND	1.50	2.25	ND	1.50	2.25	ND	1.50	2.25		
Volume Removed				2.25	Volume Removed				2.25	Volume Removed		2.25
Total volume recovered during the Fourth Quarter 2013:										6.75		

Total volume of NAPL recovered in First Quarter 2014: 6.8 gallons

Total volume of NAPL recovered since April 2007: 827.5 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
First Quarter of 2014**

Hempstead Intersection Street Former MGP Site

Well ID	First Quarter 2014 March 18 - March 28, 2014	
	BTEX [ug/L]	PAH [ug/L]
HIMW-003S	ND	ND
HIMW-003I	ND	ND
HIMW-003D	ND	ND
HIMW-004S		
HIMW-004I		
HIMW-004D		
HIMW-005S	ND	ND
HIMW-005I	142	3,117
HIMW-005D	30	509
HIMW-008S	2,941	7
HIMW-008I	3	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	25	131
HIMW-012D	ND	ND
HIMW-013S	ND	ND
HIMW-013I	196	129
HIMW-013D	3	17
HIMW-014I	15	42
HIMW-014D	ND	ND
HIMW-015I	17	34
HIMW-015D	ND	ND
HIMW-020S	ND	ND
HIMW-020I	5	7
HIMW-021		
HIMW-022	ND	ND
HIMW-023	ND	ND
HIMW-024	447	699
HIMW-025	532	131
HIMW-026I*	ND	ND
HIMW-026D*	24	1,241
HIMW-027S*	765	1,699
HIMW-027I*	ND	ND
HIMW-028S*	145	463
HIMW-028I*	ND	ND
PZ-02		
PZ-03		

Notes:

----- A blank field is "Not Sampled".
 ----- NAPL is periodically identified in this well.

HIMW-026D* Analytical sample collected in April 2014.
 ND Not Detected.
 ug/L micrograms per liter

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

System #1

ID	January 13, 2014			January 24, 2014			February 6, 2014			February 21, 2014			March 7, 2014			March 22, 2014		
	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)
MP-1-1S	28.04	0.0	14.12	28.12	0.0	19.12	28.17	0.2	38.81	27.97	0.1	36.14	27.70	0.0	32.27	27.58	0.0	34.74
MP-1-1D	27.99	0.2	12.38	28.06	0.0	11.15	28.11	0.4	29.33	27.91	0.2	27.74	27.65	0.0	33.21	27.51	0.0	36.69
MP-1-2S	22.52	0.2	12.77	22.57	0.0	18.87	22.66	0.2	24.04	22.43	0.2	22.33	22.2	0.1	28.44	22.08	0.0	28.92
MP-1-2D	22.25	0.0	27.11	22.31	0.0	26.88	22.42	0.0	38.39	22.21	0.0	37.02	21.98	0.0	38.12	21.16	0.0	41.14
MP-1-3S	20.31	0.0	18.31	20.44	0.0	25.12	20.43	0.0	32.15	NM	NM	NM	NM	NM	NM	19.85	0.0	15.11
MP-1-3D	20.44	0.0	23.33	20.55	0.0	22.14	20.55	0.0	36.66	NM	NM	NM	NM	NM	NM	20.02	0.0	30.33
MP-1-4S	23.30	0.3	22.12	23.29	0.3	22.51	23.28	0.2	30.65	22.91	0.2	31.12	22.9	0.3	44.62	22.87	0.0	50.12
MP-1-4D	23.25	0.0	17.55	23.12	0.1	18.83	23.14	0.0	41.97	23	0.0	40.44	22.85	0.0	27.61	22.76	0.0	33.12
MP-1-5	27.71	0.2	15.45	27.87	0.2	14.89	27.92	0.3	30.22	27.71	0.2	26.55	27.46	0.1	32.44	27.31	0.0	38.21
MP-1-6	19.97	0.0	8.02	20.08	0.0	7.58	20.08	0.0	19.18	19.95	0.0	18.19	19.66	0.0	12.42	20.53	0.0	14.21
MP-1-7	23.33	0.2	21.12	23.33	0.3	29.02	23.32	0.4	17.81	23.05	0.3	17.94	22.92	0.1	31.53	22.82	0.0	51.01
MP-1-8	24.79	0.3	7.50	24.81	0.2	20.99	24.80	0.5	14.77	24.52	0.4	15.14	24.44	0.2	13.18	24.33	0.0	14.82

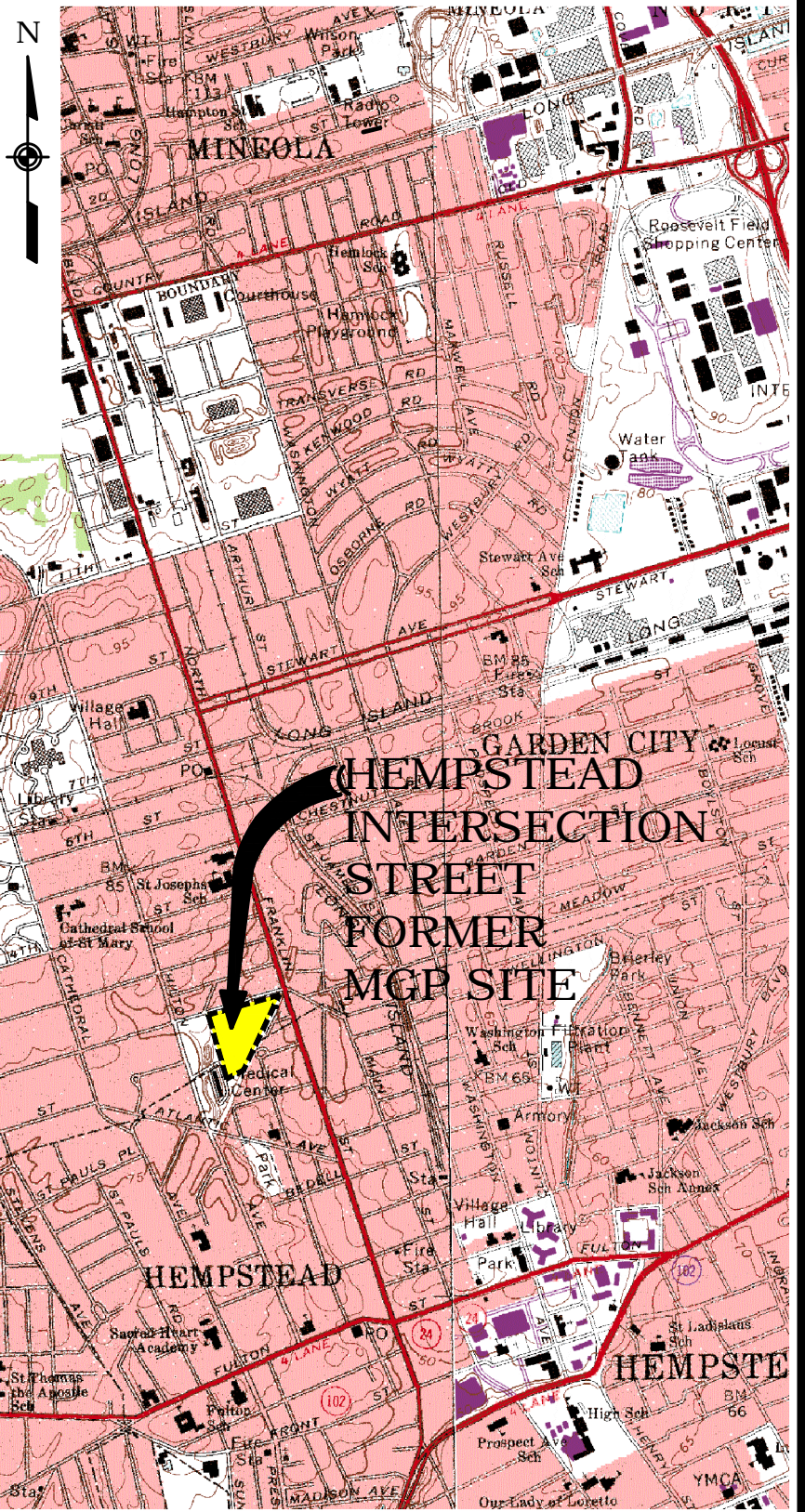
System #2

ID	January 9, 2014			January 23, 2014			February 7, 2014			February 20, 2014			March 6, 2014			March 19, 2014		
	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)	DTW (ft)	PID (ppm)	DO (mg/L)
MP-2-1	31.05	0.0	24.85	30.98	0.0	25.66	31.07	0.0	27.23	30.98	0.0	25.15	30.65	0.0	27.77	30.55	0.0	29.91
MP-2-2	32.44	0.1	45.32	32.37	0.2	47.58	32.46	0.2	50.41	32.34	0.1	49.14	32.01	0.0	45.14	31.94	0.0	39.75
MP-2-3S	32.27	0.3	51.20	32.18	0.2	50.11	32.28	0.2	51.12	32.17	0.2	51.33	31.85	0.1	48.11	31.81	0.0	29.14
MP-2-3D	32.40	0.1	49.11	32.34	0.0	47.79	32.41	0.2	47.29	2.25	0.1	46.16	31.97	0.0	45.55	31.93	0.0	39.95
MP-2-4	20.95	0.1	12.45	20.85	0.0	11.22	20.82	0.1	14.88	20.98	0.1	15.00	20.53	0.0	12.01	20.51	0.0	24.54
MP-2-5	19.12	0.2	28.93	19.08	0.1	24.85	19.09	0.3	21.12	19.15	0.2	23.21	19.38	0.2	22.44	18.75	0.0	20.11

Abbreviations

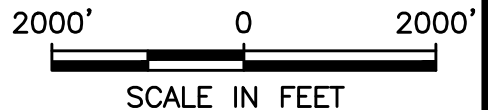
- DTW: Depth to water (feet)
- PID: Photoionization Detector measurement of well headspace (parts per million)
- DO: Dissolved Oxygen concentration (percent or milligrams per liter)
- NA: Not Accessible
- NM: Not Measured

FIGURES



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

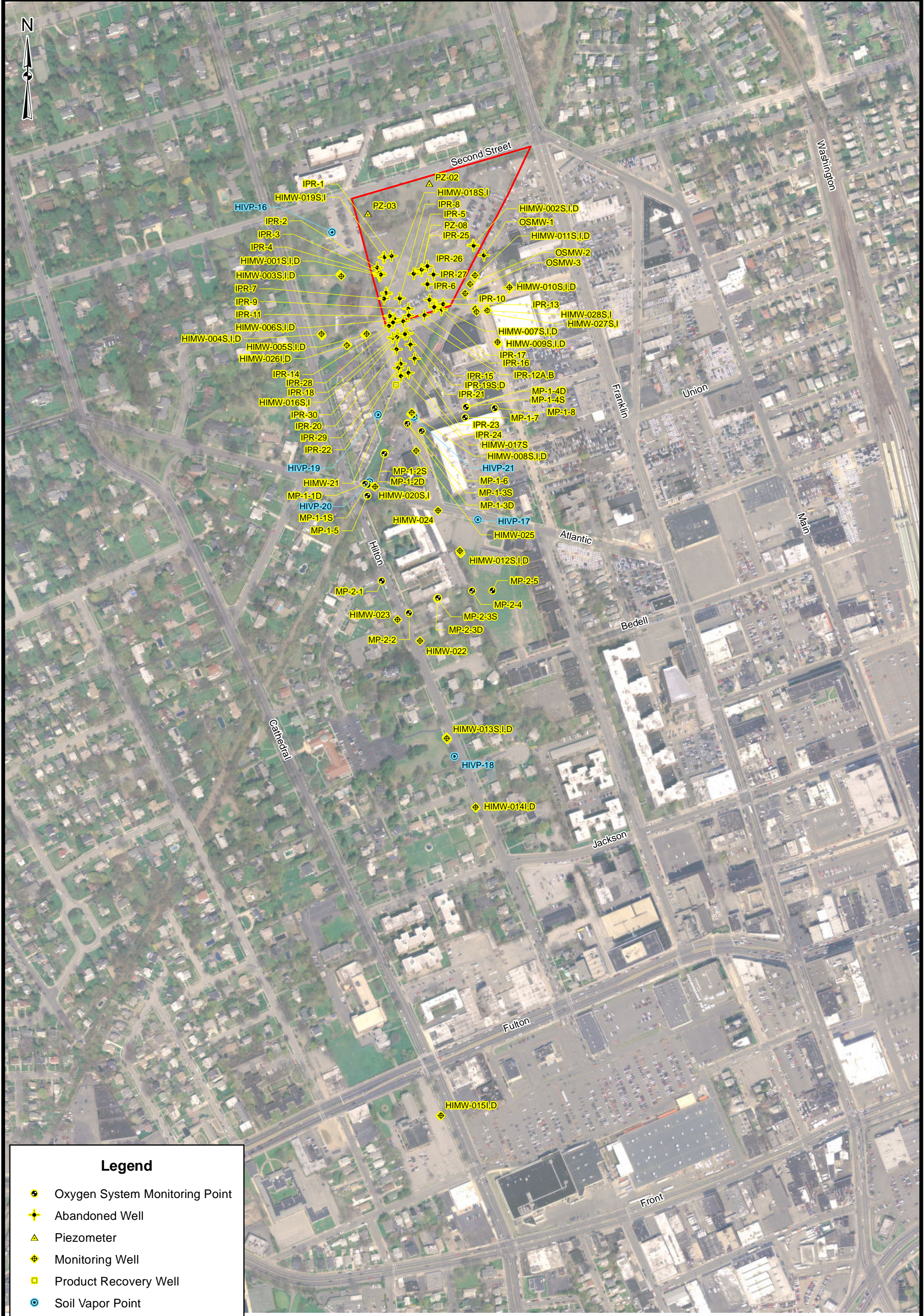
SOURCE:
USGS 7.5 MINUTE SERIES
TOPOGRAPHICAL QUADRANGLES:
FREEPORT, NY (1969)
LYNBROOK, NY (1969)



URS Corporation

LOCATION MAP

FIGURE 1



Legend

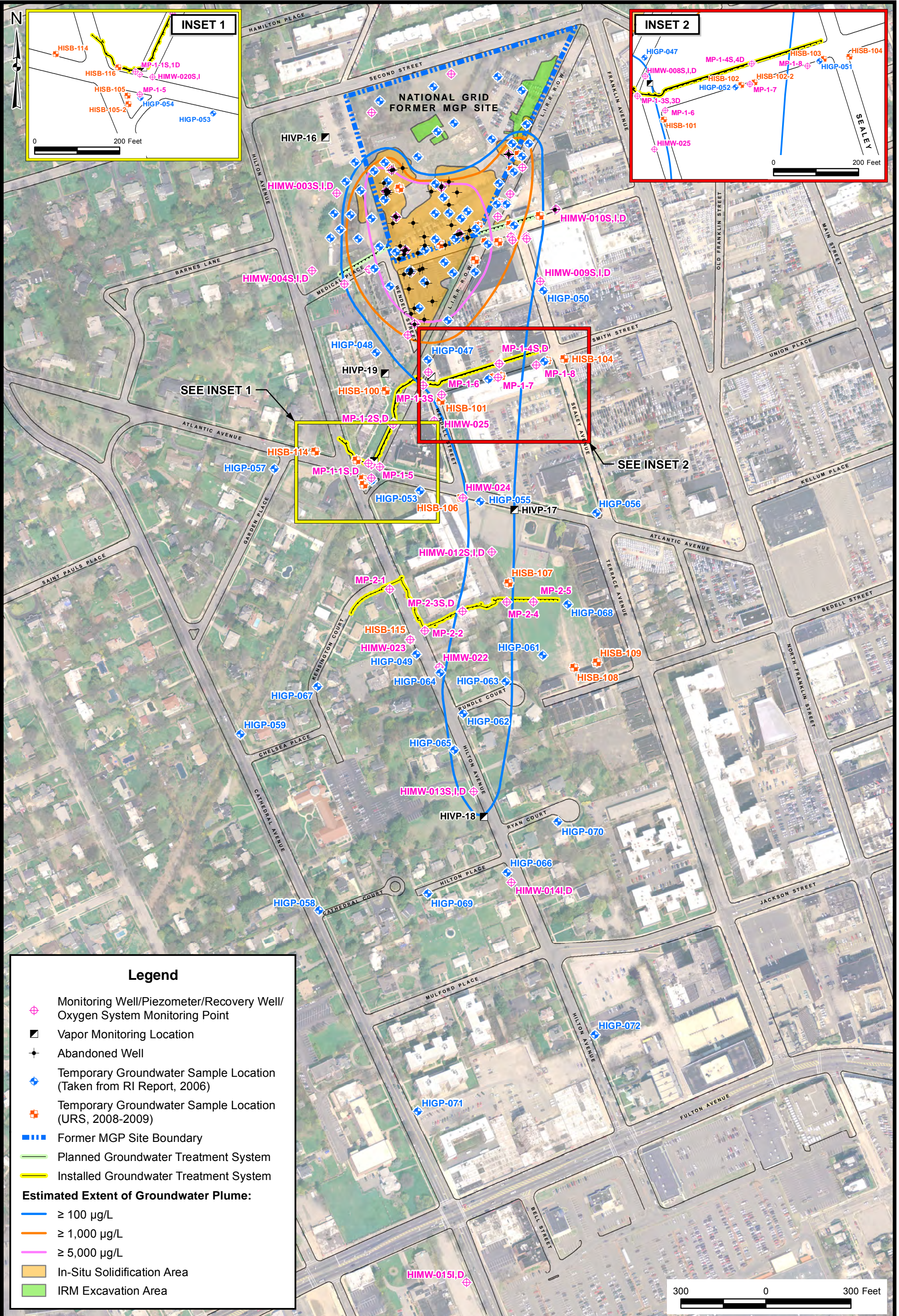
- Oxygen System Monitoring Point
- Abandoned Well
- Piezometer
- Monitoring Well
- Product Recovery Well
- Soil Vapor Point
- Former MGP Site Boundary

400 0 400 Feet

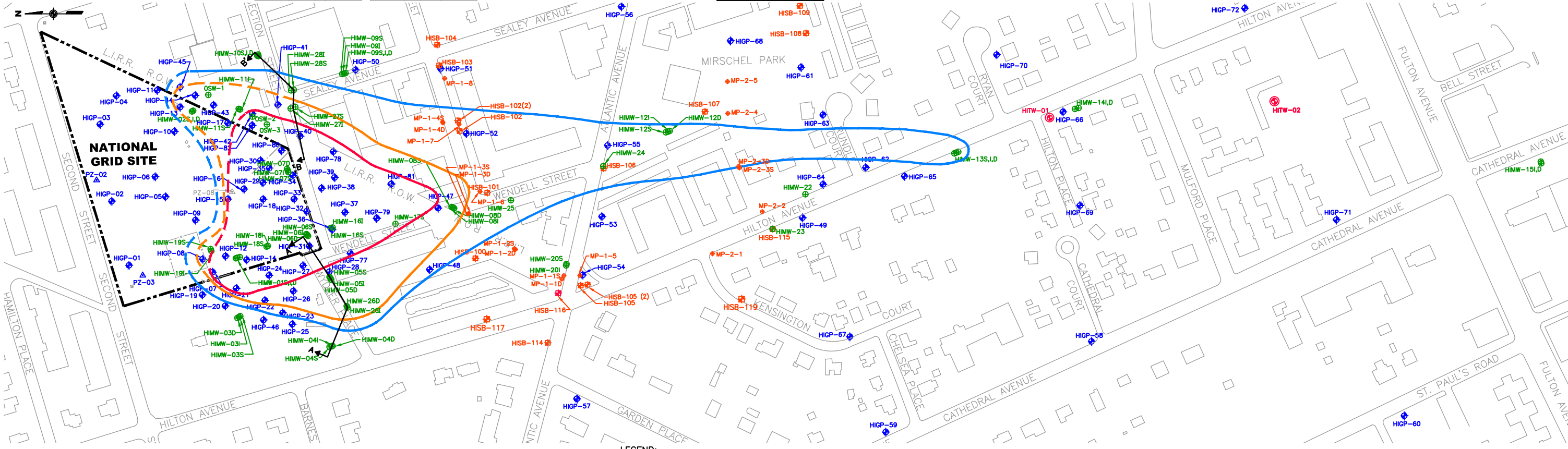


NATIONAL GRID HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
 HEMPSTEAD/GARDEN CITY, NY
 SITE MAP - MARCH 2014

FIGURE 2



DGP-209 (11/1/08) 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 54-58 ND 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 1-04 (5) ND-398 (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
---	--	--	--	--	--	---	---	---	--	---	--	---



HITW-02 (Temporary Groundwater Monitoring Well)	HIMW-13 (Monitoring Well)	LOCATION ID (HIMW-015 I,D)	EXISTING HOUSE OR BUILDING	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 1,000 ug/L)	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 5,000 ug/L)
HIGP-53 (Temporary Groundwater Sample Location)	PZ-02 (Piezometer)	DEPTH (ft bgs) (80-90 5-111 (17) ND-273 (34) 141.5-151.5 ND-94 (ND) ND-1 (ND))	NATIONAL GRID PROPERTY BOUNDARY	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 100 ug/L)	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 100 ug/L)
MP-2-1 (Oxygen System Monitoring Well)	PZ-08 (Abandoned Piezometer)	CONCENTRATION UNITS (ARE ug/L (MARCH 2014 CONCENTRATION))	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 5,000 ug/L)	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 100 ug/L)	ESTIMATED EXTENT OF GROUNDWATER PLUME (Greater than 100 ug/L)
HISB-114 (Temporary Groundwater Sample Location)	HISB-114 (Temporary Groundwater Sample Location)	* SOME LOCATIONS ON SITE AND ADJACENT TO SITE ARE NOT SHOWN FOR FIGURE CLARITY.			

URS Corporation

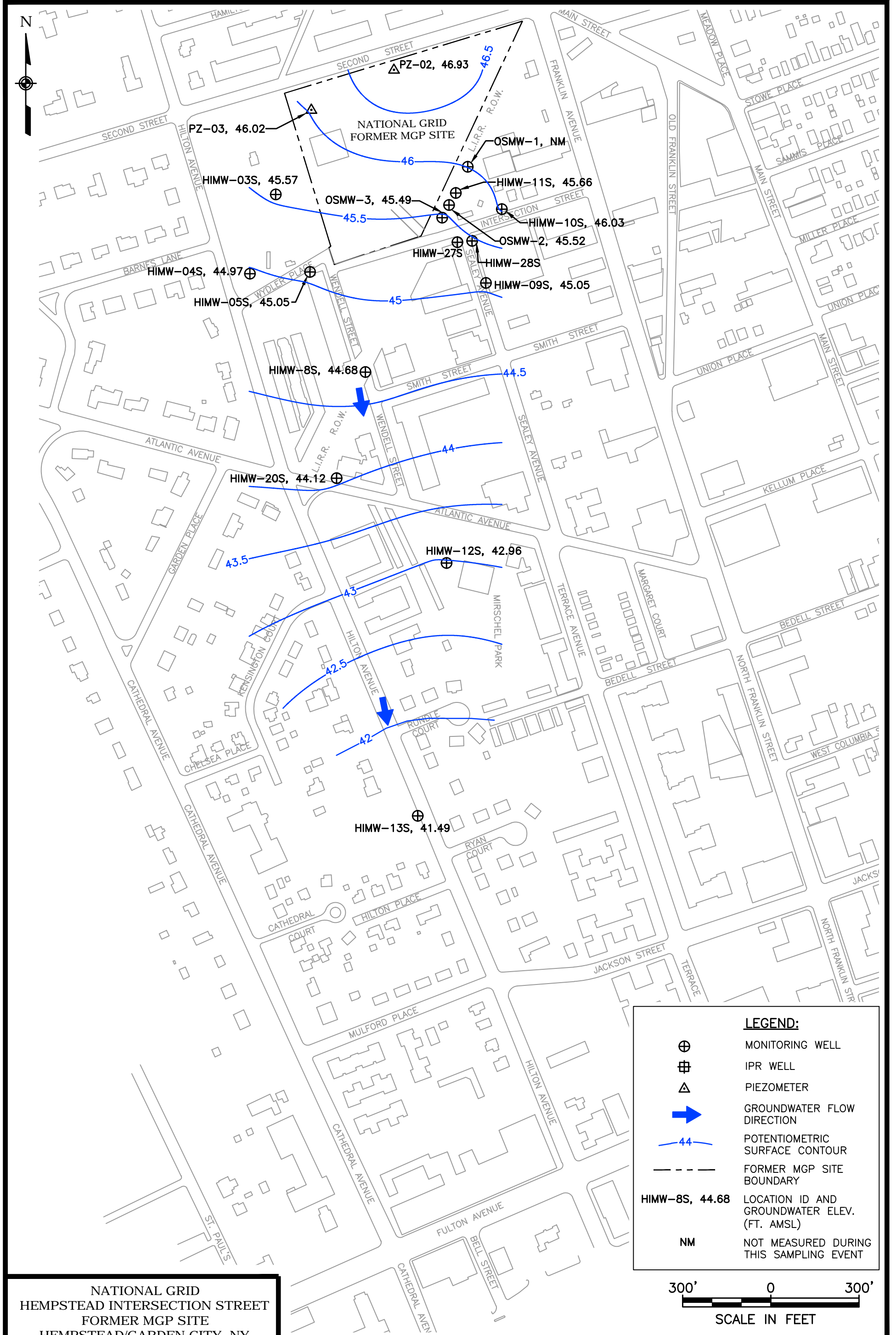
**NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY**

**EXTENT OF DISSOLVED-PHASE
PLUME AND GROUNDWATER
ANALYTICAL RESULTS -
MARCH 2014**

FIGURE 4



J:\Projects\11175065\0000\CAD\DRIFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\FIRST QUARTER 2014\FIGURE 4.dwg 6/13/14 - 5 RAL



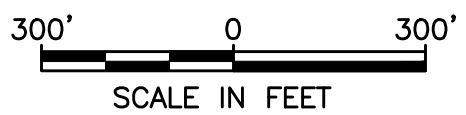
NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

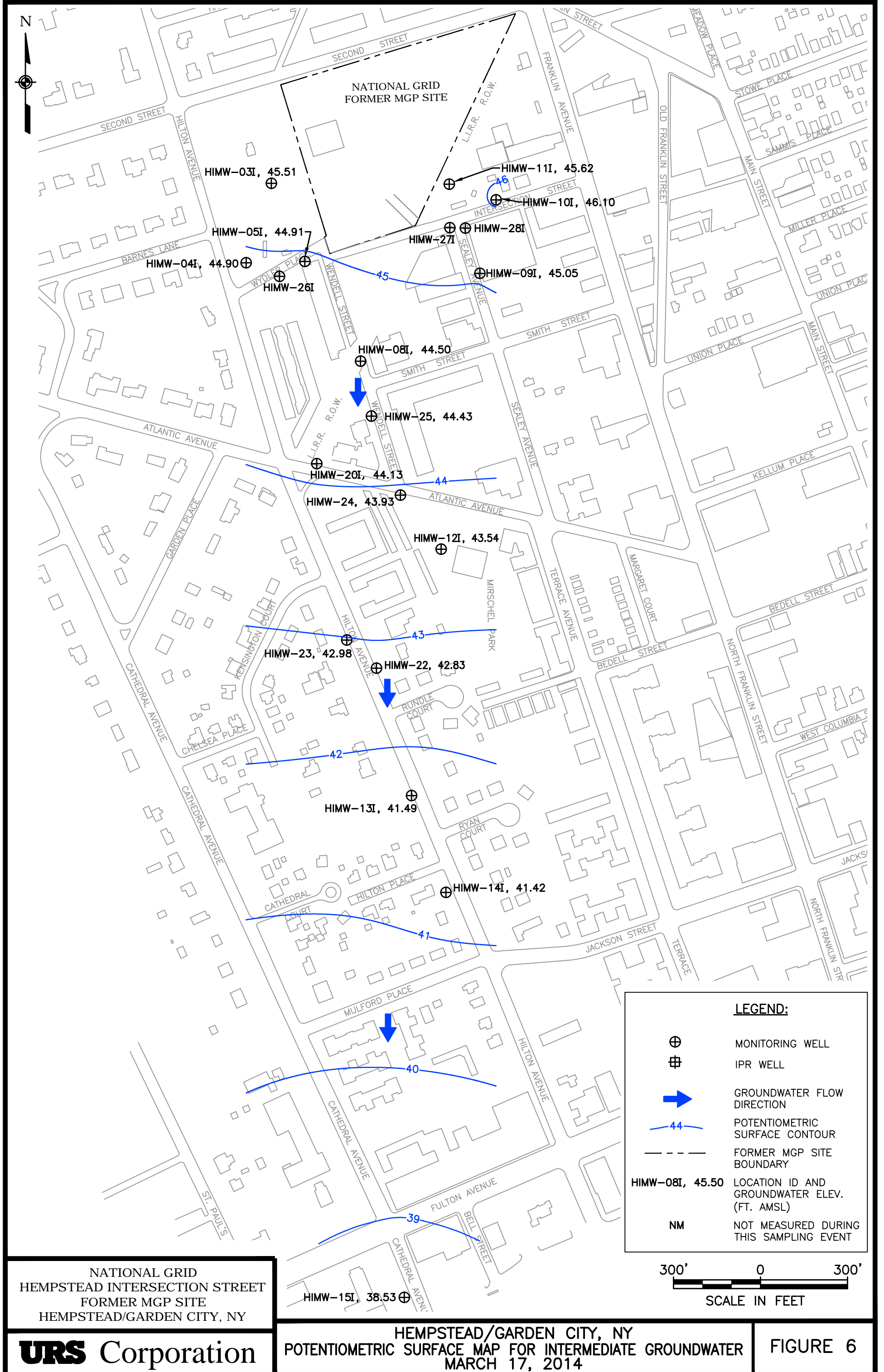


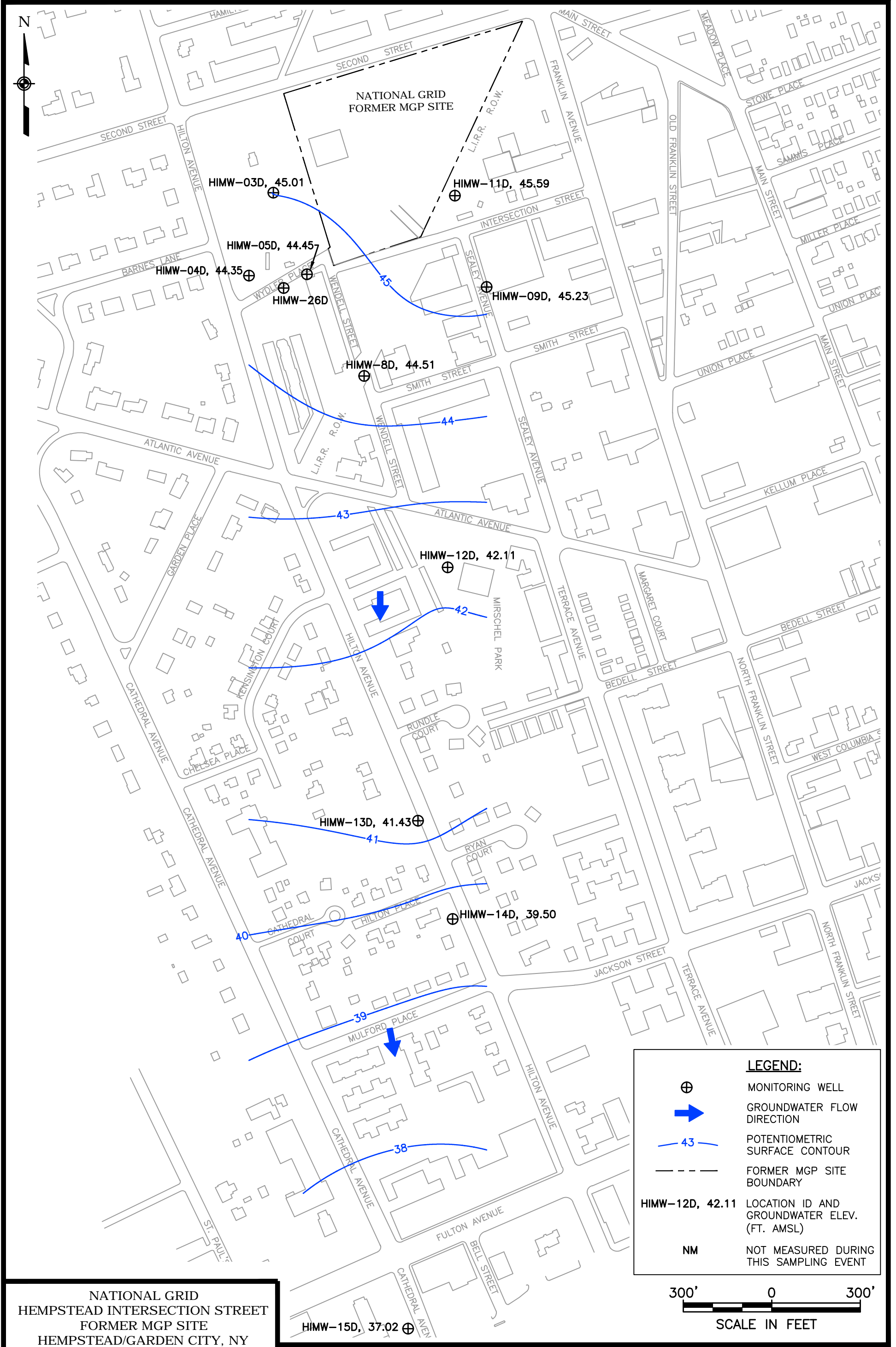
HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR SHALLOW GROUNDWATER
MARCH 17, 2014

FIGURE 5

LEGEND:	
	MONITORING WELL
	IPR WELL
	PIEZOMETER
	GROUNDWATER FLOW DIRECTION
	POTENTIOMETRIC SURFACE CONTOUR
	FORMER MGP SITE BOUNDARY
	LOCATION ID AND GROUNDWATER ELEV. (FT. AMSL)
	NOT MEASURED DURING THIS SAMPLING EVENT





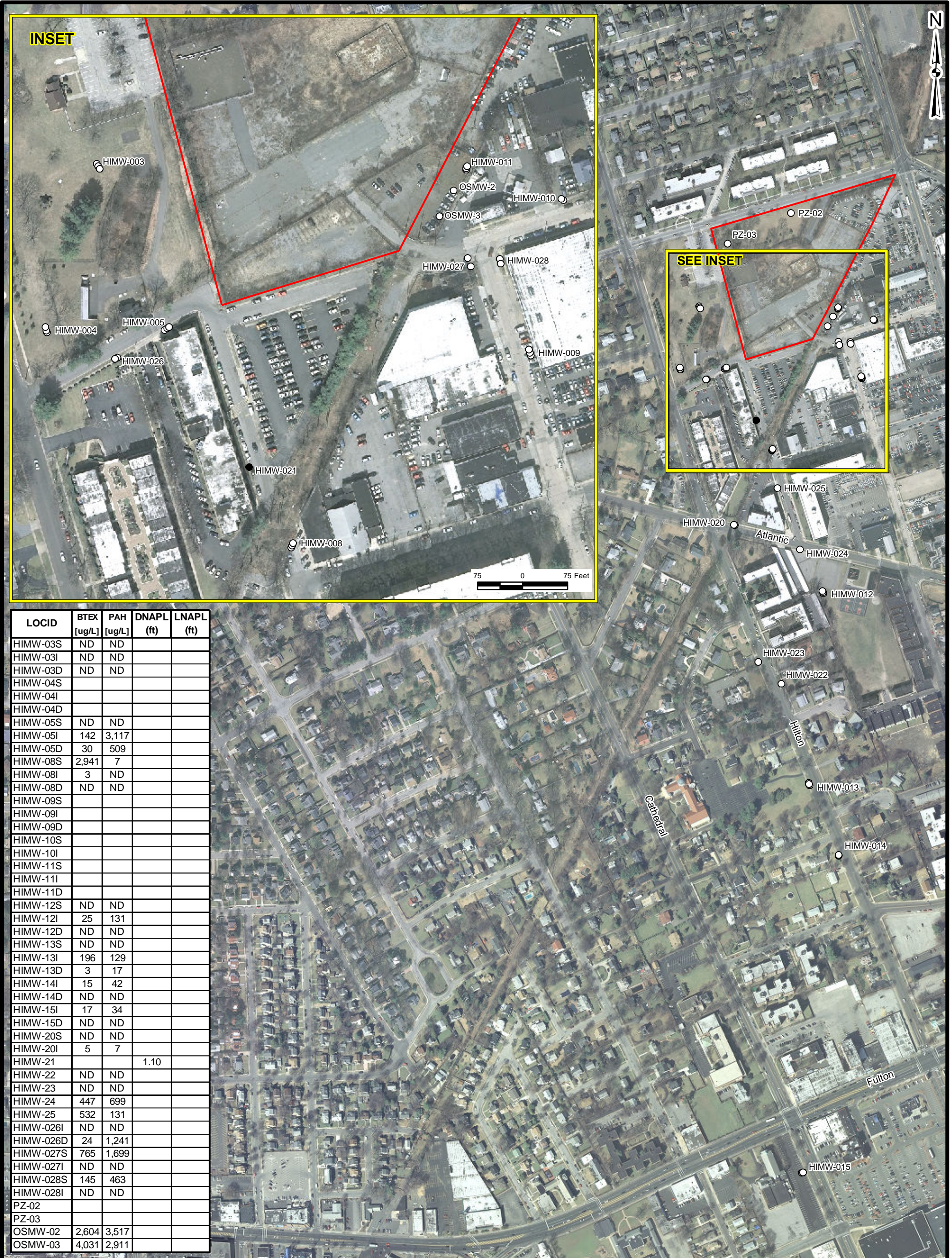


NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY



HEMPSTEAD/GARDEN CITY, NY
POTENTIOMETRIC SURFACE MAP FOR DEEP GROUNDWATER
MARCH 17, 2014

FIGURE 7

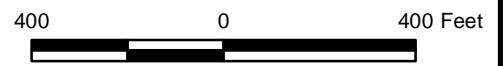


LOCID	BTEX [ug/L]	PAH [ug/L]	DNAPL (ft)	LNAPL (ft)
HIMW-03S	ND	ND		
HIMW-03I	ND	ND		
HIMW-03D	ND	ND		
HIMW-04S				
HIMW-04I				
HIMW-04D				
HIMW-05S	ND	ND		
HIMW-05I	142	3,117		
HIMW-05D	30	509		
HIMW-08S	2,941	7		
HIMW-08I	3	ND		
HIMW-08D	ND	ND		
HIMW-09S				
HIMW-09I				
HIMW-09D				
HIMW-10S				
HIMW-10I				
HIMW-11S				
HIMW-11I				
HIMW-11D				
HIMW-12S	ND	ND		
HIMW-12I	25	131		
HIMW-12D	ND	ND		
HIMW-13S	ND	ND		
HIMW-13I	196	129		
HIMW-13D	3	17		
HIMW-14I	15	42		
HIMW-14D	ND	ND		
HIMW-15I	17	34		
HIMW-15D	ND	ND		
HIMW-20S	ND	ND		
HIMW-20I	5	7		
HIMW-21			1.10	
HIMW-22	ND	ND		
HIMW-23	ND	ND		
HIMW-24	447	699		
HIMW-25	532	131		
HIMW-026I	ND	ND		
HIMW-026D	24	1,241		
HIMW-027S	765	1,699		
HIMW-027I	ND	ND		
HIMW-028S	145	463		
HIMW-028I	ND	ND		
PZ-02				
PZ-03				
OSMW-02	2,604	3,517		
OSMW-03	4,031	2,911		

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
 ug/L - Micrograms per Liter
 ft - Feet of Product Thickness
 ND - Non Detect



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



FIGURE 8

APPENDIX A

DATA USABILITY SUMMARY REPORT

(Provided in Electronic Format Only)

**APPENDIX A
DATA USABILITY SUMMARY REPORT
FIRST 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**

JUNE 2014

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Attachment B	Support Documentation

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-five (25) groundwater samples, two (2) field duplicates, one (1) matrix spike/matrix spike duplicate (MS/MSD) pair, one (1) field blank, and three (3) trip blanks collected by URS personnel on March 17-28, 2014. The samples were collected as part of the 2014 1st quarter groundwater monitoring event at the Hempstead Intersection Street Former MGP Site.

Monitoring well locations HIMW-03S, -03I, -03D, -13S, and -14D were inadvertently sampled during this quarterly event. Typically they are only sampled annually during the 2nd and 4th quarters.

II. ANALYTICAL METHODOLOGIES AND DATA VALIDATION

The samples were analyzed by Pace Analytical (formerly H2M Labs, Inc.) (Melville, NY) for the following parameters:

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

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

- *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B, 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, matrix spike recoveries, field duplicate analyses, laboratory control sample (LCS) recoveries, and surrogate/internal standard recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

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

III. DATA DELIVERABLE COMPLETENESS

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

IV. SAMPLE RECEIPT/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC), except for the following instance.

- A trip blank was not list on the COC for samples collected on March 17-19, 2014. However, the laboratory did receive a trip blank and logged it into their system accordingly for analysis.

All samples were analyzed within the required holding times.

V. NON-CONFORMANCES

Instrument Calibration

For PAH analyses, the percent difference (%D) between the initial calibration (ICAL) average relative response factor (RRF) and the RRF in the continuing calibration (CCAL) standard was greater than 20.0% for benzo(b)fluoranthene. The non-detect benzo(b)fluoranthene results for samples HIMW-08S, -08I, -08D, -13S, -13I (plus field duplicate), -13D, -14I, -14D, -22, -23, and -25 were qualified 'UJ'.

Documentation supporting the qualification of data (i.e., Forms 5 and 7) is presented in Attachment B.

Laboratory Control Sample Recoveries

The BTEX laboratory control sample (LCS) associated with samples HIMW-05I, -05D, -12I, -15I, and -24 exhibited a high percent recovery (%R) (i.e., >127%) for benzene. The detected benzene results for these samples were qualified 'J'.

Documentation supporting the qualification of data (i.e., Form 3) is presented in Attachment B.

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' by the laboratory.

Field duplicates were collected from monitoring well locations HIMW-13I and HIMW-14I, which generally exhibited good field and analytical precision. USEPA Region II does not require data qualification for field duplicate precision.

VII. SUMMARY

All sample analyses were found to be compliant with the method and validation criteria, and the data are usable as reported, except for those results qualified 'J' or 'UJ' during the data validation, which should be considered conditionally usable. URS does not recommend the re-collection of any samples at this time.

Prepared By: 
Peter R. Fairbanks, Senior Chemist

Date: 6/26/14

Reviewed By: 
George E. Kisluk, Senior Chemist

Date: 6/26/14

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

- U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- D – The sample results are reported from a separate secondary dilution analysis.
- NJ – The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.

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

Location ID			HIMW-003D	HIMW-003I	HIMW-003S	HIMW-005D	HIMW-005I
Sample ID			HIMW-03D	HIMW-03I	HIMW-03S	HIMW-05D	HIMW-05I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/28/14	03/28/14	03/25/14	03/28/14	03/26/14
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	1 J	4 J
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U	7
Toluene	UG/L	-	1 U	1 U	1 U	1 U	1
Xylene (total)	UG/L	-	1 U	1 U	1 U	29	130
Total BTEX	UG/L	100	ND	ND	ND	30	142
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	48	430 DJ
Acenaphthene	UG/L	-	10 U	10 U	10 U	2 J	17
Acenaphthylene	UG/L	-	10 U	10 U	10 U	25	220 DJ
Anthracene	UG/L	-	10 U	10 U	10 U	10 U	2 J
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	10 U	4 J	32
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	430 D	2,400 D
Phenanthrene	UG/L	-	10 U	10 U	10 U	10 U	16
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	ND	509	3,117

*Criteria- Groundwater 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

UJ - Not detected. The reported quantitation limit is an estimated value

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

Made By_PRF 06/10/14_ Checked By_AMK 06/11/14_

Detection Limits shown are PQL

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

Location ID			HIMW-005S	HIMW-008D	HIMW-008I	HIMW-008S	HIMW-012D
Sample ID			HIMW-05S	HIMW-8D	HIMW-8I	HIMW-8S	HIMW-12D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/26/14	03/19/14	03/19/14	03/19/14	03/25/14
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	1 U	2,100 D	1 U
Ethylbenzene	UG/L	-	1 U	1 U	1 U	41	1 U
Toluene	UG/L	-	1 U	1 U	1 U	590 D	1 U
Xylene (total)	UG/L	-	1 U	1 U	3	210	1 U
Total BTEX	UG/L	100	ND	ND	3	2,941	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	-	10 U	10 U	10 U	2 J	10 U
Anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 UJ	10 UJ	10 UJ	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	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	5 J	10 U
Phenanthrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	ND	7	ND

*Criteria- Groundwater 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.

UJ - Not detected. The reported quantitation limit is an estimated value.

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

Made By_PRF 06/10/14_; Checked By_AMK 06/11/14_

Detection Limits shown are PQL

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

Location ID			HIMW-012I	HIMW-012S	HIMW-013D	HIMW-013I	HIMW-013I
Sample ID			HIMW-12I	HIMW-12S	HIMW-13D	DUP-031814	HIMW-13I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/25/14	03/25/14	03/18/14	03/18/14	03/18/14
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatile Organic Compounds							
Benzene	UG/L	-	25 J	1 U	3	200 D	190
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U	1
Toluene	UG/L	-	1 U	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	1 U	5	5
Total BTEX	UG/L	100	25	ND	3	205	196
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	23
Acenaphthene	UG/L	-	43	10 U	6 J	7 J	8 J
Acenaphthylene	UG/L	-	42	10 U	11	66	73
Anthracene	UG/L	-	2 J	10 U	10 U	1 J	1 J
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 UJ	10 UJ	10 UJ
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	-	27	10 U	10 U	9 J	10
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	-	2 J	10 U	10 U	10 U	10 U
Phenanthrene	UG/L	-	15	10 U	10 U	13	14
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	131	ND	17	96	129

*Criteria- Groundwater 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.

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

Made By_PRF 06/10/14; Checked By_AMK 06/11/14.

Detection Limits shown are PQL

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

Location ID			HIMW-013S	HIMW-014D	HIMW-014I	HIMW-014I	HIMW-015D
Sample ID			HIMW-13S	HIMW-14D	DUP-032014	HIMW-14I	HIMW-15D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/18/14	03/20/14	03/20/14	03/20/14	03/27/14
Parameter	Units	Criteria*			Field Duplicate (1-1)		
Volatile Organic Compounds							
Benzene	UG/L	-	1 U	1 U	13	13	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	3	2	1 U
Total BTEX	UG/L	100	ND	ND	16	15	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	13	13	10 U
Acenaphthylene	UG/L	-	10 U	10 U	15	15	10 U
Anthracene	UG/L	-	10 U	10 U	1 J	1 J	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 UJ	10 UJ	10 U	10 UJ	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	6 J	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	7 J	7 J	10 U
Pyrene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	42	42	ND

*Criteria- Groundwater 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

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

Made By_PRF 06/10/14; Checked By_AMK 06/11/14

Detection Limits shown are PQL

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

Location ID			HIMW-015I	HIMW-020I	HIMW-020S	HIMW-022	HIMW-023
Sample ID			HIMW-15I	HIMW-20I	HIMW-20S	HIMW-22	HIMW-23
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/27/14	03/27/14	03/27/14	03/20/14	03/17/14
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Benzene	UG/L	-	13 J	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	-	4	5	1 U	1 U	1 U
Total BTEX	UG/L	100	17	5	ND	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Acenaphthene	UG/L	-	10	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	-	21	7 J	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 UJ	10 UJ
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	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	-	3 J	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	34	7	ND	ND	ND

*Criteria- Groundwater 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.

UJ - Not detected. The reported quantitation limit is an estimated value.

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

Made By_PRF 06/10/14_ Checked By_AMK 06/11/14_

Detection Limits shown are PQL

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

Location ID			HIMW-024	HIMW-025
Sample ID			HIMW-24	HIMW-25
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			03/28/14	03/18/14
Parameter	Units	Criteria*		
Volatile Organic Compounds				
Benzene	UG/L	-	200 J	170
Ethylbenzene	UG/L	-	6	16
Toluene	UG/L	-	11	16
Xylene (total)	UG/L	-	230	330
Total BTEX	UG/L	100	447	532
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/L	-	11	8 J
Acenaphthene	UG/L	-	8 J	10 U
Acenaphthylene	UG/L	-	25	3 J
Anthracene	UG/L	-	10 U	10 U
Benzo(a)anthracene	UG/L	-	10 U	10 U
Benzo(a)pyrene	UG/L	-	10 U	10 U
Benzo(b)fluoranthene	UG/L	-	10 U	10 UJ
Benzo(g,h,i)perylene	UG/L	-	10 U	10 U
Benzo(k)fluoranthene	UG/L	-	10 U	10 U
Chrysene	UG/L	-	10 U	10 U
Dibenz(a,h)anthracene	UG/L	-	10 U	10 U
Fluoranthene	UG/L	-	10 U	10 U
Fluorene	UG/L	-	2 J	10 U
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U	10 U
Naphthalene	UG/L	-	650 D	120 D
Phenanthrene	UG/L	-	3 J	10 U
Pyrene	UG/L	-	10 U	10 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	699	131

*Criteria- Groundwater 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.

UJ - Not detected. The reported quantitation limit is an estimated value.

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

Made By_PRF 06/10/14; Checked By_AMK 06/11/14.

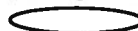
Detection Limits shown are PQL

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

Location ID			FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID			TRIP BLANK	TB032814	FB032814	TB032814
Matrix			Water Quality	Water Quality	Water Quality	Water Quality
Depth Interval (ft)			-	-	-	-
Date Sampled			03/17/14	03/26/14	03/28/14	03/28/14
Parameter	Units	Criteria*	Trip Blank (1-1)	Trip Blank (1-1)	Field Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds						
Benzene	UG/L	-	1 U	1 U	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 U
Toluene	UG/L	-	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	1 U	1 U	1 U	1 U
Semivolatile Organic Compounds						
2-Methylnaphthalene	UG/L	-	NA	NA	10 U	NA
Acenaphthene	UG/L	-	NA	NA	10 U	NA
Acenaphthylene	UG/L	-	NA	NA	10 U	NA
Anthracene	UG/L	-	NA	NA	10 U	NA
Benzo(a)anthracene	UG/L	-	NA	NA	10 U	NA
Benzo(a)pyrene	UG/L	-	NA	NA	10 U	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	10 U	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	10 U	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	10 U	NA
Chrysene	UG/L	-	NA	NA	10 U	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	10 U	NA
Fluoranthene	UG/L	-	NA	NA	10 U	NA
Fluorene	UG/L	-	NA	NA	10 U	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	10 U	NA
Naphthalene	UG/L	-	NA	NA	10 U	NA
Phenanthrene	UG/L	-	NA	NA	10 U	NA
Pyrene	UG/L	-	NA	NA	10 U	NA

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

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

NA - The sample was not analyzed for this parameter.

ND - Not detected

Made By_PRF 06/10/14_ Checked By_AMK 06/11/14_

Detection Limits shown are PQL

ATTACHMENT A
VALIDATED FORM 1'S

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-038

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-004A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24195.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg <u>µg/L</u>)	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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-03S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-004B

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R21349.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: Decanted: (Y/N) N Date Extracted: 03/28/14

Concentrated Extract Volume: 1000 (μ L) Date Analyzed: 04/03/14

Injection Volume: 2 (μ L) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(μ g/L or μ g/Kg) μ g/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-03I

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-009A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24210.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-03I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403K10-009B

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R21397.D

Level: (low/med) LOW Date Received: 03/28/14

% Moisture: Decanted: (Y/N) N Date Extracted: 04/03/14

Concentrated Extract Volume: 1000 (μL) Date Analyzed: 04/05/14

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-03D

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-008A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24209.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-03D

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-008BSample wt/vol: 1000 (g/mL) mLLab File ID: R21396.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 04/03/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 04/05/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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-058

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-007A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24200.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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

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

CONCENTRATION UNITS:

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05S

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403I46-007BSample wt/vol: 1000 (g/mL) mLLab File ID: R21354.DLevel: (low/med) LOWDate Received: 03/26/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/28/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/03/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

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

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-05I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403146-006A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24199.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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
71-43-2	Benzene	4	J
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	7	
1330-20-7	Xylene (total)	130	

5/8/14
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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-05I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403I46-006BSample wt/vol: 1000 (g/mL) mLLab File ID: R21353.DLevel: (low/med) LOWDate Received: 03/26/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/28/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/03/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(μ g/L or μ g/Kg)	μ g/L	
91-20-3	Naphthalene	1400	2400	E D
91-57-6	2-Methylnaphthalene	420	430	E D
208-96-8	Acenaphthylene	200	220	E D
83-32-9	Acenaphthene	17		
86-73-7	Fluorene	32		
85-01-8	Phenanthrene	16		
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-05IDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403146-006BDL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: R21401.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: Decanted: (Y/N) N Date Extracted: 03/28/14

Concentrated Extract Volume: 1000 (μ L) Date Analyzed: 04/05/14

Injection Volume: 2 (μ L) Dilution Factor: 50.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(μ g/L or μ g/Kg)	μ g/L Q
91-20-3	Naphthalene	2400	D
91-57-6	2-Methylnaphthalene	430	DJ
208-96-8	Acenaphthylene	220	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

5/30/14

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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-006A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24208.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
71-43-2	Benzene	1	J
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	29	

5/6/14
2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05D

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-006BSample wt/vol: 1000 (g/mL) mLLab File ID: R21363.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/31/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 04/04/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μg/L or μg/Kg) μg/L	Q
91-20-3	Naphthalene	430 210	U D
91-57-6	2-Methylnaphthalene	48	
208-96-8	Acenaphthylene	25	
83-32-9	Acenaphthene	2	J
86-73-7	Fluorene	4	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

5/8/14
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-05DDL

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-006BDLSample wt/vol: 1000 (g/mL) MLLab File ID: R21403.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/31/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/05/14Injection Volume: 2 (μ L)Dilution Factor: 10.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/kg)	μ g/L	Q
91-20-3	Naphthalene	430		D
91-57-6	2-Methylnaphthalene	52		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

5/8/14

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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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403D98-007A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64659.D
 Level: (low/med) LOW Date Received: 03/19/14
 % Moisture: not dec. Date Analyzed: 03/29/14
 GC Column: DB-624 ID: 0.18 (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
71-43-2	Benzene	2100 900	ED
108-88-3	Toluene	590 200	ED
100-41-4	Ethylbenzene	41	
1330-20-7	Xylene (total)	210	

5/6/14
2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-8SDL

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-007ADL

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64709.D

Level: (low/med) LOW Date Received: 03/19/14

% Moisture: not dec. Date Analyzed: 03/31/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 20.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(µg/L or µg/Kg)	µg/L
71-43-2	Benzene	2100	D
108-88-3	Toluene	590	D
100-41-4	Ethylbenzene	57	D
1330-20-7	Xylene (total)	270	D

5/6/14
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-88

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-007BSample wt/vol: 1000 (g/mL) mLLab File ID: N64531.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (µL)Date Analyzed: 03/28/14Injection Volume: 2 (µL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) µg/L	Q
91-20-3	Naphthalene	5	J
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 J
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

5/8/14
e

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-81

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403D98-008A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64712.D
 Level: (low/med) LOW Date Received: 03/19/14
 % Moisture: not dec. Date Analyzed: 03/31/14
 GC Column: DB-624 ID: 0.18 (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
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	.1	U
1330-20-7	Xylene (total)	3	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-8I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-008BSample wt/vol: 1000 (g/mL) mLLab File ID: N64532.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (µL)Date Analyzed: 03/28/14Injection Volume: 2 (µL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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 J
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

5/8/17
2

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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403D98-009A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64661.D
 Level: (low/med) LOW Date Received: 03/19/14
 ‡ Moisture: not dec. Date Analyzed: 03/29/14
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-009BSample wt/vol: 1000 (g/mL) mLLab File ID: N64533.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 03/28/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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 J
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

5/8/14
2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-128

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-001A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24192.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-12S

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403146-001BSample wt/vol: 1000 (g/mL) mLLab File ID: R21346.DLevel: (low/med) LOWDate Received: 03/26/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/28/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/03/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/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

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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-URS180
 Matrix: (soil/water) WATER Lab Sample ID: 1403I46-002A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24193.D
 Level: (low/med) LOW Date Received: 03/26/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
71-43-2	Benzene	25	J
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

5/8/14
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-12I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403146-002BSample wt/vol: 1000 (g/mL) mLLab File ID: R21347.DLevel: (low/med) LOWDate Received: 03/26/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/28/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/03/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/kg) μ g/L	Q
91-20-3	Naphthalene	2	J
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	42	
83-32-9	Acenaphthene	43	
86-73-7	Fluorene	27	
85-01-8	Phenanthrene	15	
120-12-7	Anthracene	2	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

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-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-003A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24194.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-12D

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403I46-003BSample wt/vol: 1000 (g/mL) mLLab File ID: R21348.DLevel: (low/med) LOWDate Received: 03/26/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/28/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/03/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/kg) μ g/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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-13S

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-003A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64652.D

Level: (low/med) LOW Date Received: 03/19/14

* Moisture: not dec. Date Analyzed: 03/29/14

GC Column: DB-624 ID: 0.18 (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-13S

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-003BSample wt/vol: 1000 (g/mL) mLLab File ID: N64527.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 03/28/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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 J
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

5/1/14
2

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-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-004A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64656.D

Level: (low/med) LOW Date Received: 03/19/14

% Moisture: not dec. Date Analyzed: 03/29/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) µg/L	Q
71-43-2	Benzene	190	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	.1	
1330-20-7	Xylene (total)	<u>75</u>	

5/6/14
AF

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-13I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-004BSample wt/vol: 1000 (g/mL) mLLab File ID: N64528.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/28/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	23	
208-96-8	Acenaphthylene	73	
83-32-9	Acenaphthene	8	J
86-73-7	Fluorene	10	
85-01-8	Phenanthrene	14	
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U J
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

5/8/14
✓

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-031814

(HIMW-13I)

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179

Matrix: (soil/water)

WATER

Lab Sample ID:

1403D98-010ASample wt/vol: 5(g/mL) mL

Lab File ID:

F64662.D

Level: (low/med)

LOW

Date Received:

03/19/14

% Moisture: not dec.

Date Analyzed:

03/29/14GC Column: DB-624ID: 0.18 (mm)

Dilution Factor:

1.00

Soil Extract Volume: _____

(µL)

Soil Aliquot Volume _____

(µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) µg/L	Q
71-43-2	Benzene	200	F D
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	5	

5/7/14
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-031814DL
(HIMW-13I)

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403D98-010ADL
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64713.D
 Level: (low/med) LOW Date Received: 03/19/14
 % Moisture: not dec. Date Analyzed: 03/31/14
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 2.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(µg/L or µg/Kg)	µg/L
71-43-2	Benzene	200	D
108-88-3	Toluene	2	U
100-41-4	Ethylbenzene	2	U
1330-20-7	Xylene (total)	5	D

5/7/14
✓

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DUP-031814

(HIMW-13I)

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-010BSample wt/vol: 1000 (g/mL) mLLab File ID: N64534.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (µL)Date Analyzed: 03/28/14Injection Volume: 2 (µL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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	66	
83-32-9	Acenaphthene	7	J
86-73-7	Fluorene	9	J
85-01-8	Phenanthrene	13	
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U J
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

5/1/14
2

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-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-005A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64657.D

Level: (low/med) LOW Date Received: 03/19/14

% Moisture: not dec. Date Analyzed: 03/29/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) µg/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: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-005BSample wt/vol: 1000 (g/mL) mLLab File ID: N64529.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/28/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg)	μ g/L	Q
91-20-3	Naphthalene	10		U
91-57-6	2-Methylnaphthalene	10		U
208-96-8	Acenaphthylene	11		
83-32-9	Acenaphthene	6		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 J
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

5/1/14
2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-14I

Lab Name: FACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403E99-002A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64715.D

Level: (low/med) LOW Date Received: 03/20/14

% Moisture: not dec. Date Analyzed: 03/31/14

GC Column: DB-624 ID: 0.18 (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
71-43-2	Benzene	13	
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	2	

VOLATILE ORGANICS ANALYSIS DATA SHEET

DUP-032014

(HIMW-14I)

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403E99-005A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64718.D

Level: (low/med) LOW Date Received: 03/20/14

% Moisture: not dec. Date Analyzed: 03/31/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg)	µg/L	Q
71-43-2	Benzene	13		
108-88-3	Toluene	1		U
100-41-4	Ethylbenzene	1		U
1330-20-7	Xylene (total)	3		

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-14I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403E99-002BSample wt/vol: 1000 (g/mL) mLLab File ID: N64536.DLevel: (low/med) LOWDate Received: 03/20/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/28/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	15	
83-32-9	Acenaphthene	13	
86-73-7	Fluorene	6	J
85-01-8	Phenanthrene	7	J
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U J
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

5/30/14
P

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DUP-032014

(HIMW-14I)

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403E99-005BSample wt/vol: 1000 (g/mL) mLLab File ID: N64550.DLevel: (low/med) LOWDate Received: 03/20/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/25/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/30/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N

pH: _____

Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	15	
83-32-9	Acenaphthene	13	
86-73-7	Fluorene	6	J
85-01-8	Phenanthrene	7	J
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	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

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-14D

Lab Name: FACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403E99-001A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64714.D

Level: (low/med) LOW Date Received: 03/20/14

% Moisture: not dec. Date Analyzed: 03/31/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-14D

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403E99-001BSample wt/vol: 1000 (g/mL) mLLab File ID: N64535.DLevel: (low/med) LOWDate Received: 03/20/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/28/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/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 ^J
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

5/30/14
2

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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-001A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24203.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
71-43-2	Benzene	13	J
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	4	

4/6/14
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-15I

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403K10-001B

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R21358.D

Level: (low/med) LOW Date Received: 03/28/14

% Moisture: Decanted: (Y/N) N Date Extracted: 03/31/14

Concentrated Extract Volume: 1000 (μ L) Date Analyzed: 04/03/14

Injection Volume: 2 (μ L) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	21	
83-32-9	Acenaphthene	10	
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	3	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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-002A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24204.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-15D

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403K10-002B

Sample wt/vol: 1000 (g/mL) mL Lab File ID: R21359.D

Level: (low/med) LOW Date Received: 03/28/14

% Moisture: Decanted: (Y/N) N Date Extracted: 03/31/14

Concentrated Extract Volume: 1000 (μ L) Date Analyzed: 04/04/14

Injection Volume: 2 (μ L) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/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-208

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403K10-003A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24205.D

Level: (low/med) LOW Date Received: 03/28/14

% Moisture: not dec. Date Analyzed: 04/03/14

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

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

CONCENTRATION UNITS:

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-20S

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-003BSample wt/vol: 1000 (g/mL) mLLab File ID: R21360.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/31/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/04/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg) μ g/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-201

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-005A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24207.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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)	5	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-20I

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-005BSample wt/vol: 1000 (g/mL) mLLab File ID: R21362.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/31/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/04/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

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

(1) Cannot be separated from Diphenylamine

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-22

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180
 Matrix: (soil/water) WATER Lab Sample ID: 1403E99-003A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64716.D
 Level: (low/med) LOW Date Received: 03/20/14
 % Moisture: not dec. Date Analyzed: 03/31/14
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg <u>µg/L</u>)	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: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Matrix: (soil/water) WATERLab Sample ID: 1403E99-003BSample wt/vol: 1000 (g/mL) mLLab File ID: N64537.DLevel: (low/med) LOWDate Received: 03/20/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 03/28/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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 J
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

5/30/14
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1B
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-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-001A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64650.D

Level: (low/med) LOW Date Received: 03/19/14

% Moisture: not dec. Date Analyzed: 03/29/14

GC Column: DB-624 ID: 0.18 (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
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: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-001BSample wt/vol: 1000 (g/mL) mLLab File ID: N64525.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/28/14Injection Volume: 2 (μ L)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/kg) μ g/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 J
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

5/8/14

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-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-007A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24213.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 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
71-43-2	Benzene	200	J
108-88-3	Toluene	11	
100-41-4	Ethylbenzene	6	
1330-20-7	Xylene (total)	230	

5/6/14
✓

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-24

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-007BSample wt/vol: 1000 (g/mL) mLLab File ID: R21395.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 04/03/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 04/05/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μg/L or μg/Kg) μg/L	Q
91-20-3	Naphthalene	650 400	FD
91-57-6	2-Methylnaphthalene	11	
208-96-8	Acenaphthylene	25	
83-32-9	Acenaphthene	8	J
86-73-7	Fluorene	2	J
85-01-8	Phenanthrene	3	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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-24DL

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-007BDLSample wt/vol: 1000 (g/mL) MLLab File ID: R21407.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 04/03/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 04/07/14Injection Volume: 2 (μ L)Dilution Factor: 10.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μ g/L or μ g/Kg)	μ g/L	Q
91-20-3	Naphthalene	650		D
91-57-6	2-Methylnaphthalene	100		U
208-96-8	Acenaphthylene	34		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

5/14/14
2

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-25

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403D98-002A

Sample wt/vol: 5 (g/mL) mL Lab File ID: F64651.D

Level: (low/med) LOW Date Received: 03/19/14

% Moisture: not dec. Date Analyzed: 03/29/14

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) µg/L	Q
71-43-2	Benzene	170	
108-88-3	Toluene	16	
100-41-4	Ethylbenzene	16	
1330-20-7	Xylene (total)	330	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HIMW-25

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403D98-002BSample wt/vol: 1000 (g/mL) mLLab File ID: N64526.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 03/28/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μg/L or μg/kg) μg/L	Q
91-20-3	Naphthalene	100 120	U D
91-57-6	2-Methylnaphthalene	8	J
208-96-8	Acenaphthylene	3	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 J
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

5/8/14
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-25DL

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1A03D98-002BDLSample wt/vol: 1000 (g/mL) MLLab File ID: N64563.DLevel: (low/med) LOWDate Received: 03/19/14% Moisture: Decanted: (Y/N) NDate Extracted: 03/24/14Concentrated Extract Volume: 1000 (μ L)Date Analyzed: 03/31/14Injection Volume: 2 (μ L)Dilution Factor: 2.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

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

(1) Cannot be separated from Diphenylamine

5/2/14
2

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403D98-011A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: F64663.D
 Level: (low/med) LOW Date Received: 03/19/14
 % Moisture: not dec. Date Analyzed: 03/29/14
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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

VOLATILE ORGANICS ANALYSIS DATA SHEET

FB032814

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179

Matrix: (soil/water) WATER Lab Sample ID: 1403K10-010A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24211.D

Level: (low/med) LOW Date Received: 03/28/14

% Moisture: not dec. Date Analyzed: 04/03/14

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB032814

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Matrix: (soil/water) WATERLab Sample ID: 1403K10-010BSample wt/vol: 1000 (g/mL) mLLab File ID: R21398.DLevel: (low/med) LOWDate Received: 03/28/14% Moisture: Decanted: (Y/N) NDate Extracted: 04/03/14Concentrated Extract Volume: 1000 (μL)Date Analyzed: 04/05/14Injection Volume: 2 (μL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Extraction: (Type) CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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

VOLATILE ORGANICS ANALYSIS DATA SHEET

TB032814

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Matrix: (soil/water) WATER Lab Sample ID: 1403K10-011A
 Sample wt/vol: 5 (g/mL) mL Lab File ID: G24212.D
 Level: (low/med) LOW Date Received: 03/28/14
 % Moisture: not dec. Date Analyzed: 04/03/14
 GC Column: Rtx-624 ID: .18 (mm) Dilution Factor: 1.00
 Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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

VOLATILE ORGANICS ANALYSIS DATA SHEET

TB032614

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180

Matrix: (soil/water) WATER Lab Sample ID: 1403I46-009A

Sample wt/vol: 5 (g/mL) mL Lab File ID: G24202.D

Level: (low/med) LOW Date Received: 03/26/14

% Moisture: not dec. Date Analyzed: 04/03/14

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

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

CONCENTRATION UNITS:

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

ATTACHMENT B

SUPPORT DOCUMENTATION



CHAIN-OF-CUSTODY / Analytical Request Document

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

KEY-URS179

Section A
 Required Client Information:
 Company: **URS CORP.**
 Address: **77 Goodell St.**
 City: **Buffalo, NY**
 State: **NY**
 Project Name: **Northway 610 Homestead**
 Project Number: **Standard**

Section B
 Required Project Information:
 Report To: **Peter Bombardieri**
 Copy To:
 Purchase Order No.: **112608 0001**
 Project Name: **Northway 610 Homestead**
 Project Number:

Section C
 Invoice Information:
 Attention: **Peter Bombardieri**
 Company Name: **URS Corp.**
 Address:
 Face Quote Reference:
 Face Project Manager:
 Face Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location STATE: **NY**

ITEM #	Section D Required Client Information	Section E Matrix Codes	Section F Matrix Code	Section G Sample Type (G=GRAB C=COMP)	Section H Collected		Section I # OF CONTAINERS	Section J Preservatives	Section K Analysis Test	Section L Requested Analysis Filtered (Y/N)	Section M Residual Chlorine (Y/N)	Section N Face Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB						
1	H1MW-23	Drinking Water	WT	G	3/17/14	14:45	4	Unpreserved	2-2			1403098-001
2	H1MW-25	Water	WT	G	3/18/14	8:48	4	H2SO4	2-2			
3	H1MW-135	Waste Water	WW	G	3/18/14	8:55	4	HNO3	2-2			
4	H1MW-137	Product	P	G		12:15	4	HCl	2-2			
5	H1MW-13D	Soil/Solid	SL	G		14:42	4	NaOH	2-2			
6	DUP-031814	Oil	OL	G		8:00	4	Na2S2O8	2-2			
7	H5-H1MW-85	Wipe	WP	G	3/19/14	8:26	4	Unpreserved	2-2			
8	H1MW-85	Air	AR	G		9:50	4	H2SO4	2-2			
9	H1MW-87	Tissue	TS	G		12:47	4	HNO3	2-2			
10	H1MW-8D	Other	OT	G		14:10	4	Unpreserved	2-2			

ADDITIONAL COMMENTS
 Relinquished by / Affiliation: **URS Corp** DATE: **3/19/14** TIME: **14:45**
 Accepted by / Affiliation: **M. Bombardieri** DATE: **3/19/14** TIME: **15:35**
 Relinquished by / Affiliation: **M. Bombardieri** DATE: **3/19/14** TIME: **15:35**
 Accepted by / Affiliation: **John C. Esposito** DATE: **3/19/14** TIME: **15:35**

Temp in °C
 2.9
 3.8

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

Residual Chlorine (Y/N)
 Y
 N
 Y
 N
 Y
 N
 Y
 N
 Y
 N

Face Project No./ Lab I.D.
 1403098-001
 -002
 -003
 -004
 -005
 -010
 -006
 -007
 -008
 -009

RECEIVED
 Received on: **3/19/14**
 Ice (Y/N):
 Sealed Cooler (Y/N):
 Custody (Y/N):
 Samples Intact (Y/N):

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **JOHN CAESPO**
 SIGNATURE of SAMPLER: *John C. Esposito*
 DATE Signed (MM/DD/YYYY): **3/19/14**

8

CHAIN-OF-CUSTODY / Analytical Request Document

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



Page: 1 of 1
 1772941

Section A
 Required Client Information:
 Company: **URS CORP.**
 Address: **77 GOODELL ST.
 BUFFALO, N.Y.**
 Email To: **PETER.FAIRBANKS@URS.COM**
 Phone: **716-856-5231** Fax:
 Requested Due Date/TAT:

Section B
 Required Project Information:
 Report To: **PETER FAIRBANKS**
 Copy To:
 Purchases Order No.: **11176098.00004**
 Project Name: **MADISON C&D - HEMPS RD**
 Project Number:

Section C
 Jurisdiction Information:
 Attention: **PETER FAIRBANKS**
 Company Name: **URS CORP.**
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location
 STATE: **N.Y.**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	PRESERVATIVES							Residual Chlorine (Y/N)	
				COMPOSITE START	COMPOSITE END/GRAB		DATE	TIME	DATE	TIME	DATE	TIME	DATE		TIME
1	HIMW-15I	Drinking Water WT	WT G	3/27/14	9:17	4	Unpreserved	H ₂ SO ₄	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test ↑ PAH	KEYURS179 Pace Project No./ Lab I.D. 1703710-001
2	HIMW-15D	Waste Water WT	WT G	11:25		4									002
3	HIMW-20S	Product Solid	WT G	13:40		4									003
4	HS-HIMW-20I	Oil Wipe	WT G	14:10		4									004
5	HIMW-20I	Air Tissue	WT G	15:27		4									005
6	HIMW-05D	Other	WT G	16:00		4									006
7	FB0323H		WT G	9:05		4									010
8	FB0323H		WT G	14:12		2									011
9	HIMW-24		WT G	11:47		4									007
10	HIMW-03D		WT G	13:15		4									008
11	HIMW-03I		WT G	14:12		4									009
12	HS-HIMW-24		WT G	3/28/14	10:05	4									KEYURS180

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
John Long URS	3/28/14	15:00	[Signature]	3/28/14	1:00	
[Signature]	3/28/14	15:00	[Signature]	3/28/14	15:00	

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **JOHN CRISPO**
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): **03/1**

ORIGINAL

0.3°C



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Page: 1 of 1

Section A
 Required Client Information:
 Company: URS CORP
 Address: 77 GOODELL ST.
BUFFALO, NY.
 Email: PETER.FAIRBANKS@URS.COM
 Phone: 716-856-5136 Fax:
 Requested Due Date/TAT:

Section B
 Required Project Information:
 Report To: PETER FAIRBANKS
 Copy To:
 Purchase Order No.: 11176098.0004
 Project Name: NATONAK CRID HEMSTAD
 Project Number:

Section C
 Invoice Information:
 Attention: PETER FAIRBANKS
 Company Name: URS CORP.
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location STATE: NY

1773061

ITEM #	SAMPLE ID (A-Z, 0-9 / -)	Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↑ Y/N ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB					DATE	TIME	DATE	TIME	H ₂ SO ₄	HNO ₃				
1	HIMW-14 D				WT 6			4	2	2	2	2	2	2	2		202 -002	
2	HIMW-14 I				WT 6			4	2	2	2	2	2	2	2		205 -005	
3	DUP032014				WT 6			4	2	2	2	2	2	2	2		203 -003	
4	HIMW-22				WT 6			4	2	2	2	2	2	2	2		204 -004	
5	HS-HIMW-22				WT 6			4	2	2	2	2	2	2	2			
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS
 Relinquished by / Affiliation: John Long / URS DATE: 3/20/14 TIME: 15:30
W. H. Long DATE: 3-20-14 TIME: 16:00
 Accepted by / Affiliation: K. H. Long DATE: 3-20-14 TIME: 15:30
John Long DATE: 3/20/14 TIME: 16:00

TEMPERATURE
 Temp in °C: 5.80

SAMPLE CONDITIONS
 Received on: _____
 Ice (Y/N): _____
 Custody (Y/N): _____
 Sealed Cooler (Y/N): _____
 Samples Intact (Y/N): _____

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: John Long
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 3/20/14

ORIGINAL

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



CHAIN-OF-CUSTODY / Analytical Request Document

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

②

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: <u>URS CORP.</u>	Report To: <u>Peter Park Barnes</u>	Attention: <u>Peter Park Barnes</u>
Address: <u>77 GOODSEN ST.</u>	Copy To:	Company Name: <u>URS CORP.</u>
<u>ROCKAWAY, N.Y.</u>	Purchase Order No.: <u>11176980004</u>	Address:
Email To: <u>PETER.PARKBARNES@URS.COM</u>	Project Name: <u>ROCKAWAY CANAL BANKS ROAD</u>	Pace Quote Reference:
Phone: <u>716.852.5636</u> Fax:	Project Number:	Pace Project Manager:
Requested Due Date/TAT:		Pace Profile #:
		REGULATORY AGENCY
		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
		<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
		Site Location
		STATE: <u>NJ</u>
		Page: <u>1772940</u> of

ITEM #	Section D Required Client Information	Matrix Codes MATRIX I CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipes WP Air AR Tissue TS Other OT	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES										Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other			
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS		Temp in °C	Received on	Ice (Y/N)	Custody	Sealed Cooler	Samples Intact (Y/N)		
1	HIMW-12 S			3/26/14	9:00	6				3/26/14	15:07	H. Alayash	3/26/14	15:07					
2	HIMW-12 I			3/26/14	11:30	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
3	HIMW-12 D			3/26/14	13:30	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
4	HIMW-03 S			3/26/14	14:51	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
5	HIMW-03 S MS			3/26/14	15:00	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
6	HIMW-03 S MSD			3/26/14	15:00	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
7	HS-HIMW-05 I			3/26/14	8:10	6				3/26/14	15:07	H. Alayash	3/26/14	15:07					
8	HIMW-05 I			3/26/14	10:11	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
9	HIMW-05 S			3/26/14	11:37	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
10	HIMW-05 D			3/26/14	11:37	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
11	HS-HIMW-05 D			3/26/14	11:37	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					
12	HB032614			3/26/14	11:37	6				3/26/14	15:50	H. Alayash	3/26/14	15:50					

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOHN CRESPO

SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YYYY): 3/26/14

1.4.0°C

2.4.0°C

ORIGINAL

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



SDG NARRATIVE FOR VOLATILE ORGANICS

SAMPLE(S) RECEIVED: 3/19/14 & 3/28/14

SDG #: KEY-URS179

For Sample(s):

HIMW-23	HIMW-8S	HIMW-15D	HIMW-24
HIMW-25	HIMW-8I	HIMW-20S	HIMW-03D
HIMW-13S	HIMW-8D	HS-HIMW-20I	HIMW-03I
HIMW-13I	DUP-031814	HIMW-20I	FB032814
HIMW-13D	TRIP BLANK	HIMW-05D	TB032814
HS-HIMW-8S	HIMW-15I		

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

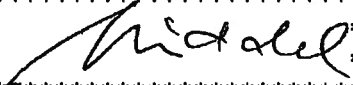
All Q. C. data and calibrations met the requirements of the method, unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

No matrix spike/matrix spike duplicate was submitted, but four lab fortified blank (LFB) was analyzed. All percent recoveries were within Q. C. limits with the following exception: In the LFB on 4/1/14 the recovery for benzene was above the limit, even though the response for the continuous calibration was acceptable. The positives for samples analyzed that day may be biased slightly high. This applies to samples HIMW-15I, HIMW-05D, and HIMW-24.

Average response factors were employed for all targeted analytes in the initial calibrations.

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

Date Reported: April 15, 2014

 *  *
 *

Ursula Middel
Quality Analyst

3A
SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-UR SAS No.: _____ SDG No.: KEY-URS179
 Sample ID LFB040214A Level: (low/med) LOW
 Column ID Rtx-624 Column Diam .18
 Inst. ID HP5972-2 Init. Calib. Date(s): 04/01/14 16:32
 Analysis Date: 04/03/14 2:59 04/01/14 19:46

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	SPIKE CONCENTRATION (µg/L)	SPIKE % REC #	QC. LIMITS REC.
Benzene	50	0	66	132*	50-127
Toluene	50	0	61	122	70-125
Ethylbenzene	50	0	61	121	68-128
Xylene (total)	150	0	180	122	70-125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 4 outside limits

COMMENTS: _____

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Lab File ID: G24188.D BFB Injection Date: 04/03/14
 Instrument ID: HP5972-2 BFB Injection Time: 1:36
 GC Column: Rtx-624 ID: .18 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.4
75	30.0 - 60.0% of mass 95	42.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0) 1
174	Greater than 50.0% of mass 95	81.3
175	5.0 - 9.0% of mass 174	6.0 (7.3) 1
176	95.0 - 101.0% of mass 174	77.4 (95.2) 1
177	5.0 - 9.0% of mass 176	5.1 (6.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	G24189.D	04/03/14	2:04
02	VBLK040214A	VBLK040214A	G24190.D	04/03/14	2:32
03	LFB040214A	LFB040214A	G24191.D	04/03/14	2:59
04	HIMW-15I	1403K10-001A	G24203.D	04/03/14	8:33
05	HIMW-15D	1403K10-002A	G24204.D	04/03/14	9:01
06	HIMW-20S	1403K10-003A	G24205.D	04/03/14	9:29
07	HS-HIMW-20I	1403K10-004A	G24206.D	04/03/14	9:57
08	HIMW-20I	1403K10-005A	G24207.D	04/03/14	10:24
09	HIMW-05D	1403K10-006A	G24208.D	04/03/14	10:52
10	HIMW-03D	1403K10-008A	G24209.D	04/03/14	11:20
11	HIMW-03I	1403K10-009A	G24210.D	04/03/14	11:48
12	FB032814	1403K10-010A	G24211.D	04/03/14	12:15
13	TB032814	1403K10-011A	G24212.D	04/03/14	12:43
14	HIMW-24	1403K10-007A	G24213.D	04/03/14	13:11



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 3/19/14 & 3/28/14
SDG #: KEY-URS179

For Sample(s):

HIMW-23	HIMW-8I	HIMW-20I
HIMW-25	HIMW-8D	HIMW-05D
HIMW-13S	DUP-031814	HIMW-24
HIMW-13I	HIMW-15I	HIMW-03D
HIMW-13D	HIMW-15D	HIMW-03I
HS-HIMW-8S	HIMW-20S	FB032814
HIMW-8S	HS-HIMW-20I	

5-17/14 *af*

The above water sample(s) was/were analyzed for a select list of base/neutral- ~~acid~~ extractables by EPA method 8270D and reported with the requested deliverables.

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

No sample was designated as the matrix spike/matrix spike duplicate, but lab fortified blank were analyzed with each extraction batch. All percent recoveries were within Q. C. limits.

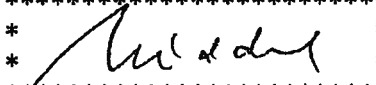
Three samples were re-analyzed at a dilution due to concentration levels of targeted analytes above the calibration range. Both sets of data are submitted.

Recoveries for the surrogate terphenyl-d14 was below the Q. C. limit in three samples, and recovery for 2-fluorobiphenyl was high in the dilution HIMW-24DL.

In the initial calibrations, average response factors (RF) were employed as applicable, and regression functions were used for RSDs above 20%. In the continuous calibration on 3/28/14, the variability exceeded 20% for benzo(b)fluoranthene. Concentrations for this compound are regarded estimated for analyses on that day. No sample data were affected, since the compound was not found, but it is flagged with the Qualifier "Z" as estimated in the LFB.

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

Date Reported: April 15, 2014

 *  *
 *

Ursula Middel
Quality Analyst

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS179
 Lab File ID: N64518.D DFTPP Injection Date: 03/28/14
 Instrument ID: HP5973N DFTPP Injection Time: 10:42

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.6
68	Less than 2% of mass 69	0.4 (0.8)1
69	Mass 69 relative abundance	44.1
70	Less than 2% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.8
197	Less than 1% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	25.1
365	Greater than 1% of mass 198	3.8
441	Present, but less than mass 443	8.9
442	40.0 - 110.0% of mass 198	59.7
443	17.0 - 23.0% of mass 442	11.7 (19.6)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD025	SSTD025	N64519R.D	03/28/14	11:03
02	MB-43778	MB-43778	N64520.D	03/28/14	11:34
03	LFB-43778	LFB-43778	N64521.D	03/28/14	12:04
04	HIMW-23	1403D98-001B	N64525.D	03/28/14	14:09
05	HIMW-25	1403D98-002B	N64526.D	03/28/14	14:40
06	HIMW-13S	1403D98-003B	N64527.D	03/28/14	15:11
07	HIMW-13I	1403D98-004B	N64528.D	03/28/14	15:42
08	HIMW-13D	1403D98-005B	N64529.D	03/28/14	16:12
09	HS-HIMW-8S	1403D98-006B	N64530.D	03/28/14	16:43
10	HIMW-8S	1403D98-007B	N64531.D	03/28/14	17:14
11	HIMW-8I	1403D98-008B	N64532.D	03/28/14	17:45
12	HIMW-8D	1403D98-009B	N64533.D	03/28/14	18:15
13	DUP-031814	1403D98-010B	N64534.D	03/28/14	18:46

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS179Instrument ID: HP5973NCalibration Date: 3/28/2014Time: 11:03Lab File ID: N64519R.DInit. Calib. Date(s): 02/19/14 02/19/14

EPA Sample No. (SSTD050##):

SSTD025

Init. Calib. Times:

11:2715:01GC Column: Rxi-5SILMSID: 0.25 (mm)

COMPOUND	RRF		MIN	MAX	
	RRF	RRF50	RRF	%D	%D
Naphthalene	1.058	1.105	0.700	4.5	20.0
2-Methylnaphthalene	0.740	0.822	0.400	11.1	20.0
Acenaphthylene	1.762	1.795	0.900	1.9	20.0
Acenaphthene	1.187	1.203	0.900	1.3	20.0
Fluorene	1.357	1.447	0.900	6.6	20.0
Phenanthrene	1.101	1.168	0.700	6.1	20.0
Anthracene	1.133	1.173	0.700	3.5	20.0
Fluoranthene	1.299	1.452	0.600	11.8	20.0
Pyrene	1.267	1.282	0.600	1.2	20.0
Benzo(a)anthracene	1.207	1.267	0.800	5.0	20.0
Chrysene	1.060	1.064	0.700	0.3	20.0
Benzo(b)fluoranthene	1.416	1.703	0.700	20.3	20.0
Benzo(k)fluoranthene	1.111	0.961	0.700	-13.5	20.0
Benzo(a)pyrene	1.199	1.272	0.700	6.1	20.0
Indeno(1,2,3-cd)pyrene	1.366	1.445	0.500	5.8	20.0
Dibenzo(a,h)anthracene	1.152	1.241	0.400	7.7	20.0
Benzo(g,h,i)perylene	1.133	1.157	0.500	2.1	20.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV- 1

OLM04.2

KEY-URS179 B192



**SDG NARRATIVE FOR VOLATILE ORGANICS
 SAMPLE(S) RECEIVED: 3/20/14 – 3/28/14
 SDG #: KEY-URS180**

For Sample(s):

HIMW-14D	HIMW-12S	HIMW-05I
HIMW-14I	HIMW-12I	HIMW-05S
HIMW-22	HIMW-12D	HS-HIMW-05D
HS-HIMW-22	HIMW-03S	TB032614
DUP-032014	HS-HIMW-05I	HS-HIMW-24

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

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

Sample HIMW-03S was submitted for matrix spike/matrix spike duplicate (MS/MSD), and three lab fortified blanks (LFB) were analyzed. All percent recoveries were within Q. C. limits with the following exception: In the LFB on 4/3/14 the recovery for benzene was above the limit, even though the response for the continuous calibration was acceptable. The positives for samples analyzed that day may be biased slightly high. This applies to samples ~~HS-HIMW-24~~ HIMW-05I, HS-HIMW-05I, HS-HIMW-05D, and HIMW-12I.

Average response factors were employed for all targeted analytes in the initial calibrations.

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.

5/8/14
~

Date Reported: April 21, 2014

 * *Ursula Middel* *
 *

Ursula Middel
 Quality Analyst

3A
SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-UR SAS No.: _____ SDG No.: KEY-URS180
 Sample ID LFB040214A Level: (low/med) LOW
 Column ID Rtx-624 Column Diam .18
 Inst. ID HP5972-2 Init. Calib. Date(s) 04/01/14 16:32
 Analysis Date: 04/03/14 2:59 04/01/14 19:46

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	SPIKE CONCENTRATION (µg/L)	SPIKE % REC #	QC. LIMITS REC.
Benzene	50	0	88	132*	50-127
Toluene	50	0	81	122	70-125
Ethylbenzene	50	0	81	121	88-128
Xylene (total)	150	0	180	122	70-125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 4 outside limits

COMMENTS: _____

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180
 Lab File ID: G24188.D BFB Injection Date: 04/03/14
 Instrument ID: HP5972-2 BFB Injection Time: 1:36
 GC Column: Rtx-624 ID: .18 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.4
75	30.0 - 60.0% of mass 95	42.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.3
175	5.0 - 9.0% of mass 174	6.0 (7.3)1
176	95.0 - 101.0% of mass 174	77.4 (95.2)1
177	5.0 - 9.0% of mass 176	5.1 (6.6)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	G24189.D	04/03/14	2:04
02	VBLK040214A	VBLK040214A	G24190.D	04/03/14	2:32
03	LFB040214A	LFB040214A	G24191.D	04/03/14	2:59
04	HIMW-12S	1403146-001A	G24192.D	04/03/14	3:27
05	HIMW-12I	1403146-002A	G24193.D	04/03/14	3:55
06	HIMW-12D	1403146-003A	G24194.D	04/03/14	4:23
07	HIMW-03S	1403146-004A	G24195.D	04/03/14	4:51
08	HIMW-03SMS	1403146-004AMS	G24196.D	04/03/14	5:19
09	HIMW-03MSD	1403146-004AMSD	G24197.D	04/03/14	5:46
10	HS-HIMW-05I	1403146-005A	G24198.D	04/03/14	6:14
11	HIMW-05I	1403146-006A	G24199.D	04/03/14	6:42
12	HIMW-05S	1403146-007A	G24200.D	04/03/14	7:10
13	HS-HIMW-05D	1403146-008A	G24201.D	04/03/14	7:38
14	TB032614	1403146-009A	G24202.D	04/03/14	8:05



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

**SDG NARRATIVE FOR SEMIVOLATILE ANALYSES
SAMPLE(S) RECEIVED: 3/20/14 – 3/28/14
SDG #: KEY-URS180**

For Sample(s):

HIMW-14D	HIMW-12S	HS-HIMW-05I
HIMW-14I	HIMW-12I	HIMW-05I
HIMW-22	HIMW-12D	HIMW-05S
HS-HIMW-22	HIMW-03S	HS-HIMW-05D
DUP-032014		

The above water sample(s) was/were analyzed for a select list of base/neutral- acid extractables by EPA method 8270D and reported with the requested deliverables.

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

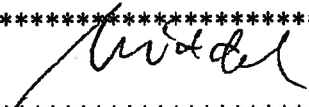
Sample HIMW-03S was analyzed as the matrix spike/matrix spike duplicate (MS/MSD). Lab fortified blanks were analyzed with each extraction batch. All percent recoveries and RPDs for the MS/MSD and recoveries for the LFBs were within Q. C. limits.

Four samples were re-analyzed at a dilution due to concentration levels of targeted analytes above the calibration range. Both sets of data are submitted. In the dilutions of two samples, no surrogate recoveries were reportable, because the surrogates were diluted out.

In the initial calibrations, average response factors were employed for the targeted analytes. In the continuous calibration on 3/28/14, the variability for benzo(b)fluoranthene exceeded 20%. Concentrations for this compound are regarded estimated for analyses on that day. No sample data were affected, but the concentration in LFB-43778 is flagged with the Qualifier "Z" as estimated.

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

Date Reported: April 16, 2014

 *  *
 * *

Ursula Middel
Quality Analyst

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: KEY-URS SAS No.: _____ SDG No.: KEY-URS180
 Lab File ID: N64518.D DFTPP Injection Date: 03/28/14
 Instrument ID: HP5973N DFTPP Injection Time: 10:42

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.6
68	Less than 2% of mass 69	0.4 (0.8) 1
69	Mass 69 relative abundance	44.1
70	Less than 2% of mass 69	0.0 (0.0) 1
127	40.0 - 60.0% of mass 198	49.8
197	Less than 1% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	25.1
365	Greater than 1% of mass 198	3.8
441	Present, but less than mass 443	8.9
442	40.0 - 110.0% of mass 198	59.7
443	17.0 - 23.0% of mass 442	11.7 (19.6) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD025	SSTD025	N64519R.D	03/28/14	11:03
02	MB-43778	MB-43778	N64520.D	03/28/14	11:34
03	LFB-43778	LFB-43778	N64521.D	03/28/14	12:04
04	HIMW-14D	1403E99-001B	N64535.D	03/28/14	19:17
05	HIMW-14I	1403E99-002B	N64536.D	03/28/14	19:47
06	HIMW-22	1403E99-003B	N64537.D	03/28/14	20:18

7D

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: KEY-URS

SAS No.: _____

SDG No.: KEY-URS180Instrument ID: HP5973NCalibration Date: 3/28/2014Time: 11:03Lab File ID: N64519R.DInit. Calib. Date(s): 02/19/14 02/19/14EPA Sample No. (SSTD050##): SSTD025Init. Calib. Times: 11:27 15:01GC Column: Rxi-5SILMSID: 0.25 (mm)

COMPOUND	RRF	RRF5C	MIN RRF	%D	MAX %D
Naphthalene	1.058	1.105	0.700	4.5	20.0
2-Methylnaphthalene	0.740	0.822	0.400	11.1	20.0
Acenaphthylene	1.762	1.795	0.900	1.9	20.0
Acenaphthene	1.187	1.203	0.900	1.3	20.0
Fluorene	1.357	1.447	0.900	6.6	20.0
Phenanthrene	1.101	1.168	0.700	6.1	20.0
Anthracene	1.133	1.173	0.700	3.5	20.0
Fluoranthene	1.299	1.452	0.600	11.8	20.0
Pyrene	1.267	1.282	0.600	1.2	20.0
Benzo(a)anthracene	1.207	1.267	0.800	5.0	20.0
Chrysene	1.060	1.064	0.700	0.3	20.0
Benzo(b)fluoranthene	1.416	1.703	0.700	20.3	20.0
Benzo(k)fluoranthene	1.111	0.961	0.700	-13.5	20.0
Benzo(a)pyrene	1.199	1.272	0.700	6.1	20.0
Indeno(1,2,3-cd)pyrene	1.366	1.445	0.500	5.8	20.0
Dibenzo(a,h)anthracene	1.152	1.241	0.400	7.7	20.0
Benzo(g,h,i)perylene	1.133	1.157	0.500	2.1	20.0

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV- 1

OLM04.2

KEY-URS180 B186

APPENDIX B

**OXYGEN SYSTEM OPERATION & MAINTENANCE
MEASUREMENTS**

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	1/13/2014
Time:	15:10
Weather:	Cloudy
Outdoor Temperature:	~45° F
Inside Trailer Temperature:	~60° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	7,590.0	Compressor Tank *	120 (psi)
Feed Air Pressure *	115 (psi)	(readings below are made from control panel)	
Cycle Pressure *	70 (psi)	Delivery Air	115 (psi)
Oxygen Receiver Pressure *	95 (psi)	Element Outlet Temperature	174 (oF)
Oxygen Purity	98.4 (percent)	Running Hours	8,747 (hours)
		Loading Hours	5,531 (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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	40	21	OW-1-9D	88.5	50	28
OW-1-2	96.5	30	29	OW-1-6S	67.0	20	21	OW-1-10D	87.2	40	28
OW-1-3	96.3	20	30	OW-1-7S	66.9	25	18	OW-1-11D	86.1	40	31
OW-1-4	95.0	20	30	OW-1-8S	66.7	25	18	OW-1-12D	85.3	50	30
OW-1-5D	93.9	35	29	OW-1-9S	66.0	30	18	OW-1-13D	84.7	50	29
OW-1-6D	92.4	40	30	OW-1-10S	54.6	35	15	OW-1-14D	84.1	60	26
OW-1-7D	91.1	30	31	OW-1-11S	54.1	40	14	OW-1-15D	83.3	60	30
OW-1-8D	89.6	30	29	OW-1-12S	53.6	50	14	OW-1-16D	82.5	50	18

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/13/2014

O₂ 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	17	OW-1-17D	79.5	30	17	OW-1-21S	49.3	30	16
OW-1-14S	52.7	30	15	OW-1-18D	78.3	30	30	OW-1-22S	49.3	25	15
OW-1-15S	52.2	30	16	OW-1-19D	78.9	30	31	OW-1-23S	48.8	35	13
OW-1-16SR	51.8	30	16	OW-1-20D	79.5	30	26	OW-1-24S	48.4	35	13
OW-1-17S	50.7	30	15	OW-1-21D	79.5	30	27	OW-1-25S	48.8	40	13
OW-1-18S	50.2	40	15	OW-1-22D	79.5	30	28	OW-1-26SR	48.3	30	16
OW-1-19S	49.7	30	16	OW-1-23D	78.7	30	27	OW-1-27S	48.3	30	16
OW-1-20S	49.3	30	15	OW-1-24D	78.2	30	28	OW-1-28S	48.3	30	14

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

O₂ 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	40	30	OW-1-29S	48.5	30	13	OW-1-33D	83.2	30	31
OW-1-26D	78.1	30	28	OW-1-30S	48.8	30	13	OW-1-34D	84.5	30	31
OW-1-27D	77.9	30	28	OW-1-31S	49.3	30	12	OW-1-35D	85.0	35	29
OW-1-28D	78.0	30	30	OW-1-32S	49.3	30	15	OW-1-36D	85.0	30	30
OW-1-29D	78.4	30	31	OW-1-33S	49.7	30	14	OW-1-37D	84.0	30	30
OW-1-30D	79.0	30	37	OW-1-34S	50.1	40	13	OW-1-38D	82.0	30	35
OW-1-31D	80.5	40	25	OW-1-35S	50.3	45	14	OW-1-39D	78.0	40	29
OW-1-32D	81.6	30	28	OW-1-36S	50.3	45	14	OW-1-40D	76.0	40	30

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

Date: 1/13/2014

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	17	OW-1-41D	73.6	30	24	OW-1-43	67.4	25	20
OW-1-38S	50.6	30	16	OW-1-42D	71.0	30	23	OW-1-44	66.6	35	20
OW-1-39S	50.7	40	16	OW-1-45	65.7	30	20	OW-1-51R	60.6	30	20
OW-1-40S	51.1	40	15	OW-1-46	64.3	40	18	OW-1-52	59.3	30	19
OW-1-41S	51.5	35	16	OW-1-47	63.4	40	17	OW-1-53	60.0	30	17
OW-1-42S	51.3	50	16	OW-1-48	62.5	50	17	OW-1-54	60.0	30	16
				OW-1-49	61.5	45	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	27.99		0.2	MP-1-5	27.71	15.45	0.2	MP-1-1D	12.38	
MP-1-1S	28.04	14.12	0	MP-1-6	19.97	8.02	0	MP-1-2D	27.11	
MP-1-2D	22.25		0	MP-1-7	23.33	21.12	0.2	MP-1-3D	23.33	
MP-1-2S	22.52	12.77	0.2	MP-1-8	24.79	7.50	0.3	MP-1-4D	17.55	
MP-1-3D	20.44		0							
MP-1-3S	20.31	18.31	0							
MP-1-4D	23.25		0							
MP-1-4S	23.30	22.12	0.3							

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/13/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | |
|-----------------------|------------------|--------------------|
| 1) Prefilter changed | Yes <u> X </u> | No <u> </u> |
| 2) Coalescing changed | Yes <u> X </u> | No <u> </u> |

GENERAL SYSTEM NOTES

Trailer

- | | | | |
|----|---|------------------|--------------------|
| 1) | Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) | Yes <u> X </u> | No <u> </u> |
| 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:

On January 2, 2014, installed new compression fitting and flanges on compressor cooling oil canister. Added oil and adjusted oil levels. Cleared all alarms from system and ran compressor to make adjustments. Left system running. Total down time for this repair was 28 days.

Returned to site on January 13, 2014 to conduct routine O&M. System was off upon arrival with a compressor alarm. Found oil covering motors and controls. Wiped down all equipment and filled oil canister to run system. Found leak in oil cooling canister fitting. Removed fitting and reinstalled with additional sealant tape and liquid pipe sealant. Restarted system and left running. No additional leaks were observed during the balance of the day. Changed pre-filter, coalescing filter and all fresh air vent filters. Wiped down all equipment and cleaned up all garbage & leaves from around fence areas.

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:	1/24/2014
Time:	11:15
Weather:	Light Snow
Outdoor Temperature:	~9° F
Inside Trailer Temperature:	~30° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>7,738.2</u>	Compressor Tank *	<u>110</u> (psi)
Feed Air Pressure *	<u>110</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>70</u> (psi)	Delivery Air	<u>105</u> (psi)
Oxygen Receiver Pressure *	<u>105</u> (psi)	Element Outlet Temperature	<u>170</u> (oF)
Oxygen Purity	<u>98.5</u> (percent)	Running Hours	<u>8,898</u> (hours)
		Loading Hours	<u>5,628</u> (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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	25	20	OW-1-9D	88.5	30	28
OW-1-2	96.5	40	27	OW-1-6S	67.0	30	21	OW-1-10D	87.2	30	28
OW-1-3	96.3	30	29	OW-1-7S	66.9	35	17	OW-1-11D	86.1	30	30
OW-1-4	95.0	35	30	OW-1-8S	66.7	30	18	OW-1-12D	85.3	30	29
OW-1-5D	93.9	30	29	OW-1-9S	66.0	30	18	OW-1-13D	84.7	40	29
OW-1-6D	92.4	30	30	OW-1-10S	54.6	30	15	OW-1-14D	84.1	40	26
OW-1-7D	91.1	40	30	OW-1-11S	54.1	35	14	OW-1-15D	83.3	50	29
OW-1-8D	89.6	20	29	OW-1-12S	53.6	40	14	OW-1-16D	82.5	55	18

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/24/2014

O₂ Injection System #1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-13S	53.1	30	15	OW-1-17D	79.5	25	17	OW-1-21S	49.3	30	13
OW-1-14S	52.7	35	14	OW-1-18D	78.3	40	27	OW-1-22S	49.3	30	14
OW-1-15S	52.2	40	14	OW-1-19D	78.9	40	27	OW-1-23S	48.8	35	12
OW-1-16SR	51.8	45	17	OW-1-20D	79.5	35	28	OW-1-24S	48.4	30	11
OW-1-17S	50.7	50	18	OW-1-21D	79.5	40	26	OW-1-25S	48.8	30	12
OW-1-18S	50.2	20	13	OW-1-22D	79.5	30	25	OW-1-26SR	48.3	30	14
OW-1-19S	49.7	15	5	OW-1-23D	78.7	30	27	OW-1-27S	48.3	30	14
OW-1-20S	49.3	20	13	OW-1-24D	78.2	30	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.

O₂ Injection System #1

Injection Bank 7				Injection Bank 8				Injection Bank 9			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-25D	78.1	30	27	OW-1-29S	48.5	30	12	OW-1-33D	83.2	30	28
OW-1-26D	78.1	25	27	OW-1-30S	48.8	15	12	OW-1-34D	84.5	30	30
OW-1-27D	77.9	30	28	OW-1-31S	49.3	20	12	OW-1-35D	85.0	40	26
OW-1-28D	78.0	45	29	OW-1-32S	49.3	30	13	OW-1-36D	85.0	30	29
OW-1-29D	78.4	45	27	OW-1-33S	49.7	30	12	OW-1-37D	84.0	35	29
OW-1-30D	79.0	40	34	OW-1-34S	50.1	30	12	OW-1-38D	82.0	30	32
OW-1-31D	80.5	30	22	OW-1-35S	50.3	30	13	OW-1-39D	78.0	30	28
OW-1-32D	81.6	30	28	OW-1-36S	50.3	40	13	OW-1-40D	76.0	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.

Date: 1/24/2014

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	14	OW-1-41D	73.6	40	22	OW-1-43	67.4	30	18
OW-1-38S	50.6	30	14	OW-1-42D	71.0	45	20	OW-1-44	66.6	35	18
OW-1-39S	50.7	40	13	OW-1-45	65.7	50	19	OW-1-51R	60.6	40	17
OW-1-40S	51.1	30	13	OW-1-46	64.3	55	18	OW-1-52	59.3	30	18
OW-1-41S	51.5	30	14	OW-1-47	63.4	50	17	OW-1-53	60.0	30	15
OW-1-42S	51.3	30	15	OW-1-48	62.5	30	17	OW-1-54	60.0	35	14
				OW-1-49	61.5	30	17				
				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	28.06		0	MP-1-5	27.87	14.89	0.2	MP-1-1D	11.15		
MP-1-1S	28.12	19.12	0	MP-1-6	20.08	7.58	0	MP-1-2D	26.88		
MP-1-2D	22.31		0.1	MP-1-7	23.33	29.02	0.3	MP-1-3D	22.14		
MP-1-2S	22.57	18.87	0	MP-1-8	24.81	20.99	0.2	MP-1-4D	18.83		
MP-1-3D	20.55		0								
MP-1-3S	20.44	25.12	0								
MP-1-4D	23.12		0.1								
MP-1-4S	23.29	22.51	0.3								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/24/2014

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 No X

AS-80 O2 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 Temp fencing is setup near shed with steel stakes being driven in ground to hold in place.
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. Replaced o-ring in 2nd auto drain bowl as it was leaking air. Soaked up small amount of oil and water from separator unit for disposal. Found a problem with injection point 19S not holding pressure. The well is covered with snow and ice and is inaccessible to investigate and make repairs. Repairs will be made when the snow and ice has dissipated to a point to allow access. Installed plywood blanks over fresh air vents to try and keep heat inside shed as the shed was too cold upon arrival. Wiped down all equipment and cleaned up all garbage from around fence areas.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	<u>2/6/2014</u>
Time:	<u>13:10</u>
Weather:	<u>Cold & Snow</u>
Outdoor Temperature:	<u>~27° F</u>
Inside Trailer Temperature:	<u>~60° F</u>
Performed By:	<u>Mike Ryan</u>

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>7,916.2</u>	Compressor Tank *	<u>100</u> (psi)
Feed Air Pressure *	<u>100</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>70</u> (psi)	Delivery Air	<u>105</u> (psi)
Oxygen Receiver Pressure *	<u>95</u> (psi)	Element Outlet Temperature	<u>172</u> (oF)
Oxygen Purity	<u>98.5</u> (percent)	Running Hours	<u>9,094</u> (hours)
		Loading Hours	<u>5,755</u> (hours)
* maximum reading during loading cycle		* 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	40	27
OW-1-2	96.5	30	30	OW-1-6S	67.0	35	18	OW-1-10D	87.2	45	27
OW-1-3	96.3	40	30	OW-1-7S	66.9	35	17	OW-1-11D	86.1	40	29
OW-1-4	95.0	40	30	OW-1-8S	66.7	40	18	OW-1-12D	85.3	40	29
OW-1-5D	93.9	40	29	OW-1-9S	66.0	30	18	OW-1-13D	84.7	30	28
OW-1-6D	92.4	30	29	OW-1-10S	54.6	30	14	OW-1-14D	84.1	30	28
OW-1-7D	91.1	30	29	OW-1-11S	54.1	35	14	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	28	OW-1-12S	53.6	30	14	OW-1-16D	82.5	30	14

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/6/2014

O₂ Injection System #1

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

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

O₂ 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	26	OW-1-29S	48.5	40	12	OW-1-33D	83.2	30	29
OW-1-26D	78.1	40	27	OW-1-30S	48.8	45	13	OW-1-34D	84.5	30	30
OW-1-27D	77.9	30	28	OW-1-31S	49.3	30	13	OW-1-35D	85.0	35	27
OW-1-28D	78.0	30	27	OW-1-32S	49.3	30	12	OW-1-36D	85.0	35	28
OW-1-29D	78.4	30	25	OW-1-33S	49.7	30	13	OW-1-37D	84.0	40	28
OW-1-30D	79.0	40	37	OW-1-34S	50.1	30	12	OW-1-38D	82.0	30	37
OW-1-31D	80.5	30	26	OW-1-35S	50.3	30	13	OW-1-39D	78.0	35	27
OW-1-32D	81.6	30	28	OW-1-36S	50.3	30	13	OW-1-40D	76.0	30	27

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

Date: 2/6/2014

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	14	OW-1-41D	73.6	30	23	OW-1-43	67.4	30	19
OW-1-38S	50.6	30	15	OW-1-42D	71.0	30	22	OW-1-44	66.6	20	18
OW-1-39S	50.7	30	15	OW-1-45	65.7	35	18	OW-1-51R	60.6	25	17
OW-1-40S	51.1	40	14	OW-1-46	64.3	30	17	OW-1-52	59.3	35	17
OW-1-41S	51.5	40	14	OW-1-47	63.4	40	17	OW-1-53	60.0	30	17
OW-1-42S	51.3	35	16	OW-1-48	62.5	30	17	OW-1-54	60.0	30	16
				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	28.11		0.4	MP-1-5	27.92	30.22	0.3	MP-1-1D	29.93		
MP-1-1S	28.17	38.81	0.2	MP-1-6	20.08	19.18	0	MP-1-2D	38.39		
MP-1-2D	22.42		0	MP-1-7	23.32	17.81	0.4	MP-1-3D	36.66		
MP-1-2S	22.66	24.04	0.2	MP-1-8	24.80	14.77	0.5	MP-1-4D	41.97		
MP-1-3D	20.55		0								
MP-1-3S	20.43	32.15	0								
MP-1-4D	23.14		0								
MP-1-4S	23.28	30.65	0.2								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	<u>2/21/2014</u>
Time:	<u>12:40</u>
Weather:	<u>Cold</u>
Outdoor Temperature:	<u>~35° F</u>
Inside Trailer Temperature:	<u>~60° F</u>
Performed By:	<u>Mike Ryan</u>

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>8,099.1</u>	Compressor Tank *	<u>110</u> (psi)
Feed Air Pressure *	<u>105</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>70</u> (psi)	Delivery Air	<u>115</u> (psi)
Oxygen Receiver Pressure *	<u>110</u> (psi)	Element Outlet Temperature	<u>171</u> (oF)
Oxygen Purity	<u>98.0</u> (percent)	Running Hours	<u>9,296</u> (hours)
		Loading Hours	<u>5,883</u> (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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	25	30	OW-1-5S	67.3	30	17	OW-1-9D	88.5	30	27
OW-1-2	96.5	30	30	OW-1-6S	67.0	30	17	OW-1-10D	87.2	30	27
OW-1-3	96.3	35	30	OW-1-7S	66.9	30	17	OW-1-11D	86.1	30	29
OW-1-4	95.0	30	29	OW-1-8S	66.7	35	17	OW-1-12D	85.3	35	28
OW-1-5D	93.9	30	29	OW-1-9S	66.0	35	18	OW-1-13D	84.7	45	28
OW-1-6D	92.4	30	29	OW-1-10S	54.6	35	13	OW-1-14D	84.1	35	29
OW-1-7D	91.1	30	29	OW-1-11S	54.1	30	13	OW-1-15D	83.3	35	28
OW-1-8D	89.6	30	28	OW-1-12S	53.6	30	13	OW-1-16D	82.5	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 #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/21/2014

O₂ Injection System #1

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

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

O₂ 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	26	OW-1-29S	48.5	30	12	OW-1-33D	83.2	35	29
OW-1-26D	78.1	25	27	OW-1-30S	48.8	30	13	OW-1-34D	84.5	55	31
OW-1-27D	77.9	35	28	OW-1-31S	49.3	30	13	OW-1-35D	85.0	50	27
OW-1-28D	78.0	20	28	OW-1-32S	49.3	30	13	OW-1-36D	85.0	30	29
OW-1-29D	78.4	30	25	OW-1-33S	49.7	35	13	OW-1-37D	84.0	20	28
OW-1-30D	79.0	30	36	OW-1-34S	50.1	30	12	OW-1-38D	82.0	30	37
OW-1-31D	80.5	30	26	OW-1-35S	50.3	35	13	OW-1-39D	78.0	30	27
OW-1-32D	81.6	30	29	OW-1-36S	50.3	30	13	OW-1-40D	76.0	30	27

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

Date: 2/21/2014

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

O₂ 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	25	23	OW-1-43	67.4	30	19
OW-1-38S	50.6	40	15	OW-1-42D	71.0	35	22	OW-1-44	66.6	30	19
OW-1-39S	50.7	30	15	OW-1-45	65.7	35	18	OW-1-51R	60.6	30	18
OW-1-40S	51.1	30	15	OW-1-46	64.3	45	17	OW-1-52	59.3	30	17
OW-1-41S	51.5	40	14	OW-1-47	63.4	40	18	OW-1-53	60.0	30	17
OW-1-42S	51.3	30	16	OW-1-48	62.5	30	17	OW-1-54	60.0	30	16
				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.

O₂ 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	27.91		0.2	MP-1-5	27.71	26.55	0.2	MP-1-1D	27.74
MP-1-1S	27.97	36.14	0.1	MP-1-6	19.95	18.19	0	MP-1-2D	37.02
MP-1-2D	22.21		0	MP-1-7	23.05	17.94	0.3	MP-1-3D	-
MP-1-2S	22.43	22.33	0.2	MP-1-8	24.52	15.14	0.4	MP-1-4D	40.44
MP-1-3D	-		-						
MP-1-3S	-	-	-						
MP-1-4D	23.00		0						
MP-1-4S	22.91	31.12	0.2						

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/21/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|----------|----|-----------------|
| 1) Prefilter changed | Yes | <u>X</u> | No | <u> </u> |
| 2) Coalescing changed | Yes | <u>X</u> | No | <u> </u> |

GENERAL SYSTEM NOTES

Trailer

- | | | | | | |
|----|---|---|----------|----|-----------------|
| 1) | Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) | Yes | <u>X</u> | No | <u> </u> |
| 2) | Abnormal conditions observed (e.g. vandalism) | <u> </u> | | | |
| 3) | Other major activities completed | <u>Temp fencing is setup near shed with steel stakes being driven in ground to hold in place.</u> | | | |
| 4) | Supplies needed | <u> </u> | | | |
| 5) | Visitors | <u> </u> | | | |

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 the compressor. Adjust shed temp, belt tension and fresh air flow. 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. Monitoring points MP-1-3D and MP-1-3S were covered with a 7-foot high pile of snow & ice and were not accessible.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	<u>3/7/2014</u>
Time:	<u>13:15</u>
Weather:	<u>Clear</u>
Outdoor Temperature:	<u>~41° F</u>
Inside Trailer Temperature:	<u>~50° F</u>
Performed By:	<u>Mike Ryan</u>

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>8,267.4</u>	Compressor Tank *	<u>110</u> (psi)
Feed Air Pressure *	<u>100</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>70</u> (psi)	Delivery Air	<u>113</u> (psi)
Oxygen Receiver Pressure *	<u>115</u> (psi)	Element Outlet Temperature	<u>170</u> (oF)
Oxygen Purity	<u>98.8</u> (percent)	Running Hours	<u>9,482</u> (hours)
		Loading Hours	<u>6,001</u> (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O ₂ Injection System #1											
Injection Bank 1				Injection Bank 2				Injection Bank 3			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-1	95.5	30	29	OW-1-5S	67.3	25	17	OW-1-9D	88.5	35	27
OW-1-2	96.5	30	30	OW-1-6S	67.0	25	17	OW-1-10D	87.2	35	28
OW-1-3	96.3	35	31	OW-1-7S	66.9	30	17	OW-1-11D	86.1	30	29
OW-1-4	95.0	30	29	OW-1-8S	66.7	30	17	OW-1-12D	85.3	25	28
OW-1-5D	93.9	30	29	OW-1-9S	66.0	20	18	OW-1-13D	84.7	25	28
OW-1-6D	92.4	30	28	OW-1-10S	54.6	30	13	OW-1-14D	84.1	35	28
OW-1-7D	91.1	30	29	OW-1-11S	54.1	30	13	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	28	OW-1-12S	53.6	30	13	OW-1-16D	82.5	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 #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/7/2014

O₂ Injection System #1

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

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

O₂ Injection System #1

Injection Bank 7				Injection Bank 8				Injection Bank 9			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-25D	78.1	35	26	OW-1-29S	48.5	30	12	OW-1-33D	83.2	30	28
OW-1-26D	78.1	30	26	OW-1-30S	48.8	30	13	OW-1-34D	84.5	30	30
OW-1-27D	77.9	30	28	OW-1-31S	49.3	45	13	OW-1-35D	85.0	30	27
OW-1-28D	78.0	25	28	OW-1-32S	49.3	40	13	OW-1-36D	85.0	40	29
OW-1-29D	78.4	30	25	OW-1-33S	49.7	30	13	OW-1-37D	84.0	30	28
OW-1-30D	79.0	30	35	OW-1-34S	50.1	30	13	OW-1-38D	82.0	35	37
OW-1-31D	80.5	20	26	OW-1-35S	50.3	25	13	OW-1-39D	78.0	30	26
OW-1-32D	81.6	30	28	OW-1-36S	50.3	25	13	OW-1-40D	76.0	30	27

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

Date: 3/7/2014

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	16	OW-1-41D	73.6	25	22	OW-1-43	67.4	30	18
OW-1-38S	50.6	30	15	OW-1-42D	71.0	30	22	OW-1-44	66.6	35	19
OW-1-39S	50.7	30	15	OW-1-45	65.7	30	18	OW-1-51R	60.6	30	18
OW-1-40S	51.1	35	15	OW-1-46	64.3	30	17	OW-1-52	59.3	30	16
OW-1-41S	51.5	30	14	OW-1-47	63.4	35	18	OW-1-53	60.0	30	17
OW-1-42S	51.3	30	15	OW-1-48	62.5	30	17	OW-1-54	60.0	35	17
				OW-1-49	61.5	30	17				
				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	27.65		0	MP-1-5	27.46	32.44	0.1	MP-1-1D	33.21	
MP-1-1S	27.70	32.27	0	MP-1-6	19.66	12.42	0	MP-1-2D	38.12	
MP-1-2D	21.98		0	MP-1-7	22.92	31.53	0.1	MP-1-3D	-	
MP-1-2S	22.20	28.44	0.1	MP-1-8	24.44	13.18	0.2	MP-1-4D	27.61	
MP-1-3D	-		-							
MP-1-3S	-		-							
MP-1-4D	22.85		0							
MP-1-4S	22.90	44.62	0.3							

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/7/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | |
|-----------------------|------------------|------------------|
| 1) Prefilter changed | Yes <u> X </u> | No <u> </u> |
| 2) Coalescing changed | Yes <u> X </u> | No <u> </u> |

GENERAL SYSTEM NOTES

Trailer

- | | | | |
|----|--|------------------|------------------|
| 1) | Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) | Yes <u> X </u> | No <u> </u> |
| 2) | Abnormal conditions observed (e.g. vandalism) <u> </u> | | |
| 3) | Other major activities completed <u>Temp fencing is setup near shed with steel stakes being driven in ground to hold in place.</u> | | |
| 4) | Supplies needed <u> </u> | | |
| 5) | Visitors <u> </u> | | |

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

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. Monitoring points MP-1-3D and MP-1-3S were covered with a pile of snow & ice and were not accessible.

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 101 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:	<u>3/22/2014</u>
Time:	<u>12:45</u>
Weather:	<u>Sunny</u>
Outdoor Temperature:	<u>~50° F</u>
Inside Trailer Temperature:	<u>~65° F</u>
Performed By:	<u>Mike Ryan</u>

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>8,435.1</u>	Compressor Tank *	<u>100</u> (psi)
Feed Air Pressure *	<u>100</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>70</u> (psi)	Delivery Air	<u>103</u> (psi)
Oxygen Receiver Pressure *	<u>110</u> (psi)	Element Outlet Temperature	<u>117</u> (oF)
Oxygen Purity	<u>98.5</u> (percent)	Running Hours	<u>9,669</u> (hours)
		Loading Hours	<u>6,117</u> (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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	30	OW-1-5S	67.3	25	17	OW-1-9D	88.5	30	28
OW-1-2	96.5	30	30	OW-1-6S	67.0	30	18	OW-1-10D	87.2	25	27
OW-1-3	96.3	40	31	OW-1-7S	66.9	35	18	OW-1-11D	86.1	20	29
OW-1-4	95.0	40	30	OW-1-8S	66.7	35	17	OW-1-12D	85.3	20	28
OW-1-5D	93.9	30	29	OW-1-9S	66.0	40	18	OW-1-13D	84.7	20	28
OW-1-6D	92.4	30	28	OW-1-10S	54.6	40	13	OW-1-14D	84.1	30	28
OW-1-7D	91.1	30	29	OW-1-11S	54.1	30	13	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	28	OW-1-12S	53.6	30	13	OW-1-16D	82.5	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 #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/22/2014

O₂ Injection System #1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-13S	53.1	30	13	OW-1-17D	79.5	30	14	OW-1-21S	49.3	30	13
OW-1-14S	52.7	30	14	OW-1-18D	78.3	35	24	OW-1-22S	49.3	30	12
OW-1-15S	52.2	30	15	OW-1-19D	78.9	30	21	OW-1-23S	48.8	30	12
OW-1-16SR	51.8	35	24	OW-1-20D	79.5	35	28	OW-1-24S	48.4	30	12
OW-1-17S	50.7	35	23	OW-1-21D	79.5	45	29	OW-1-25S	48.8	30	14
OW-1-18S	50.2	40	12	OW-1-22D	79.5	40	26	OW-1-26SR	48.3	30	14
OW-1-19S	49.7	30	4	OW-1-23D	78.7	50	24	OW-1-27S	48.3	30	15
OW-1-20S	49.3	30	12	OW-1-24D	78.2	40	28	OW-1-28S	48.3	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 #5 were set at 3 minutes.

O₂ 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	45	26	OW-1-29S	48.5	30	13	OW-1-33D	83.2	30	28
OW-1-26D	78.1	55	26	OW-1-30S	48.8	40	13	OW-1-34D	84.5	30	30
OW-1-27D	77.9	55	28	OW-1-31S	49.3	35	13	OW-1-35D	85.0	30	26
OW-1-28D	78.0	40	29	OW-1-32S	49.3	35	13	OW-1-36D	85.0	30	29
OW-1-29D	78.4	50	25	OW-1-33S	49.7	30	13	OW-1-37D	84.0	30	28
OW-1-30D	79.0	30	35	OW-1-34S	50.1	30	13	OW-1-38D	82.0	35	38
OW-1-31D	80.5	30	26	OW-1-35S	50.3	30	13	OW-1-39D	78.0	35	25
OW-1-32D	81.6	30	28	OW-1-36S	50.3	40	13	OW-1-40D	76.0	30	25

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

Date: 3/22/2014

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	16	OW-1-41D	73.6	45	23	OW-1-43	67.4	30	18
OW-1-38S	50.6	30	16	OW-1-42D	71.0	40	22	OW-1-44	66.6	30	19
OW-1-39S	50.7	35	15	OW-1-45	65.7	30	18	OW-1-51R	60.6	35	18
OW-1-40S	51.1	30	15	OW-1-46	64.3	30	18	OW-1-52	59.3	30	15
OW-1-41S	51.5	30	14	OW-1-47	63.4	30	18	OW-1-53	60.0	30	17
OW-1-42S	51.3	30	15	OW-1-48	62.5	35	17	OW-1-54	60.0	35	16
				OW-1-49	61.5	30	17				
				OW-1-50	61.0	35	18				

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

O ₂ Injection System #1											
Monitoring Points Log				Monitoring Points Log				Monitoring Points Log			
ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DO (mg/L) Middle		
MP-1-1D	27.51		0	MP-1-5	27.31	38.21	0	MP-1-1D	36.69		
MP-1-1S	27.58	34.74	0	MP-1-6	20.53	14.21	0	MP-1-2D	41.14		
MP-1-2D	21.16		0	MP-1-7	22.82	51.01	0	MP-1-3D	30.33		
MP-1-2S	22.08	28.92	0	MP-1-8	24.33	14.82	0	MP-1-4D	33.12		
MP-1-3D	20.02		0								
MP-1-3S	19.85	15.11	0								
MP-1-4D	22.76		0								
MP-1-4S	22.87	50.12	0								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/22/2014

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 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 O₂ 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 Temp fencing is setup near shed with steel stakes being driven in ground to hold in place.
- 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 the compressor. Repaired leak in bowls of water trap. 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.

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 101 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	1/9/2014
Time:	11:40
Weather:	Sunny
Outdoor Temperature:	~45° F
Inside Trailer Temperature:	~60° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	21,037	Compressor Tank *	80 (psi)
Feed Air Pressure *	90 (psi)	(readings below are made from control panel)	
Cycle Pressure *	60 (psi)	Delivery Air	82 (psi)
Oxygen Receiver Pressure *	110 (psi)	Element Outlet Temperature	169 (°F)
Oxygen Purity	98 (percent)	Running Hours	21,340 (hours)
		Loading Hours	20,809 (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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	29	OW-2-9S	75'	30	19	OW-2-10D	97.2'	30	29
OW-2-3	94.3'	30	25	OW-2-10S	75'	30	30	OW-2-11D	100.8'	40	30
OW-2-4	94.7'	30	30	OW-2-11S	76.5'	30	22	OW-2-12	94'	40	20
OW-2-5	95.3'	35	29	OW-2-13S	75'	20	20	OW-2-13D	97'	30	36
OW-2-6	95.7'	30	29	OW-2-15S	75'	25	21	OW-2-14	96.4'	40	27
OW-2-7	96'	30	30	OW-2-16S	75.5'	20	20	OW-2-15D	94.6'	35	29
OW-2-8	96.3'	40	30	OW-2-18S	74.5'	30	20	OW-2-16D	94.1'	30	28
OW-2-9D	96.7'	35	30	OW-2-20S	79'	30	22	OW-2-17	95'	30	30

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/9/2014

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'	40	28	OW-2-22S	76'	20	20	OW-2-26D	95'	35	31
OW-2-19	96.1'	50	29	OW-2-24S	77.8'	30	26	OW-2-27	93.5'	30	28
OW-2-20D	96.6'	55	31	OW-2-26S	74'	30	19	OW-2-28D	92.1'	30	26
OW-2-21	96.6'	40	30	OW-2-28S	76'	30	19	OW-2-29	92.2'	30	28
OW-2-22D	96.3'	35	26	OW-2-30S	67.8'	40	26	OW-2-30D	88'	30	25
OW-2-23	97.2'	30	27	OW-2-34	71'	45	18	OW-2-31	86'	30	27
OW-2-24D	97'	35	27	OW-2-35	69.2'	350	20	OW-2-32	84'	30	35
OW-2-25	96'	30	30	OW-2-36	64.8'	30	20	OW-2-33	82'	30	30

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

O ₂ Injection System #2											
Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	30	20	OW-2-45	61.1'	25	20	MP-2-1	31.05	24.85	0
OW-2-38	62.1'	30	20	OW-2-46	61'	30	19	MP-2-2	32.44	45.32	0.1
OW-2-39	60'	30	18	OW-2-47	60.5'	25	20	MP-2-3S	32.27	51.20	0.3
OW-2-40	61.7'	30	18					MP-2-3D	32.40	49.11	0.1
OW-2-41	61.7'	30	18					MP-2-4	20.95	12.45	0.1
OW-2-42	61.6'	30	19					MP-2-5	19.12	28.93	0.2
OW-2-43	61.4'	30	22								
OW-2-44R	60.6'	30	21								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/9/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|-----------------|----|----------|
| 1) Prefilter changed | Yes | <u> </u> | No | <u>X</u> |
| 2) Coalescing changed | Yes | <u> </u> | No | <u>X</u> |

GENERAL SYSTEM NOTES

Trailer

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

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

Took apart auto drain that was stuck open and cleaned and adjusted float. Added small amount of oil to compressor. Adjusted pressure switch on oxygen tank that was shutting booster pump off too early. Soaked up small amount of oil and water from separator unit for disposal. Wiped down all equipment and cleaned up all garbage and leaves from around fence areas.

The threads on the bolt holes of monitoring points MP-2-1, MP-2-3D and MP-2-3S manholes can no longer be serviced and need to be replaced.

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:	<u>1/23/2014</u>
Time:	<u>10:45</u>
Weather:	<u>Sunny</u>
Outdoor Temperature:	<u>~32° F</u>
Inside Trailer Temperature:	<u>~55° F</u>
Performed By:	<u>Mike Ryan</u>

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	<u>21,233</u>	Compressor Tank *	<u>120</u> (psi)
Feed Air Pressure *	<u>105</u> (psi)	(readings below are made from control panel)	
Cycle Pressure *	<u>60</u> (psi)	Delivery Air	<u>89</u> (psi)
Oxygen Receiver Pressure *	<u>100</u> (psi)	Element Outlet Temperature	<u>172</u> (°F)
Oxygen Purity	<u>97.9</u> (percent)	Running Hours	<u>21,545</u> (hours)
* maximum reading during loading cycle		Loading Hours	<u>21,007</u> (hours)
		* maximum reading during loading cycle	

O₂ 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	32	OW-2-9S	75'	30	20	OW-2-10D	97.2'	30	27
OW-2-3	94.3'	40	18	OW-2-10S	75'	30	30	OW-2-11D	100.8'	30	31
OW-2-4	94.7'	45	33	OW-2-11S	76.5'	30	20	OW-2-12	94'	40	18
OW-2-5	95.3'	40	29	OW-2-13S	75'	30	19	OW-2-13D	97'	30	30
OW-2-6	95.7'	30	29	OW-2-15S	75'	30	17	OW-2-14	96.4'	35	28
OW-2-7	96'	30	28	OW-2-16S	75.5'	30	18	OW-2-15D	94.6'	40	29
OW-2-8	96.3'	30	28	OW-2-18S	74.5'	30	18	OW-2-16D	94.1'	40	27
OW-2-9D	96.7'	30	29	OW-2-20S	79'	30	22	OW-2-17	95'	40	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: 1/23/2014

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

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

O ₂ Injection System #2											
Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	35	19	OW-2-45	61.1'	30	19	MP-2-1	30.98	25.66	0
OW-2-38	62.1'	35	18	OW-2-46	61'	30	20	MP-2-2	32.37	47.58	0.2
OW-2-39	60'	30	17	OW-2-47	60.5'	30	20	MP-2-3S	32.18	50.11	0.2
OW-2-40	61.7'	30	19					MP-2-3D	32.34	47.79	0
OW-2-41	61.7'	30	19					MP-2-4	20.85	11.22	0
OW-2-42	61.6'	40	19					MP-2-5	19.08	24.85	0.1
OW-2-43	61.4'	35	19								
OW-2-44R	60.6'	30	19								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/23/2014

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 cleaned Yes _____ No X
- 8) Terminal strips checked Yes X No _____

AS-80 O₂ 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:

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.

The threads on the bolt holes of monitoring points MP-2-1, MP-2-3D and MP-2-3S manholes can no longer be serviced and need to be replaced.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	2/7/2014
Time:	10:45
Weather:	Sunny
Outdoor Temperature:	~30° F
Inside Trailer Temperature:	~64° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	21,460	Compressor Tank *	85 (psi)
Feed Air Pressure *	80 (psi)	(readings below are made from control panel)	
	60	Delivery Air	95 (psi)
Cycle Pressure *	90 (psi)	Element Outlet Temperature	172 (°F)
Oxygen Receiver Pressure *	100 (psi)	Running Hours	21,789 (hours)
		Loading Hours	21,238 (hours)
Oxygen Purity	99.2 (percent)		
* maximum reading during loading cycle		* maximum reading during loading cycle	

O₂ 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'	30	20	OW-2-10D	97.2'	30	26
OW-2-3	94.3'	30	30	OW-2-10S	75'	40	29	OW-2-11D	100.8'	30	30
OW-2-4	94.7'	30	32	OW-2-11S	76.5'	45	20	OW-2-12	94'	20	18
OW-2-5	95.3'	40	29	OW-2-13S	75'	45	18	OW-2-13D	97'	25	34
OW-2-6	95.7'	30	29	OW-2-15S	75'	30	18	OW-2-14	96.4'	35	28
OW-2-7	96'	30	28	OW-2-16S	75.5'	35	18	OW-2-15D	94.6'	30	30
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	35	18	OW-2-16D	94.1'	30	29
OW-2-9D	96.7'	35	29	OW-2-20S	79'	35	22	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: 2/7/2014

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

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

O ₂ Injection System #2											
Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	30	20	OW-2-45	61.1'	35	21	MP-2-1	31.07	27.23	0
OW-2-38	62.1'	20	19	OW-2-46	61'	35	20	MP-2-2	32.46	50.41	0.2
OW-2-39	60'	30	17	OW-2-47	60.5'	40	20	MP-2-3S	32.28	51.12	0.2
OW-2-40	61.7'	35	20					MP-2-3D	32.41	47.29	0.2
OW-2-41	61.7'	30	18					MP-2-4	20.82	14.88	0.1
OW-2-42	61.6'	30	19					MP-2-5	19.09	21.12	0.3
OW-2-43	61.4'	30	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: 2/7/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|-----------------|----|----------|
| 1) Prefilter changed | Yes | <u> </u> | No | <u>X</u> |
| 2) Coalescing changed | Yes | <u> </u> | No | <u>X</u> |

GENERAL SYSTEM NOTES

Trailer

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

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

On Thursday, February 6, 2014 at 1024 PM the system went into alarm for a low pressure condition in the oxygen tank. Found and repaired a bad valve on the low pressure tank not holding causing the system to drain. Added small amount of oil to the compressor. 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.

The threads on the bolt holes of monitoring points MP-2-1, MP-2-3D and MP-2-3S manholes can no longer be serviced and need to be replaced.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	2/20/2014
Time:	11:39
Weather:	Sunny
Outdoor Temperature:	~40° F
Inside Trailer Temperature:	~65° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	21,771	Compressor Tank *	85 (psi)
Feed Air Pressure *	80 (psi)	(readings below are made from control panel)	
Cycle Pressure *	60 (psi)	Delivery Air	95 (psi)
Oxygen Receiver Pressure *	100 (psi)	Element Outlet Temperature	172 (°F)
Oxygen Purity	85.8 (percent)	Running Hours	22,100 (hours)
		Loading Hours	21,549 (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O ₂ Injection System #2											
Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	35	30	OW-2-9S	75'	25	20	OW-2-10D	97.2'	30	25
OW-2-3	94.3'	30	30	OW-2-10S	75'	30	28	OW-2-11D	100.8'	40	30
OW-2-4	94.7'	30	32	OW-2-11S	76.5'	35	20	OW-2-12	94'	40	19
OW-2-5	95.3'	35	30	OW-2-13S	75'	30	18	OW-2-13D	97'	30	34
OW-2-6	95.7'	30	29	OW-2-15S	75'	30	19	OW-2-14	96.4'	30	29
OW-2-7	96'	30	28	OW-2-16S	75.5'	30	18	OW-2-15D	94.6'	30	30
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	35	18	OW-2-16D	94.1'	30	29
OW-2-9D	96.7'	30	29	OW-2-20S	79'	30	22	OW-2-17	95'	35	28

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/20/2014

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

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

O ₂ Injection System #2											
Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	30	19	OW-2-45	61.1'	30	21	MP-2-1	30.98	25.15	0
OW-2-38	62.1'	30	19	OW-2-46	61'	30	20	MP-2-2	32.34	49.14	0.1
OW-2-39	60'	35	18	OW-2-47	60.5'	30	20	MP-2-3S	32.17	51.33	0.2
OW-2-40	61.7'	30	21					MP-2-3D	2.25	46.16	0.1
OW-2-41	61.7'	35	18					MP-2-4	20.98	15.00	0.1
OW-2-42	61.6'	40	19					MP-2-5	19.15	23.21	0.2
OW-2-43	61.4'	30	20								
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: 2/20/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|-------|----|----------|
| 1) Prefilter changed | Yes | _____ | No | <u>X</u> |
| 2) Coalescing changed | Yes | _____ | No | <u>X</u> |

GENERAL SYSTEM NOTES

Trailer

- | | | | | |
|--|-------|----------|----|-------|
| 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) | Yes | <u>X</u> | 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 and repaired a bad solenoid valve on the air separator unit. 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.

The threads on the bolt holes of monitoring points MP-2-1, MP-2-3D and MP-2-3S manholes can no longer be serviced and need to be replaced.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 99 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	3/6/2014
Time:	12:35
Weather:	Sunny
Outdoor Temperature:	~40° F
Inside Trailer Temperature:	~60° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	21,908	Compressor Tank *	120 (psi)
Feed Air Pressure *	100 (psi)	(readings below are made from control panel)	
Cycle Pressure *	60 (psi)	Delivery Air	116 (psi)
Oxygen Receiver Pressure *	105 (psi)	Element Outlet Temperature	147 (°F)
Oxygen Purity	97.9 (percent)	Running Hours	22,251 (hours)
		Loading Hours	21,679 (hours)
* maximum reading during loading cycle		* 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	29	OW-2-9S	75'	25	20	OW-2-10D	97.2'	30	27
OW-2-3	94.3'	30	30	OW-2-10S	75'	35	29	OW-2-11D	100.8'	30	31
OW-2-4	94.7'	30	31	OW-2-11S	76.5'	30	20	OW-2-12	94'	30	19
OW-2-5	95.3'	35	30	OW-2-13S	75'	30	18	OW-2-13D	97'	30	32
OW-2-6	95.7'	35	29	OW-2-15S	75'	35	19	OW-2-14	96.4'	40	28
OW-2-7	96'	30	28	OW-2-16S	75.5'	30	19	OW-2-15D	94.6'	30	29
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	30	18	OW-2-16D	94.1'	30	27
OW-2-9D	96.7'	30	29	OW-2-20S	79'	30	22	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: 3/6/2014

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

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

O ₂ Injection System #2											
Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	35	19	OW-2-45	61.1'	30	19	MP-2-1	30.65	27.77	0
OW-2-38	62.1'	40	19	OW-2-46	61'	30	18	MP-2-2	32.01	45.14	0
OW-2-39	60'	30	18	OW-2-47	60.5'	30	18	MP-2-3S	31.85	48.11	0.1
OW-2-40	61.7'	35	20					MP-2-3D	31.97	45.55	0
OW-2-41	61.7'	30	19					MP-2-4	20.53	12.01	0
OW-2-42	61.6'	30	19					MP-2-5	19.38	22.44	0.2
OW-2-43	61.4'	30	20								
OW-2-44R	60.6'	30	21								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/6/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|-----------------|----|----------|
| 1) Prefilter changed | Yes | <u> </u> | No | <u>X</u> |
| 2) Coalescing changed | Yes | <u> </u> | No | <u>X</u> |

GENERAL SYSTEM NOTES

Trailer

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

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 booster pump leaking at seals when the pump is not running. The tip seals need to be replaced and will be done on Monday, March 17, 2014. Added small amount of oil to the compressor. 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.

The threads on the bolt holes of all of the monitoring point manholes can no longer be serviced and need to be replaced.

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 101 ppm.

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

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	3/19/2014
Time:	12:25
Weather:	Clear
Outdoor Temperature:	~40° F
Inside Trailer Temperature:	~60° F
Performed By:	Mike Ryan

O ₂ Generator (AirSep)		Compressor (Kaesar Rotary Screw)	
Hours	22,025	Compressor Tank *	120 (psi)
Feed Air Pressure *	100 (psi)	(readings below are made from control panel)	
Cycle Pressure *	60 (psi)	Delivery Air	115 (psi)
Oxygen Receiver Pressure *	120 (psi)	Element Outlet Temperature	133 (°F)
Oxygen Purity	98 (percent)	Running Hours	22,378 (hours)
		Loading Hours	21,788 (hours)
* maximum reading during loading cycle		* maximum reading during loading cycle	

O ₂ Injection System #2											
Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	30	30	OW-2-9S	75'	30	21	OW-2-10D	97.2'	40	27
OW-2-3	94.3'	35	30	OW-2-10S	75'	30	20	OW-2-11D	100.8'	30	32
OW-2-4	94.7'	35	31	OW-2-11S	76.5'	30	20	OW-2-12	94'	30	19
OW-2-5	95.3'	35	30	OW-2-13S	75'	30	18	OW-2-13D	97'	35	34
OW-2-6	95.7'	40	29	OW-2-15S	75'	30	19	OW-2-14	96.4'	30	28
OW-2-7	96'	30	29	OW-2-16S	75.5'	35	19	OW-2-15D	94.6'	30	29
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	45	19	OW-2-16D	94.1'	30	27
OW-2-9D	96.7'	30	30	OW-2-20S	79'	30	22	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: 3/19/2014

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'	25	29	OW-2-22S	76'	40	19	OW-2-26D	95'	30	31
OW-2-19	96.1'	30	30	OW-2-24S	77.8'	40	28	OW-2-27	93.5'	40	30
OW-2-20D	96.6'	35	30	OW-2-26S	74'	30	19	OW-2-28D	92.1'	45	28
OW-2-21	96.6'	35	26	OW-2-28S	76'	30	21	OW-2-29	92.2'	40	27
OW-2-22D	96.3'	45	26	OW-2-30S	67.8'	30	27	OW-2-30D	88'	45	25
OW-2-23	97.2'	40	31	OW-2-34	71'	30	18	OW-2-31	86'	35	28
OW-2-24D	97'	30	29	OW-2-35	69.2'	30	21	OW-2-32	84'	30	35
OW-2-25	96'	35	29	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'	20	19	OW-2-45	61.1'	30	19	MP-2-1	30.55	29.91	0
OW-2-38	62.1'	15	20	OW-2-46	61'	30	18	MP-2-2	31.94	39.75	0
OW-2-39	60'	30	18	OW-2-47	60.5'	30	18	MP-2-3S	31.81	29.14	0
OW-2-40	61.7'	30	21					MP-2-3D	31.93	39.95	0
OW-2-41	61.7'	30	19					MP-2-4	20.51	24.54	0
OW-2-42	61.6'	30	19					MP-2-5	18.75	20.11	0
OW-2-43	61.4'	35	20								
OW-2-44R	60.6'	30	21								

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

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/19/2014

OPERATIONAL NOTES

GA5 Air Compressor

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

AS-80 O₂ Generator

- | | | | | |
|-----------------------|-----|-------|----|----------|
| 1) Prefilter changed | Yes | _____ | No | <u>X</u> |
| 2) Coalescing changed | Yes | _____ | No | <u>X</u> |

GENERAL SYSTEM NOTES

Trailer

- | | | | | |
|--|-------|----------|----|-------|
| 1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.) | Yes | <u>X</u> | 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:

Replaced booster pump tip seals on March 18, 2014.

Found booster pump working well with no leaks. Added small amount of oil to the compressor. Repaired small leak in 1/2-inch main feed line to Bank #4. Soaked up small amount of oil and water from separator unit for disposal. Repaired roof shingles that were damaged due to high winds. Wiped down all equipment and cleaned up all garbage from around fence areas.

The threads on the bolt holes of all of the monitoring point manholes can no longer be serviced and need to be replaced.

DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 101 ppm.

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

Action Items:

APPENDIX C

**BORING LOGS AND WELL CONSTRUCTION DIAGRAMS
FOR ADDITIONAL MONITORING WELLS**

PROJECT/PROJECT LOCATION: Intersection St. Former MGP Site, Hempstead, NY						BORING NO. : HIMW-26D	
CLIENT: National Grid						SHEET: 1 OF 5	
BORING CONTRACTOR: Aquifer Drilling and Testing						JOB NO. : 11176098	
GROUNDWATER: 25' bgs						BORING LOCATION: South side of Medical Place	
CAS.						GROUND ELEVATION:	
SAMPLER						DATE STARTED: 3/25/14	
CORE						DATE FINISHED: 3/26/14	
TUBE						DRILLER: David Moon	
DATE						GEOLOGIST: Megan Dascoli	
TIME						REVIEWED BY: K. McGovern	
LEVEL							
TYPE							
TYPE							
DIA.							
WT.							
FALL							
* POCKET PENETROMETER READING							

DEPTH FEET	STRATA	SAMPLE		REC%	COLOR	SOIL	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD%		CONSISTENCY					ROCK HARDNESS

0							Boring hand cleared to 5' bgs, advanced to 20' without sampling.				
-5							Boring located in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave.				
-10							Boring completed as 2" PVC well with screen from 115' to 135' and sump from 135' to 137'.				
-15							Adjacent boring completed as 2" PVC well HIMW-26I with screen from 65' to 85' and sump from 85' to 87'.				
-20							Began Sampling @ 20' bgs.				
		1		41.6	Med. Orange		Fine SAND, trace fine gravel and silt, no odor	SP		0.5	
										6.1	
										14.5	
					Lt. Brown		Fine to coarse SAND, trace silt and fine gravel.	SW		92.1	
					Tan			SP		185.1	
-25		2		53.3			Very fine to fine SAND, some silt, trace coarse sand and fine gravel	SW		0.2	
							Very fine to coarse SAND, trace fine			0.2	Wet

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 2 OF 5

CLIENT: National Grid

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
							gravel and silt, no odor				0.1
					Lt. Brown		Very fine to fine SAND, trace silt and coarse gravel, no odor	SP			0.1
-30		3		53.3			very fine sand, few silt				0.1
											0.1
											0.0
											0.0
					Tan		very fine sand, few silt				0.1
-35		4		50							0.1
							Coarse SAND and fine to coarse GRAVEL, few fine to medium sand.	SW/GW			0.0
-40		5		58.3			Medium to coarse SAND and fine to coarse GRAVEL				0.0
					Lt. Brown		Coarse SAND, few fine to medium sand and trace fine gravel.	GP			
							Very fine to fine SAND, trace coarse sand and fine gravel	SP			0.0
-45		6		35							
											0.0
											0.0
											0.1
							Very fine SAND, trace silt and fine gravel				0.2
											0.4
-55		8		55			Very fine SAND, trace silt				0.0
					Med. Orange		Coarse SAND and fine GRAVEL	SW/GW			

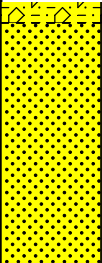
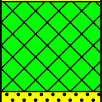
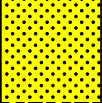
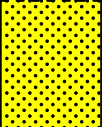
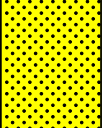
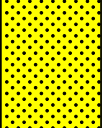
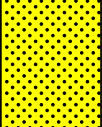
COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 3 OF 5

CLIENT: National Grid

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
-60		9		55	Tan		Very fine to fine SAND, trace silt.	SP			0.0
						Lt. Orange					
-65		10		71.6			CLAY, dense, plastic at 67.5'	CL			0.0
						Lt. Grayish White					
-70		11		20	Med. to Lt. Gray		Very fine SAND, some silt.	SP			0.0
						Med. Orange		Very fine SAND, trace to some silt			
-75		12		55							0.0
-80		13		60							0.0
-85		14		58.3	Tan		red, gray, and light brown seams 84.5' to 85'				0.0
						Orange/Black		SILT, trace clay seams	ML		
-90		15		61.6	Tan		Very fine SAND and SILT, trace clay	SM/MH			
										Very fine SAND, trace silt and clay.	SP

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 4 OF 5

CLIENT: National Grid

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
-95		16		60	Lt. Gray to Lt. Orange					0.0	
100		17		58.3	Tan	Very fine SAND			0.0		
						Lt. Gray to Orange	CLAY seems interbedded with SILT	CL/ML			
105		18		66.6	Tan w/ Orange Swirls	Very fine SAND, trace silt	SP				
110		19		70					0.0		
115		20		60	Tan to Lt. Brown				0.0		
									0.0		
									0.0		
									0.0		
									1.4		
									0.2		
									0.3		
120	21		76		Lt. Gray + Dk. Orange + Dk. Brown	Interbedded CLAY and SILT	CL/ML		0.2		
								0.5			
								1.1			
								1.1			
								1.1			
								1.1			
								1.7			

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.

BORING NO. : HIMW-26D

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 5 OF 5

CLIENT: National Grid

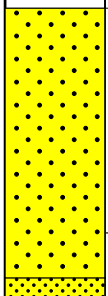

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
125	Green patterned	22		75							4.6
											3.4
	Yellow dotted	23		55	Med. Orange		Very fine SAND, trace silt.	SP			3.4
											1.6
											1.4
											0.5
130											0.0
											0.0
											0.0
											0.0
											0.0
135							Advanced boring to 137' without sampling.				
							End of boring @ 137' bgs				
140											
145											
150											

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.

PROJECT/PROJECT LOCATION: Intersection St. Former MGP Site, Hempstead, NY						BORING NO. : HIMW-271	
CLIENT: National Grid						SHEET: 1 OF 3	
BORING CONTRACTOR: Aquifer Drilling and Testing						JOB NO. : 11176098	
GROUNDWATER: 25' bgs						BORING LOCATION: West side of Sealy Ave.	
CAS.						GROUND ELEVATION:	
SAMPLER						DATE STARTED: 3/21/14	
CORE						DATE FINISHED: 3/21/14	
TUBE						DRILLER: David Moon	
DATE						GEOLOGIST: Megan Dascoli	
TIME						REVIEWED BY: K. McGovern	
LEVEL							
TYPE							
TYPE							
DIA.							
WT.							
FALL							
* POCKET PENETROMETER READING							

DEPTH FEET	STRATA	SAMPLE		REC%	COLOR	SOIL	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD%		CONSISTENCY					ROCK HARDNESS

0							Boring hand cleared to 5' bgs, advanced to 20' without sampling.				
-5							Boring located on west side of Sealy Ave. near Intersection St. Boring completed as 2" PVC well with screen from 50' to 70' and sump from 70' to 72'.				
-10							Adjacent well HIMW-27S advanced to 42' without sampling. Boring completed as 2" PVC well with screen from 20' to 40' and sump from 40' to 42'.				
-15							Began Sampling @ 20' bgs.				
-20		1		43.3	Tan		Fine to coarse SAND, some fine gravel, petroleum-like odor, gray staining	SW		139	Moist
-25		2		43.3			strong petroleum-like odor			176	
										175	
										414	
										478	
										162	Wet
								SP		298	

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 2 OF 3

CLIENT: National Grid

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
-30	[Yellow dotted pattern]	3		46.6			Very fine to fine SAND, trace coarse sand, fine gravel and silt, no staining, light brown/golden petroleum coating				347
											204
-35	[Yellow dotted pattern]	4		36.7	Lt. Brown Tan		performed jar shake test 34-35': LNAPL (petroleum), no DNAPL	SW			382
											85
-40	[Yellow dotted pattern]	5		50			Very fine to medium SAND, few coarse sand and fine gravel, trace silt, faint petroleum odor	SW			160
											235
-45	[Yellow dotted pattern]	6		33.3	Lt. Brown		Very fine to fine SAND, trace silt and fine gravel	SP			163
											305
-50	[Yellow dotted pattern]	7		41.6			Very fine to medium SAND, few fine gravel, trace silt.	SW			41
											82
-55	[Yellow dotted pattern]	8		3.3			Very fine to fine SAND, trace silt and fine gravel	SP			42
											12
											24
											0.5
											0.2
											6.0
											2.0
											2.5
											1.0
											0.5
											0.8
											1.2
											2.3
											0.2
											0.0
											0.0
											0.0
											0.0
											0.0
											0.0
											0.0
											0.0
											0.0

Wet

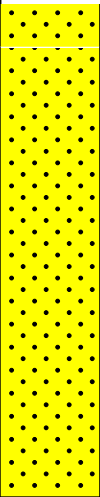
COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 3 OF 3

CLIENT: National Grid

JOB NO. : 11176098

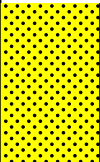
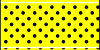
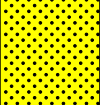
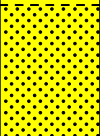
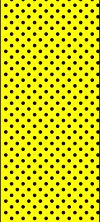
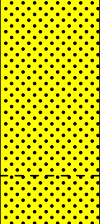
DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE	
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN	
-60		9		55			trace cobbles and coarse gravel				0.0	
											0.2	
											0.3	
											0.4	
											0.5	
-65			10		46.6							0.3
												0.2
												0.3
												0.7
												0.2
-70							Advanced boring to 72' without sampling.				0.3	
-75							End of boring @ 72' bgs					
-80												
-85												
-90												

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

PROJECT/PROJECT LOCATION: Intersection St. Former MGP Site, Hempstead, NY						BORING NO. : HIMW-28I					
CLIENT: National Grid						SHEET: 1 OF 3					
BORING CONTRACTOR: Aquifer Drilling and Testing						JOB NO. : 11176098					
GROUNDWATER: 25.18' bgs						BORING LOCATION: East side of Sealy Ave.					
CAS.						GROUND ELEVATION:					
SAMPLER						DATE STARTED: 3/20/14					
CORE						DATE FINISHED: 3/20/14					
TUBE						DRILLER: David Moon					
DATE						GEOLOGIST: Megan Dascoli					
TIME						REVIEWED BY: K. McGovern					
LEVEL											
TYPE											
TYPE											
DIA.											
WT.											
FALL											
* POCKET PENETROMETER READING											
DEPTH FEET	STRATA	SAMPLE NO.		REC% RQD%	COLOR	SOIL CONSISTENCY ROCK HARDNESS	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE HCN

0							Boring hand cleared to 5' bgs, advanced to 20' without sampling.					
-5							Boring located in grassy area on Sealy Ave. near Intersection St. adjacent to HIMW-28S.					
-10							HIMW-28S advanced to 42' without sampling and completed as 2" PVC well with screen 20' to 40' and sump 40' to 42'.					
-15							HIMW-28I completed as 2" PVC well with screen from 50' to 70' and sump 70' to 72'.					
-20	[Yellow dotted pattern]	1		60	Tan		Began Sampling @ 20' bgs.	SP			10.0	Wet
							Very fine to fine SAND, trace coarse sand and fine gravel				0.0	
-25	[Yellow dotted pattern]	2		65			gray staining, medium brown NAPL sheen on water, faint petroleum-like odor			[Blue diagonal hatched pattern]	10.5	
											62.9	
											68.1	
											132	
											123	

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
-30		3		65			gray staining, strong petroleum-like odor, medium brown free petroleum product 27' to 27.5'				125 169 248 51
							some fine to coarse gravel and trace silt, gray staining, strong petroleum-like odor				81 224 218
-35		4		68.3	Lt. Brown Tan		trace fine gravel and silt				236
							some fine gravel, moderate petroleum-like odor				93 27.8 7.8
-40		5		46.7			1" seam of coal tar-like product at 38.5', naphthalene-like odor				10.4
							Very fine to coarse SAND, some fine gravel, faint petroleum-like odor	SW			6.7 2.1 2.5
-45					Lt. Brown		Very fine to fine SAND, trace coarse sand and fine gravel, faint petroleum-like odor to 45'				5.2
							no odor	SP			4.1 2.2
-50		6		25							0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
		7		30							0.0 0.0 0.0 0.0 0.0 0.0 0.0
-55		8		48.3			Very fine to fine SAND, no coarse sand, no fine gravel, trace silt, no odor				0.0 0.0 0.0 0.0 0.0 0.0 0.0
											0.0 0.0 0.0 0.0 0.0

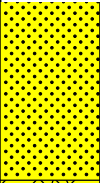

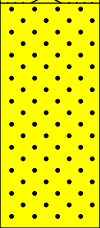
COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

PROJECT: Intersection St. Former MGP Site, Hempstead, NY

SHEET: 3 OF 3

CLIENT: National Grid

JOB NO. : 11176098

DEPTH FEET	STRATA	SAMPLE		REC %	COLOR	SOIL CONSISTANCY	MATERIAL DESCRIPTION	USCS	MGP COLOR CODE	PID	MOISTURE
		NO.	BLOW COUNT	RQD %		ROCK HARDNESS					HCN
-60		9		45							0.0
											0.0
							Fine to coarse GRAVEL, trace fine sand	GW			0.0
											0.0
-65		10		31.6	Tan		Very fine to medium SAND, trace fine gravel	SW			0.0
											0.0
					Med. Orange						0.0
					Tan						0.0
-70							Boring advanced to 72' without sampling.				
							End of boring @ 72' bgs				
-75											
-80											
-85											
-90											

COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.

DRILLING SUMMARY													
Geologist: Megan Dascoli													
Drilling Company: Aquifer Drilling and Testing													
Driller: David Moon													
Rig Make/Model: XL Max Sonic													
Date: 3/27/2014													
GEOLOGIC LOG													
Depth(ft.)	Description												
	See HIMW-26D Boring Log for Lithologic Description.												
WELL DESIGN													
<p>The diagram illustrates a monitoring well construction. It features an 8" flush mount protective casing and lockable cap at the top. The borehole has a diameter of 6 inches and a total length of 87 feet. The casing is made of 2-inch diameter PVC and is 65 feet long. A 2-inch diameter PVC screen, 20 feet long, is installed within the casing. At the bottom, there is a 2-inch diameter PVC sump, 2 feet long. Elevation markers on the left indicate depths of 60.0, 62.0, 65.0, 85.0, and 87.0 feet. The well is located at the intersection of the former MGP site.</p>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">CASING MATERIAL</th> <th style="width: 33%;">SCREEN MATERIAL</th> <th style="width: 33%;">FILTER MATERIAL</th> </tr> </thead> <tbody> <tr> <td>Surface: Steel grade box</td> <td>Type: 2" SCH 40 PVC</td> <td>Type: #2 Sand Setting: 62-87'</td> </tr> <tr> <td>Monitor: 2" SCH 40 PVC</td> <td>Slot Size: 0.020"</td> <td>SEAL MATERIAL</td> </tr> <tr> <td></td> <td></td> <td>Type: Bentonite Setting: 60-62'</td> </tr> </tbody> </table>		CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL	Surface: Steel grade box	Type: 2" SCH 40 PVC	Type: #2 Sand Setting: 62-87'	Monitor: 2" SCH 40 PVC	Slot Size: 0.020"	SEAL MATERIAL			Type: Bentonite Setting: 60-62'
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL											
Surface: Steel grade box	Type: 2" SCH 40 PVC	Type: #2 Sand Setting: 62-87'											
Monitor: 2" SCH 40 PVC	Slot Size: 0.020"	SEAL MATERIAL											
		Type: Bentonite Setting: 60-62'											
COMMENTS:													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">LEGEND</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"></td> <td>Cement/Bentonite Grout</td> </tr> <tr> <td style="text-align: center;"></td> <td>Bentonite Seal</td> </tr> <tr> <td style="text-align: center;"></td> <td>Silica Sandpack</td> </tr> </tbody> </table>		LEGEND			Cement/Bentonite Grout		Bentonite Seal		Silica Sandpack				
LEGEND													
	Cement/Bentonite Grout												
	Bentonite Seal												
	Silica Sandpack												
Client: National Grid	Intersection St. Former MGP Site	Project No.: 11176098.00020											
URS Corporation	MONITORING WELL CONSTRUCTION DETAILS	Well Number: HIMW-26I											

DRILLING SUMMARY		
Geologist: Megan Dascoli		
Drilling Company: Aquifer Drilling and Testing		
Driller: David Moon		
Rig Make/Model: XL Max Sonic		
Date: 3/26/2014		
GEOLOGIC LOG		
Depth(ft.)	Description	
	See Boring Log for Lithologic Description.	
WELL DESIGN		
<p>The diagram illustrates a monitoring well construction. It features an 8" flush mount protective casing and lockable cap at the top. The borehole has a diameter of 6 inches and a total length of 137 feet. The casing is made of 2-inch diameter PVC and is 115 feet long. A 2-inch diameter PVC screen, 20 feet long, is installed between elevations 112.0 and 135.0 feet. A 2-inch diameter PVC sump, 2 feet long, is located at the bottom between elevations 135.0 and 137.0 feet. The well is filled with silica sandpack, and a bentonite seal is placed between elevations 110.0 and 112.0 feet. Cement/bentonite grout is used for the remaining sections.</p>		
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: Steel grade box	Type: 2" SCH 40 PVC	Type: #2 Sand Setting: 112-137'
Monitor: 2" SCH 40 PVC	Slot Size: 0.020"	SEAL MATERIAL
		Type: Bentonite Setting: 110-112'
COMMENTS:		LEGEND
		Cement/Bentonite Grout
		Bentonite Seal
		Silica Sandpack
Client: National Grid	Intersection St. Former MGP Site	Project No.: 11176098.00020
URS Corporation	MONITORING WELL CONSTRUCTION DETAILS	Well Number: HIMW-26D

DRILLING SUMMARY		
Geologist: Megan Dascoli		
Drilling Company: Aquifer Drilling and Testing		
Driller: David Moon		
Rig Make/Model: XL Max Sonic		
Date: 3/24/2014		
GEOLOGIC LOG		
Depth(ft.)	Description	
	See HIMW-271 Boring Log for Lithologic Description.	
WELL DESIGN		
<p>The diagram illustrates a monitoring well construction. It features an 8" flush mount protective casing and lockable cap at the top. The borehole is 6 inches in diameter and 42 feet long. The casing is made of 2-inch diameter PVC and is 20 feet long. A 2-inch diameter PVC screen, also 20 feet long, is installed within the casing. At the bottom, there is a 2-inch diameter PVC sump, 2 feet long. Elevation markers on the left indicate depths of 16.0, 18.0, 20.0, 40.0, and 42.0 feet. A legend identifies the materials: hatched for Cement/Bentonite Grout, solid black for Bentonite Seal, and stippled for Silica Sandpack.</p>		
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: Steel grade box	Type: 2" SCH 40 PVC	Type: #2 Sand Setting: 18-42'
Monitor: 2" SCH 40 PVC	Slot Size: 0.020"	SEAL MATERIAL
		Type: Bentonite Setting: 16-18'
COMMENTS:		LEGEND
		Cement/Bentonite Grout Bentonite Seal Silica Sandpack
Client: National Grid	Intersection St. Former MGP Site	Project No.: 11176098.00020
URS Corporation	MONITORING WELL CONSTRUCTION DETAILS	Well Number: HIMW-27S

DRILLING SUMMARY	
Geologist: Megan Dascoli	
Drilling Company: Aquifer Drilling and Testing	
Driller: David Moon	
Rig Make/Model: XL Max Sonic	
Date: 3/21/2014	
GEOLOGIC LOG	
Depth(ft.)	Description
	See Boring Log for Lithologic Description.
WELL DESIGN	
CASING MATERIAL	
Surface: Steel grade box Monitor: 2" SCH 40 PVC	SCREEN MATERIAL Type: 2" SCH 40 PVC Slot Size: 0.020"
COMMENTS:	
LEGEND	
Cement/Bentonite Grout Bentonite Seal Silica Sandpack	
Client: National Grid	
Intersection St. Former MGP Site	
Project No.: 11176098.00020	
Well Number: HIMW-271	
MONITORING WELL CONSTRUCTION DETAILS	

The diagram illustrates the well construction details. It shows a vertical well shaft with various components and their elevations relative to amsl (above mean sea level). The components include:

- 8" Flush Mount Protective Casing and Lockable Cap** at the top.
- BOREHOLE** with a diameter of 6 inches and a length of 72 feet, extending from the ground level to an elevation of 46.0.
- PVC CASING** with a diameter of 2 inches and a length of 50 feet, extending from the ground level to an elevation of 48.0.
- PVC SCREEN** with a diameter of 2 inches and a length of 20 feet, extending from an elevation of 50.0 to 70.0.
- PVC SUMP** with a diameter of 2 inches and a length of 2 feet, extending from an elevation of 70.0 to 72.0.

The diagram also shows a central shaft with a screen section between 50.0 and 70.0 feet depth, and a sump section between 70.0 and 72.0 feet depth. The casing is shown as a solid line, and the screen is shown as a hatched pattern. The sump is shown as a dotted pattern.

DRILLING SUMMARY		
Geologist: Kevin McGovern		
Drilling Company: Aquifer Drilling and Testing		
Driller: David Moon		
Rig Make/Model: XL Max Sonic		
Date: 3/31/2014		
GEOLOGIC LOG		
Depth(ft.)	Description	
	See HIMW-28I Boring Log for Lithologic Description.	
WELL DESIGN		
<p>The diagram illustrates a well construction with the following components and specifications:</p> <ul style="list-style-type: none"> 8" Flush Mount Protective Casing and Lockable Cap at the top. BOREHOLE: 6 inch dia., 42 feet length. PVC CASING: 2 inch dia., 20 feet length. PVC SCREEN: 2 inch dia., 20 feet length. PVC SUMP: 2 inch dia., 2 feet length. <p>Elevations (amsl) are marked at 16.0, 18.0, 20.0, 40.0, and 42.0. The well is labeled as a MONITORING WELL CONSTRUCTION DETAILS.</p>		
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: Steel grade box Monitor: 2" SCH 40 PVC	Type: 2" SCH 40 PVC Slot Size: 0.020"	Type: #2 Sand Setting: 18-42' SEAL MATERIAL Type: Bentonite Setting: 16-18'
COMMENTS:		LEGEND
		<ul style="list-style-type: none"> Cement/Bentonite Grout Bentonite Seal Silica Sandpack
Client: National Grid	Intersection St. Former MGP Site	Project No.: 11176098.00020
URS Corporation	MONITORING WELL CONSTRUCTION DETAILS	Well Number: HIMW-28S

DRILLING SUMMARY		
Geologist: Megan Dascoli		
Drilling Company: Aquifer Drilling and Testing		
Driller: David Moon		
Rig Make/Model: XL Max Sonic		
Date: 3/20/2014		
GEOLOGIC LOG		
Depth(ft.)	Description	
	See Boring Log for Lithologic Description.	
WELL DESIGN		
<p>The diagram illustrates a well construction with the following components and specifications:</p> <ul style="list-style-type: none"> 8" Flush Mount Protective Casing and Lockable Cap at the top. BOREHOLE: 6 inch dia., 72 feet length. PVC CASING: 2 inch dia., 50 feet length. PVC SCREEN: 2 inch dia., 20 feet length. PVC SUMP: 2 inch dia., 2 feet length. <p>Elevations (amsl) are marked at 45.0, 47.0, 50.0, 70.0, and 72.0. The well is labeled as a MONITORING WELL CONSTRUCTION DETAILS.</p>		
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL
Surface: Steel grade box Monitor: 2" SCH 40 PVC	Type: 2" SCH 40 PVC Slot Size: 0.020"	Type: #2 Sand Setting: 47-72' SEAL MATERIAL Type: Bentonite Setting: 45-47'
COMMENTS:		LEGEND
		<ul style="list-style-type: none"> Cement/Bentonite Grout Bentonite Seal Silica Sandpack
Client: National Grid	Intersection St. Former MGP Site	Project No.: 11176098.00020
URS Corporation	MONITORING WELL CONSTRUCTION DETAILS	Well Number: HIMW-281