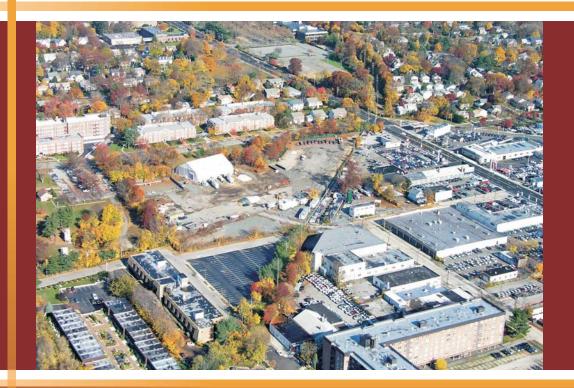
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Groundwater Sampling, NAPL Monitoring/Recovery and Groundwater Treatment Performance Report for the First Quarter of 2014 (January - March 2014) for the Hempstead Intersection Street Former Manufactured Gas Plant Site Villages of Hempstead & Garden City Nassau County, New York



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

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December 2014

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:

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December 2014

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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 feet
HIMW	Hempstead Intersection (Street) Monitoring Well
ISS	In Situ Solidification
LNAPL	light non-aqueous phase liquid
MGP	manufactured gas plant
μg/L	micrograms per liter
MP	monitoring points
NAPL	non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
PAHs	polycyclic aromatic hydrocarbons
PID	photo ionization detector
POB	Professional Office Building
QC	quality control
URS	URS Corporation
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

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

URS CORPORATION

- 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 <u>NAPL Recovery</u>

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 <u>Groundwater Sampling</u>

Low-flow groundwater sampling methods were used to sample groundwater, which included purging groundwater at a rate of between 100 and 500 milliliters per minute. The water was pumped through a flow-through cell and monitored for pH, conductivity, turbidity, DO, temperature, and oxidation-reduction potential (ORP). Purging was continued until stable conditions were achieved (defined as three consecutive stable readings [i.e., \pm 10 percent] over a 15 minute period). Groundwater samples were collected afterwards and shipped under chain-of-custody procedures to Pace Analytical Laboratory for analysis of BTEX (United States Environmental Protection Agency [USEPA] Method 8260C) and PAHs (USEPA Method 8270D). Purge water was stored in an onsite storage tank for subsequent offsite disposal. The Data Usability Summary Report is presented in Appendix A.

There were 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 μ g/L for BTEX and 34 μ g/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 μ g/L for BTEX (shallow well, HIMW-008S) and 3,117 μ g/L for PAHs (intermediate well, HIMW-008S) and 3,117 μ g/L for PAHs (intermediate well, HIMW-005I), see Figure 4 and Table 4.

The following summarizes observed concentration changes. For wells HIMW-005I, 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 <u>Potentiometric Heads and NAPL Thickness</u>

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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- URS, 2013c. Groundwater Sampling and Groundwater Treatment Performance Report for the Second Quarter of 2013 (April – June 2013) for the Hempstead Intersection Street Former Manufactured Gas Plant Site.
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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 7 to March 28	3, 2014)	Mar	ch and April	2014		onitoring and covery Event	
	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			-,j			
HIMW-003I	Х	Х	Х						
HIMW-003D	Х	Х	Х						
HIMW-004S	Х	Х							
HIMW-004I	Х	Х							
HIMW-004D	Х	Х							
HIMW-005S	Х	Х	Х						
HIMW-005I	Х	Х	Х						
HIMW-005D	Х	Х	Х						
HIMW-008S	Х	Х	Х						
HIMW-008I	Х	Х	Х						
HIMW-008D	Х	Х	Х						
HIMW-009S	Х	Х							
HIMW-009I	Х	Х							
HIMW-009D	Х	Х							
HIMW-010S	Х	Х							
HIMW-010I	Х	Х							
HIMW-011S	Х	Х							
HIMW-011I	Х	Х							
HIMW-011D	Х	Х							
HIMW-012S	Х	Х	Х						
HIMW-012I	Х	Х	Х						
HIMW-012D	Х	Х	Х						
HIMW-013S	Х	Х	Х						
HIMW-013I	Х	Х	Х						
HIMW-013D	Х	Х	Х						
HIMW-014I	Х	Х	Х						
HIMW-014D	Х	Х	Х						
HIMW-015I	Х	X	Х						
HIMW-015D	Х	X	Х						
HIMW-020S	Х	X	X						
HIMW-020I	X	X	Х						
HIMW-021	Х	Х					Х	Х	Х
HIMW-022	Х	Х	Х						
HIMW-023	Х	Х	Х						
HIMW-024	Х	Х	Х						
HIMW-025	Х	Х	Х						
HIMW-026I				Х	Х	Х			
HIMW-026D				Х	Х	Х			
HIMW-027S				Х	Х	Х			
HIMW-027I				Х	Х	Х			
HIMW-028S				Х	Х	Х			
HIMW-028I				Х	Х	Х			

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 7 to March 28	8, 2014)	Mar	ch and April	2014		onitoring and I covery Events	
Won ID	Water	NAPL	Water	Water	NAPL	Water	January 2,	February 4,	March 6,
	Level	Thickness	Quality	Level	Thickness	Quality	2014	2014	2014
PZ-02	Х	Х							
PZ-03	Х	Х							
OSMW-02	Х	Х	Х						
OSMW-03	Х	Х	Х						

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 2Groundwater and NAPL Measurements⁽¹⁾First Quarter 2014Hempstead 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 2Groundwater and NAPL Measurements⁽¹⁾First Quarter 2014Hempstead 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.

 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 3NAPL RecoveryFirst Quarter 2014Hempstead Intersection Street Former MGP Site

						First Quarte	er 2014			
		J	anuary 2, 2	014	Fe	ebruary 4, 2	014		March 6, 2014	Ļ
	Well	Thickness	Thickness	Volume	Thickness	Thickness	Volume	Thickness	Thickness	Volume
Well ID	Diameter	of LNAPL	of DNAPL	of NAPL	of LNAPL	of DNAPL	of NAPL	of LNAPL	of DNAPL	of NAPL
	(inches)			Removed ⁽¹⁾			Removed ⁽¹⁾			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 Re	emoved	2.25	Volume Re	emoved	2.25	Volume Ren	noved	2.25
		Total	volume re	ecovered o 20	during the 13:	e Fourth	Quarter			6.75
Total vol	lume of	NAPL re	ecovere	d in First	Quarte	r 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

	First Quarter 2014 March 18 - March 28, 2014					
Well ID	BTEX	PAH				
	[ug/L]	[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-0261*	ND	ND				
HMW-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						

NAPL is periodically identified in this well.

HIMW-026D*	
ND	
ua/L	

Analytical sample collected in April 2014. Not Detected. micrograms per liter

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

System #1

	January 13, 2014 January 24, 2014				February 6, 2014			February 21, 2014			March 7, 2014			March 22, 2014				
ID	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

	Jar	nuary 9, 20)14	January 23, 2014			February 7, 2014			February 20, 2014			March 6, 2014			March 19, 2014		
ID	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)

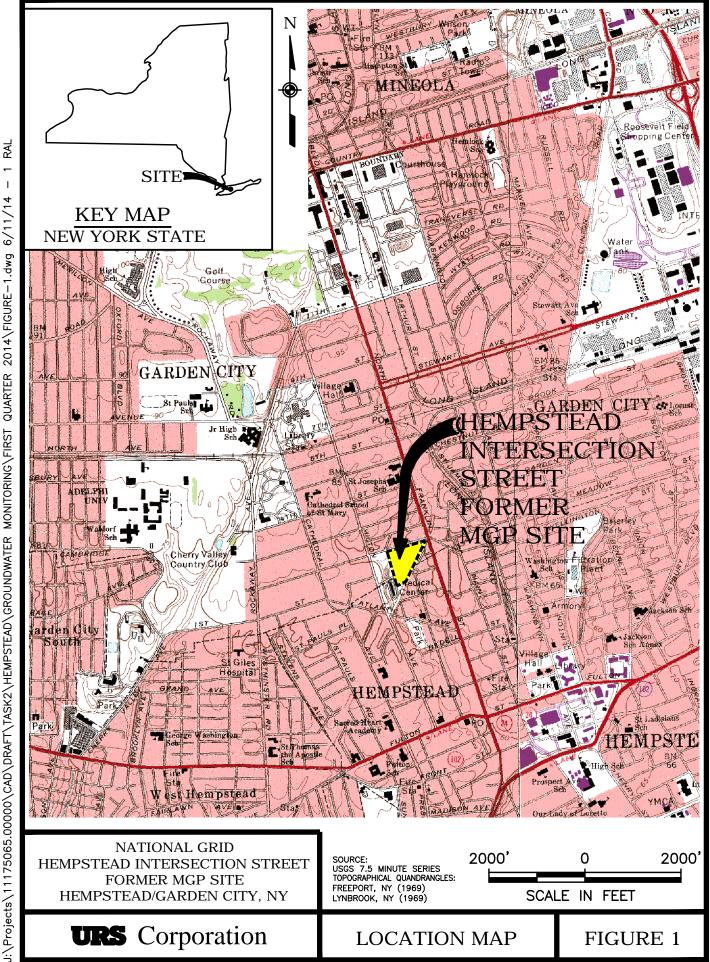
DO: Dissolved Oxygen concentration (percent or milligrams per liter)

NA: Not Accessible

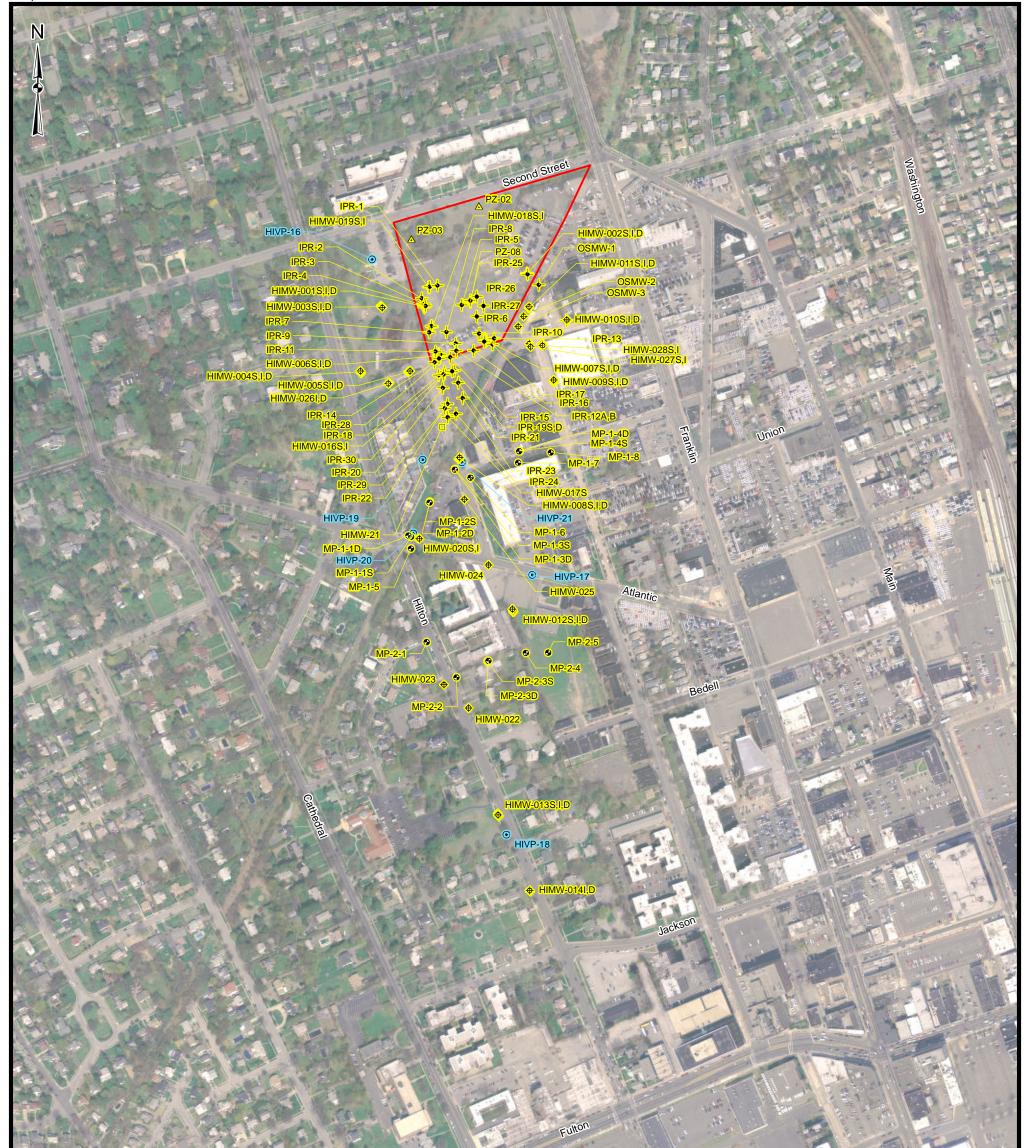
NM: Not Measured

FIGURES

J:\Projects\11175065.0000\WORD\DRAFT\Quarterly&Annual Data Reports\2014 1st Quarter\1Q 2014 GW PR Report final.docx







Legend

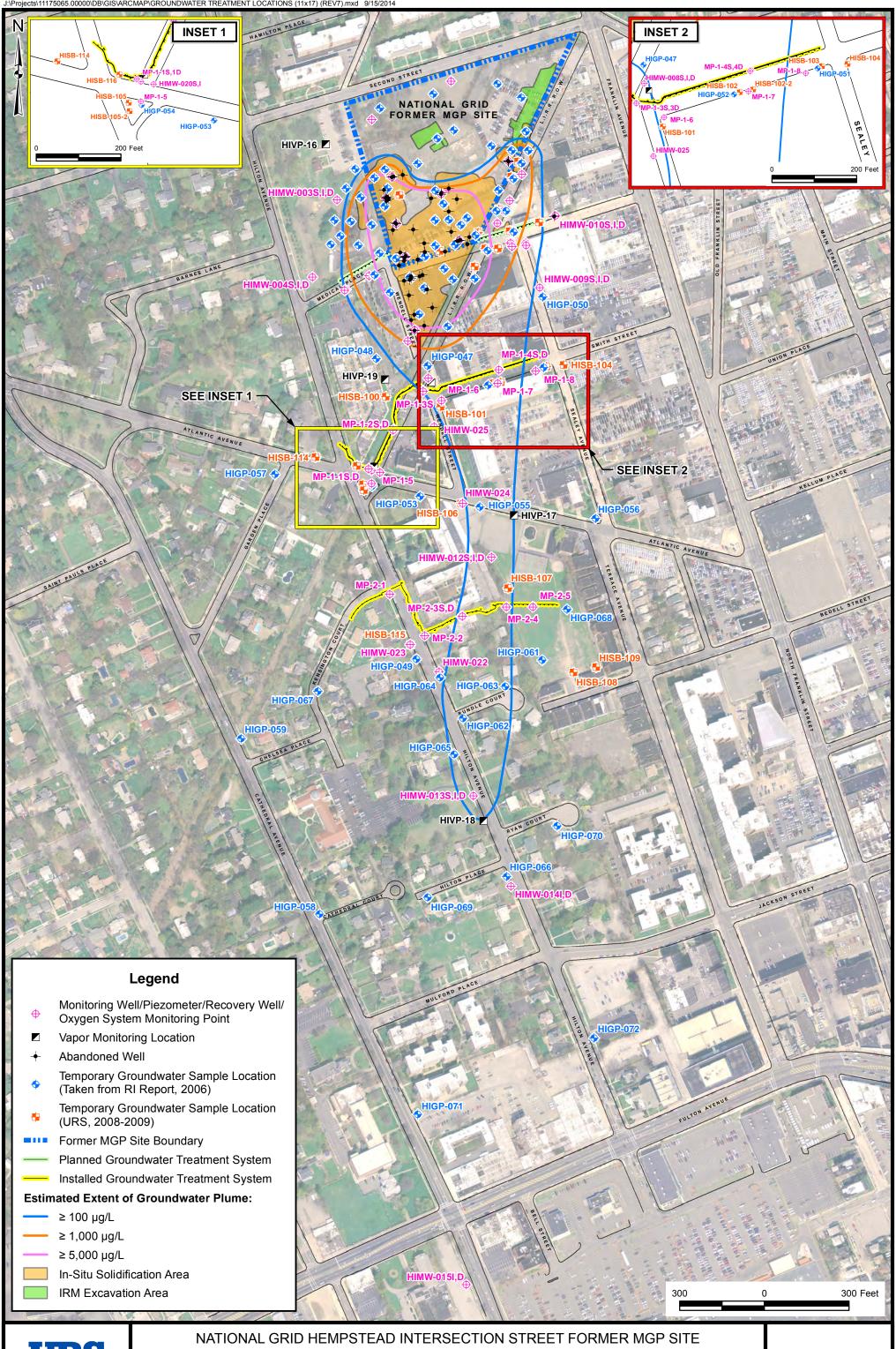
- Oxygen System Monitoring Point
- + Abandoned Well
- A Piezometer
- Monitoring Well
- Product Recovery Well
- Soil Vapor Point
 - Former MGP Site Boundary





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

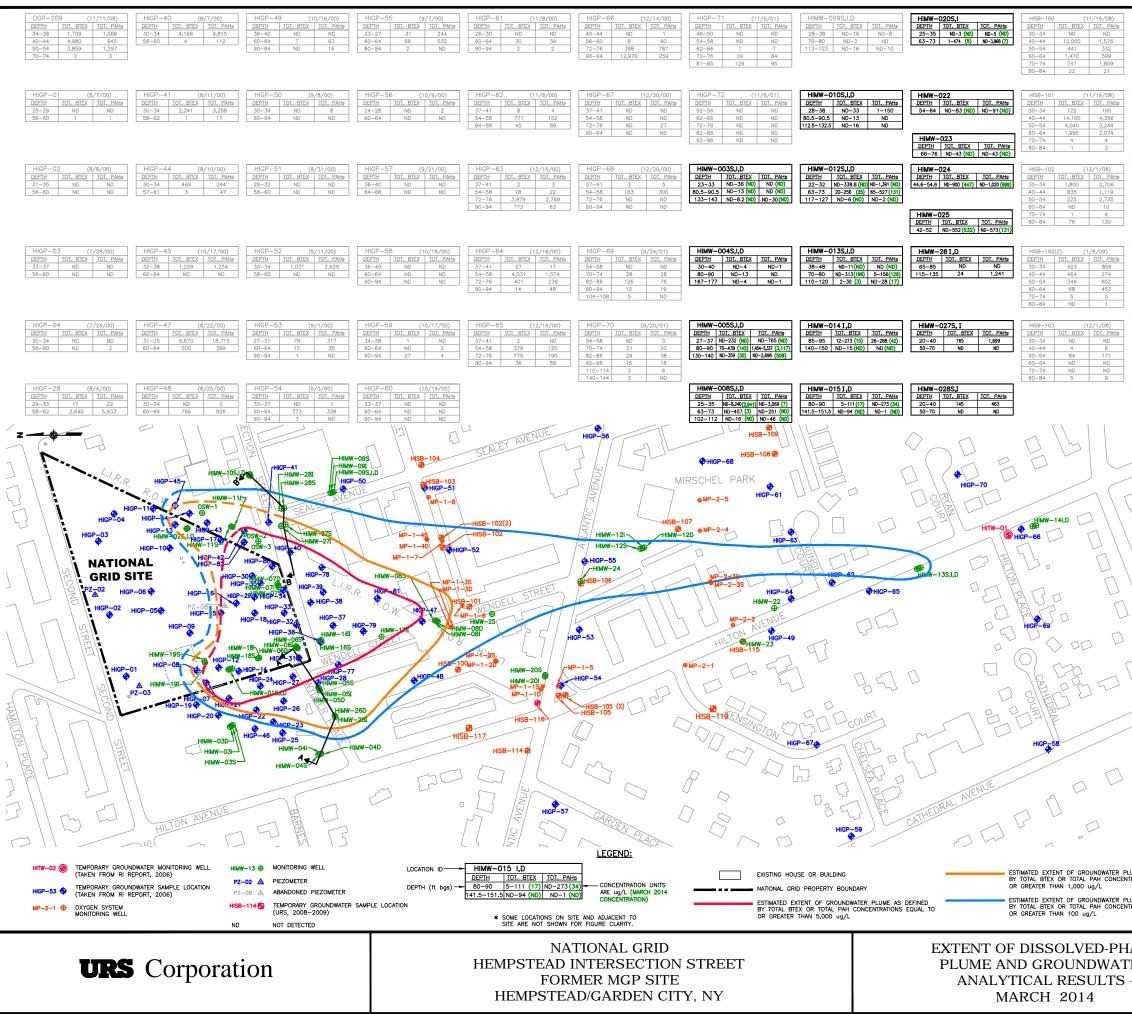
FIGURE 2



URS

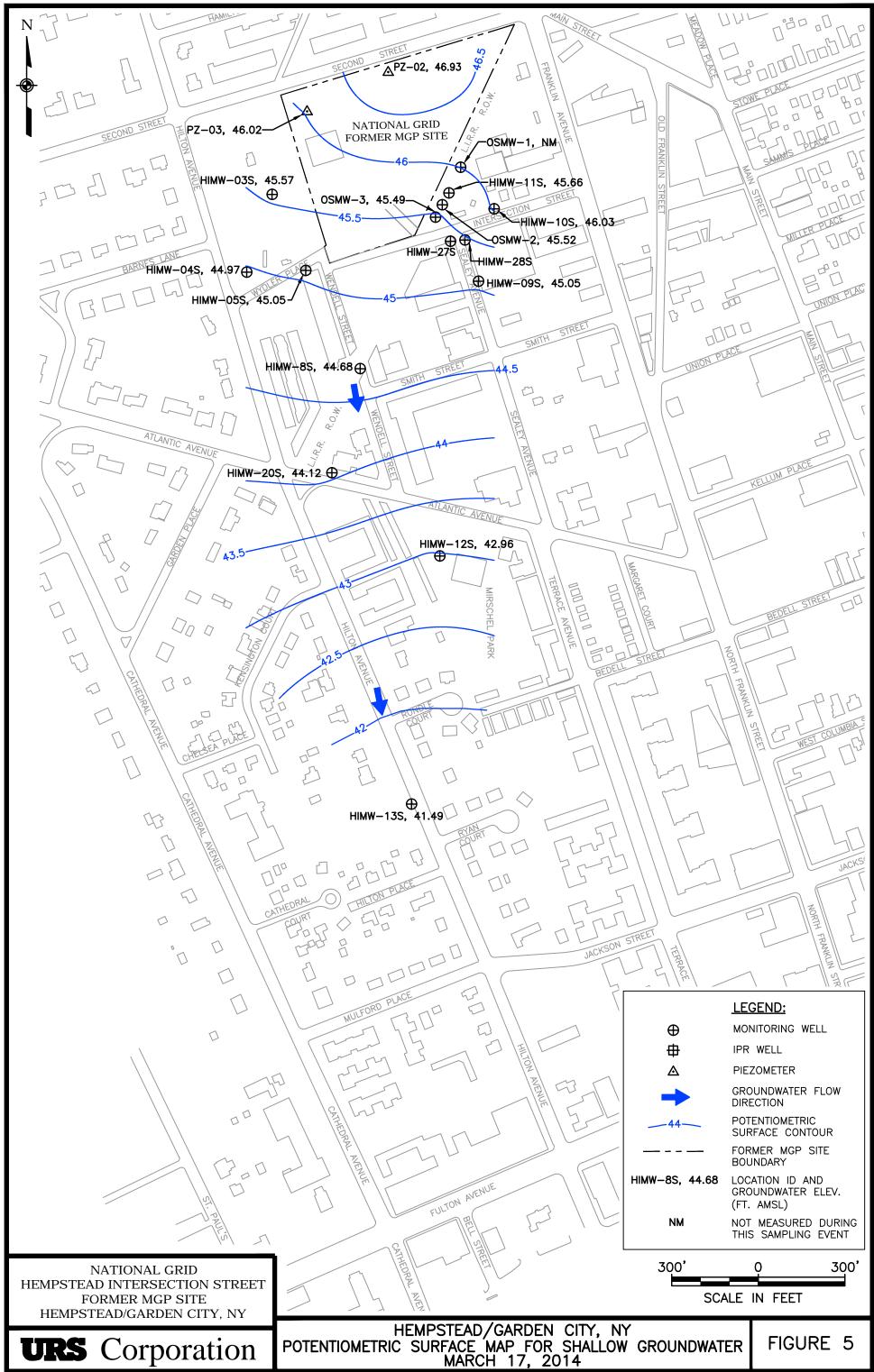
HEMPSTEAD/GARDEN CITY, NEW YORK SOIL REMEDIATION AND GROUNDWATER TREATMENT LOCATIONS

FIGURE 3

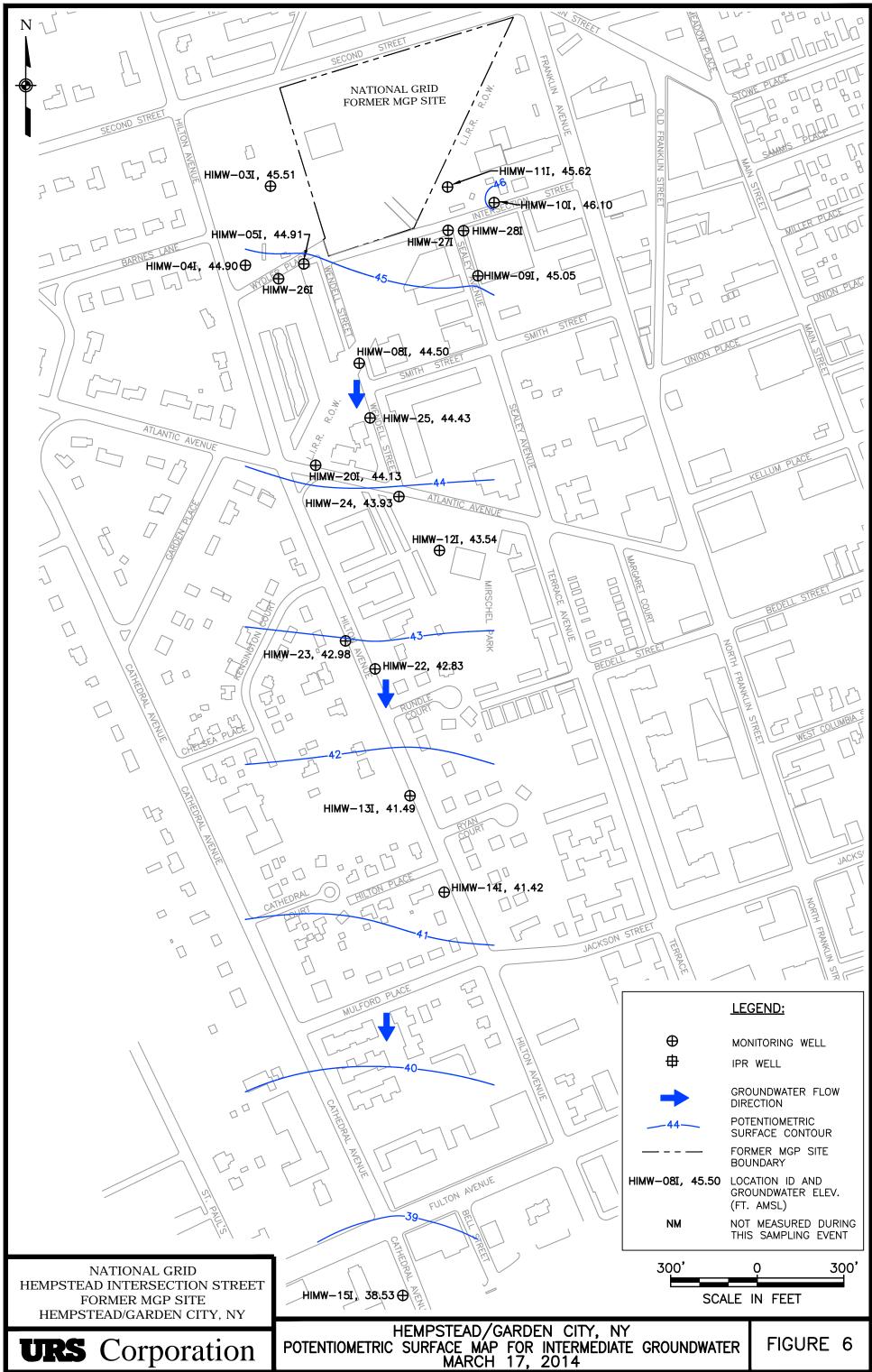


HISB-104 (9/24/06) DEPTH TOT. BTEX TOT. PAHs 30-34 ND ND 45-49 ND ND 55-59 ND ND	HISB-108 (12/9/08) DEPTH TOT. BTEX TOT. PAHs 30-34 ND ND 40-44 ND ND 50-54 ND ND 60-64 ND ND 60-64 ND ND 70-74 12 1 80-84 20 1 90-94 ND 2
HISB-105 (12/4/08) DEPTH TOT. BTEX TOT. PAHs 30-34 ND ND 40-44 ND 518 50-56 469 ND 60-64 1,043 3,058 70-74 60 59 80-84 279 576 80-94 48 99	90-94 26 2 100-104 ND ND HISB-109 (12/10/08) HISB-119 (4/14/10) DEPTH IOL_BIEX IOL_DAHs 30-34 ND ND 30-34 ND ND 2 40-44 ND ND 30-34 ND 2 2 60-64 19 ND 60-64 ND ND 1 70-74 28 ND 70-74 ND 4 80-84 31 2 90-94 ND 4 HISB-114 (12/23/08) HIW-01 (9/21/01) 4
HISB-105(2) (12/18/08) DEPTH JOL. BTEX JOL. Patka 30-34 15 JOL. Patka 40-44 14 35 50-54 247 912 60-64 560 2.941 70-74 59 34 80-84 14 69 90-94 24 221 100-104 1 ND	DEPTH IOI. BIEX IOI. PAHs 30-34 ND ND 40-44 2 ND 40-44 ND ND 54-58 3 6 50-54 ND ND 70-74 95 276 60-64 ND ND 82-86 293 274 70-74 ND ND 90-94 45 44 80-84 ND ND 109-113 210 1
HISB-106 (12/4/08) DEPTH 101. BTEX 101. BATEX 30-34 418 602 40-44 1.162 383 50-54 1.800 2.513 60-64 815 572 70-74 68 51 80-84 38 30 90-94 124 98 HISB-107 (12/8/08) 112/8/08	HISB-115 (1/14/09) HITW-02 (10/31/01) DEPTH TOT. ETEX TOT. BTEX DEPTH TOT. STEX 30-34 ND 15 55-60 2 ND 40-44 9 14 55-60 2 ND 50-54 288 265 75-70 9 9 60-64 125 133 85-90 29 52 70-74 1,411 1,153 115-120 42 ND 90-94 56 67 74 148-153 9 0 91-94 56 67 75 9 148-153 9 0
DEPTH TOT. BIEX TOT. PAHs 30-34 ND ND 40-44 217 47 50-54 551 258 60-64 29 68 70-74 ND ND 80-84 ND ND 90-94 24 8	DEPTH TOT., BTEX TOT., PAHs 30-34 ND ND 30-54 1.3 ND 50-54 1.3 ND 60-64 100 192 70-74 6 37 80-84 91 330 90-94 100 451 100-104 292 604
HIGP-72 A HILTON A	HIGP-71 HIGP-71 AVENUE ATHEORAL ATHEORAL ATHEOR
PLUME AS DEFINED NTRATIONS EQUAL TO	REPRESENT CONTAMINATION CONCENTRATIONS THAT ARE LIKELY INFLUENCED BY THIRD PARTY SOURCES. 150' 0 150' SCALE IN FEET
HASE ΓER 5 -	FIGURE 4

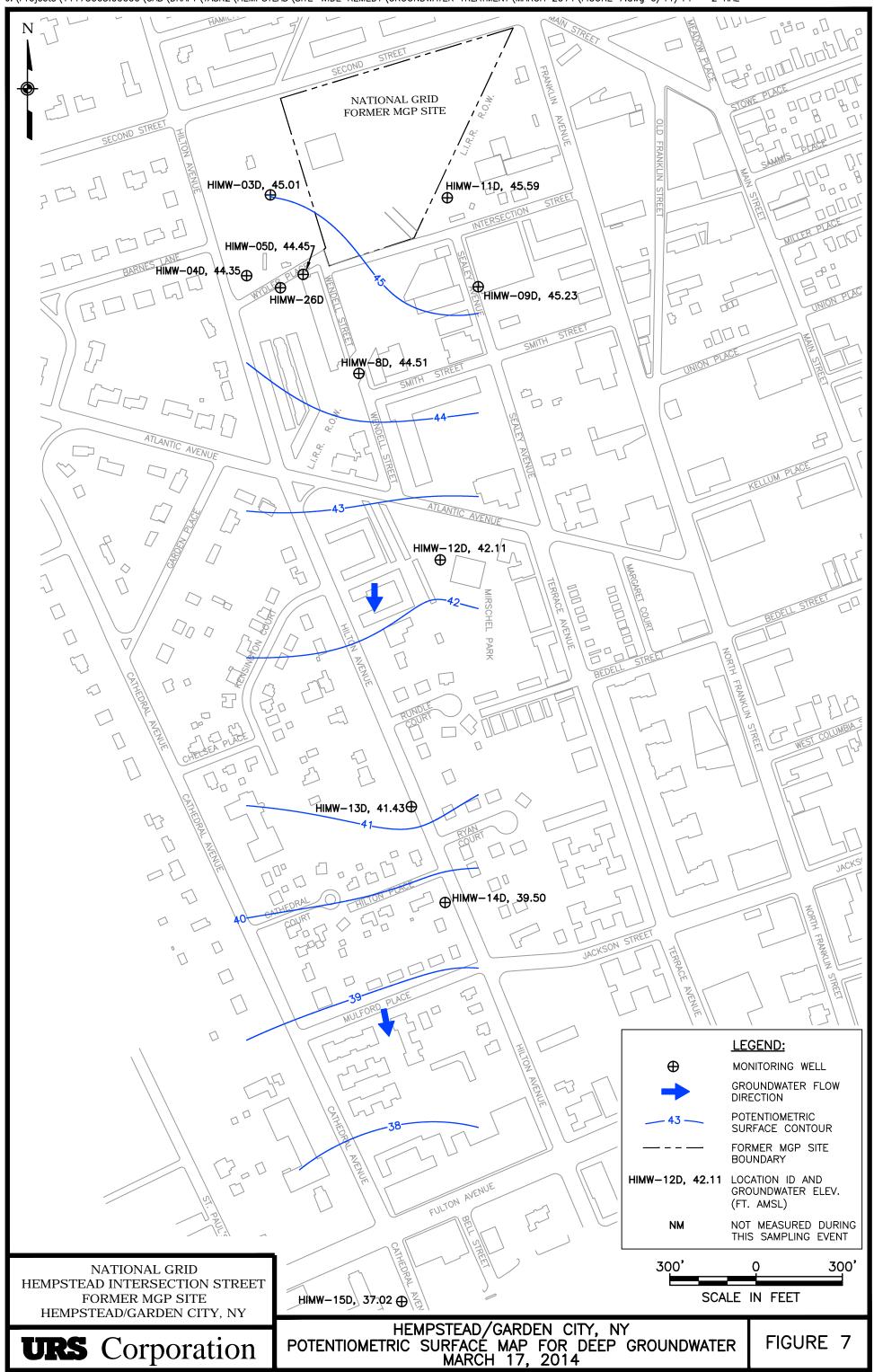
J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2014\FIGURE 5.dwg 6/11/14 - 1 RAL

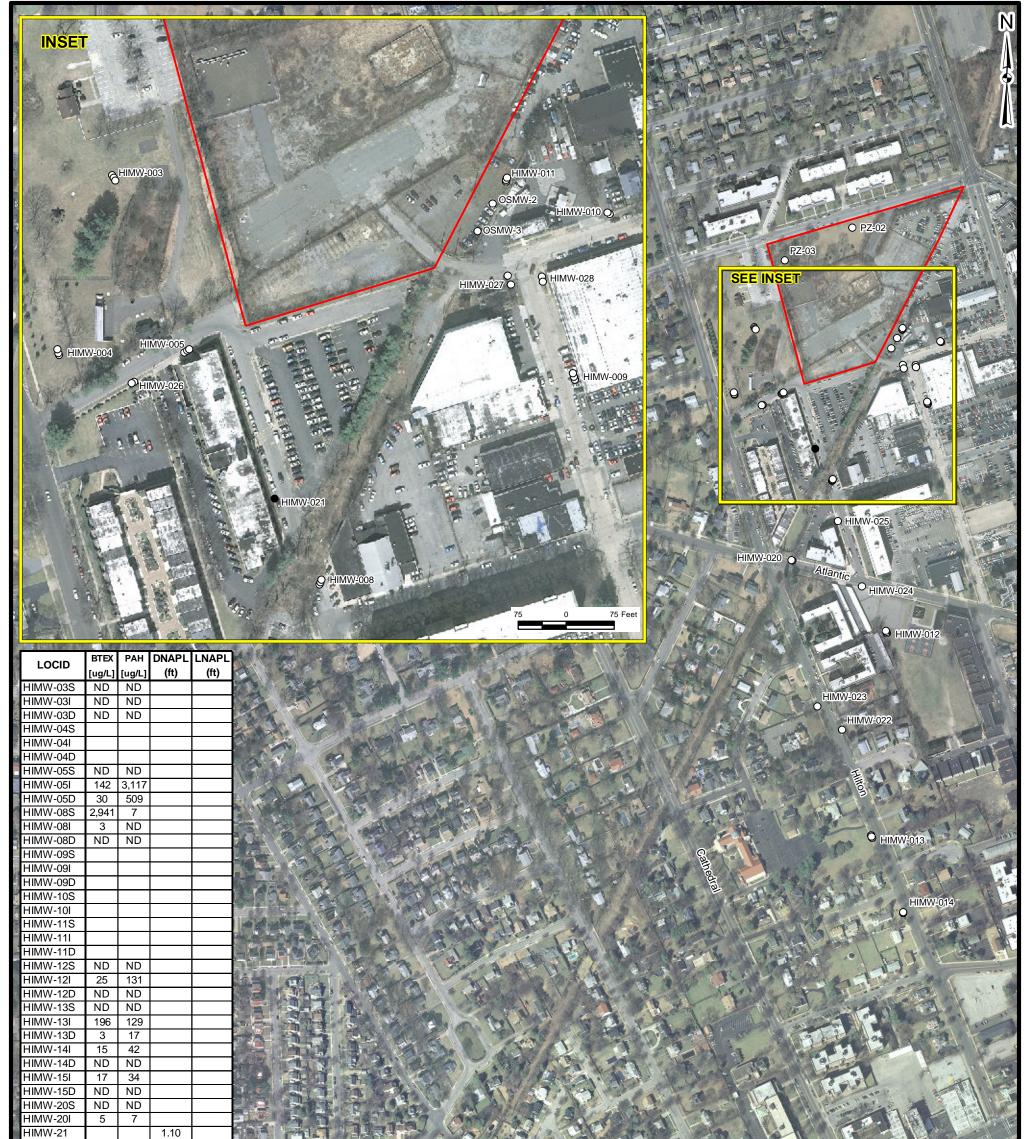


J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2014\FIGURE 6.dwg 6/11/14 - 3 RAL



J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2014\FIGURE 7.dwg 6/11/14 - 2 RAL







Former MGP Site Boundary

URS

400 Feet 400 0

FIGURE 8

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

ND - Non Detect

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

TABLE OF CONTENTS

I.	INTRODUCTION
II.	ANALYTICAL METHODOLOGIES AND DATA VALIDATION A-1
III.	DATA DELIVERABLE COMPLETENESS A-2
IV.	SAMPLE RECEIPT/HOLDING TIMES A-2
V.	NON-CONFORMANCES
VI.	SAMPLE RESULTS AND REPORTING
VII.	SUMMARY A-3

TABLES

(Following Text)

Table A-1	Validated Groundwater Sample Analytical Results
Table A-2	Validated Field QC Sample Analytical Results

APPENDICES

(Following Tables)

- Attachment A Validated Form 1's
- 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-ofcustody (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-131 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.

eta **Prepared By:** Peter R. Fairbanks, Senior Chemist

Reviewed By: George E. Kisluk, Senior Chemist

Date: <u>6/26/14</u> Date: <u>6/26/4</u>

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.

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 (f	ť)		-	-	-	-	-
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	10	1 U	1 J	4 J
Ethylbenzene	UG/L	-	1 U	1 U	1 U	1 Ú	7
Toluene	UG/L	-	10	1 U	1 U	1 ប	1
Xylene (total)	UG/L	-	1 U	1 U	1 U	29	130
Total BTEX	UG/L	100	ND	ND	ND	30	
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				
Benzo(a)pyrene	UG/L	-	10 U				
Benzo(b)fluoranthene	UG/L	•	10 U				
Benzo(g,h,i)perylene	UG/L	-	10 U				
Benzo(k)fluoranthene	UG/L	-	10 U				
Chrysene	UG/L	•	10 U	10 U	10 U	10 U	10 Ú
Dibenz(a,h)anthracene	UG/L	•	10 U				
Fluoranthene	UG/L	-	10 U				
Fluorene	UG/L	-	10 U	10 U	10 U	4 J	32
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U				
Naphthalene	UG/L	-	10 U	10 Ú	10 U	430 D	2,400 D
Phenanthrene	UG/L	-	10 U	10 U	10 U	10 U	16
Pyrene	UG/L	•	10 U				
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	ND	509	3,117

*Criteria- Goundwater Plume De ineation/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.

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Location ID			HIMW-005S	HIMW-008D	HIMW-0081	HIMW-008S	HIMW-012D
Sample ID	HIMW-05S	HIMW-8D	HIMW-81	HIMW-8S	HIMW-12D		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Depth Interval (1	ť)		•		-		-
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	10	41	10
Toluene	UG/L	-	1 Մ	10	1 U	590 D	1 U
Xylene (total)	UG/L	•	1 U	1 U	3	210	10
Total BTEX	UG/L	100	ND	ND	3	2,941	ND
Semivolatile Organic Compounds							
Acenaphthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	-	10 U 10 U	10 U 10 U	10 U	10 U	10 U
Anthracene	UG/L		10 U		10 U	2 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 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	UG/L		10 U	10 UJ	10 UJ	10 UJ	10 U
Benzo(g,n,)peryene Benzo(k)fluoranthene	UG/L	-	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	•	10 U	10 U	10 Ú	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
	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- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008,

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

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

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Location ID			HIMW-012I	HIMW-012S	HIMW-013D	HIMW-013I	HIMW-013
Sample ID	HIMW-12I	HIMW-12S	HIMW-13D	DUP-031814	HIMW-13I		
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (f	ît)		•	-	-	-	-
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	-	10	1 Ü	1 U	1 U	1
Toluene	UG/L	-	1 U	1 U	1 U	1 U	10
Xylene (total)	UG/L	-	1 U	1 U	1 U	5	5
	UG/L	100	25	ND	3	205	
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	10 U	10 U	10 U	10 U	23
Acenaphthene	UG/L	-	43	10 U	L 9	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 Ü	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 Ü	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		ND	17	96	129

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

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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 (i	it)		-	•	-	-	-
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	-	10	1 U	13	13	1 U
Ethylbenzene	UG/L	-	10	1 U	1 U	1 U	10
Toluene	UG/L	-	10	1 U	1 U	1 U	10
Xylene (total)	UG/L	-	10	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
	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- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

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

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Location ID			HIMW-015I	HIMW-0201	HIMW-020S	HIMW-022	HIMW-023
Sample ID	HIMW-15I	HIMW-201	HIMW-20S	HIMW-22	HIMW-23		
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (1	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	10	1 U	1 U	1 U
Ethylbenzene	UG/L	-	1 U	1 U	1 U	10	1 U
Toluene	UG/L	-	10	1 U	1 U	1 U	1 U
Xylene (total)	UG/L	-	4	5	1 U	10	1 Ü
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 Ū
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				
Benzo(a)anthracene	UG/L	-	10 U				
Benzo(a)pyrene	UG/L	-	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				
Benzo(k)fluoranthene	UG/L	-	10 U				
Chrysene	UG/L	-	10 U				
Dibenz(a,h)anthracene	UG/L	-	10 U				
Fluoranthene	UG/L	-	10 U				
Fluorene	UG/L	-	10 U				
Indeno(1,2,3-cd)pyrene	UG/L	-	10 U				
Naphthalene	UG/L	-	10 U				
Phenanthrene	UG/L	-	3 J	10 U	10 U	10 U	10 U
Pyrene	UG/L	-	10 U				
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	34	7	ND	ND	ND

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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_

Location ID			HIMW-024	HIMW-025
Sample ID	HIMW-24	HIMW-25		
Matrix	Groundwater	Groundwater		
Depth Interval (f	t)		-	-
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		
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	

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

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

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

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

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Location ID	FIELDQC	FIELDQC	FIELDQC	FIELDQC		
Sample ID			TRIP BLANK	TB032614	FB032814	TB032814
Matrix			Water Quality	Water Quality	Water Quality	Water Quality
Depth Interval (i			-	-	-	-
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	-	10	1 U	1 U	1 U
Semivolatile Organic Compounds						
2-Methylnaphthalene	UG/L	-	NA	NA	10 U	NA
Acenaphthene	UG/L	-	NA	NA		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- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown,

Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

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

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

ATTACHMENT A

VALIDATED FORM 1'S

18

EPA SAMPLE NO.

HIMW-035

VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALY	FICAL Contra	.ct:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS180
Matrix: (soil/water)	WATER	Lab Sample ID:	1403146-004 <u>A</u>
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	G24195.D
Level: (low/med)	LOW	Date Received:	03/26/14
% Moisture: not dec.		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(hr)	Soil Aliquot Volu	me (µL)

CONCENTRATION UNITS:

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

 $\mathbf{e}_{i}^{(i)}$

KEY-URS180 S36

CONCENTRATION UNITS:

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE ORGANICS ANALYSIS L	HIMW-03S	
Lab Name: PACE ANALYTICAL Contr	act:	
		40
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	1403I46-004B
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>R21349.D</u>
Level: (low/med) LOW	Date Received:	03/26/14
<pre>% Moisture: Decanted:(Y/N) N</pre>	Date Extracted:	03/28/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/03/14
Injection Volume: $2 (\mu L)$	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type	CONT

CAS NO. COMPOUND $(\mu g/L \text{ or } \mu g/Kg) \mu g/L$ 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 Ũ 85-01-8 Phenanthrene 10 υ 120-12-7 Anthracene 10 υ 206-44-0 Fluoranthene 10 U 129-00-0 Pyrene 10 υ 56-55-3 Benzo(a) anthracene 10 υ 218-01-9 Chrysene 10 ΰ 205-99-2 Benzo(b)fluoranthene 10 Ũ 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 υ 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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FORM I SV- 1

OLM04.2

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-031

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	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
<pre>% Moisture: not dec.</pre>	1	Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Volu	ume (µL)

CONCENTRATION UNITS:

3

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

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KEY-URS179 S43

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

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			HIMW-03I
Lab Name: PACE ANALYTICAL	Cont	ract:	
Lab Code: <u>10478</u> Ca:	se No.: <u>KEY-URS</u>	SAS No.:	SDG No.: <u>KEY-URS179</u>
Matrix: (soil/water) <u>WATE</u>	Ř	Lab Sample ID:	1403K10-009B
Sample wt/vol: 1000	(g/mL) <u>mL</u>	Lab File ID:	<u>R21397.D</u>
Level: (low/med)	LOW	Date Received:	03/28/14
<pre>% Moisture: Decay</pre>	ted: (Y/N) <u>N</u>	Date Extracted:	04/03/14
Concentrated Extract Volum	me: <u>1000</u> (μL)	Date Analyzed:	04/05/14
Injection Volume: 2	(µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u>	рн:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	υ
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	υ
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	υ

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-03D

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> 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)	TOM	Date Received:	03/28/14
% Moisture: not dec.	5	Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Vol	ume (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	υ	
100-41-4	Ethylbenzene	1	U	
1330-20-7	Xylene (total)	1	Ū	

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KEY-URS179 S42

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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EPA SAMPLE NO.

		HİMW-03D
Lab Name: PACE ANALYTICAL Cont	ract:	
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID:	1403K10-008B
Sample wt/vol: 1000 (g/mL) mL	Lab File ID:	R21396.D
Level: (low/med) <u>LOW</u>	Date Received:	03/28/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	04/03/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/05/14
Injection Volume: <u>2</u> (µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type) <u>CONT</u>
i	CONCE	TTO ATTANT TINTING .

CONCENTRATION UNITS:

COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
Naphthalene	10	U
2-Methylnaphthalene	10	U
Acenaphthylene	10	σ
Acenaphthene	10	U
Fluorene	10	Ū
Phenanthrene	10	υ
Anthracene	10	U
Fluoranthene	10	U
Pyrene	10	U
Benzo(a)anthracene	10	υ
Chrysene	10	U
Benzo(b)fluoranthene	10	U
Benzo(k)fluoranthene	10	U
Benzo(a)pyrene	10	U
Indeno(1,2,3-cd)pyrene	10	υ
Dibenzo(a,h)anthracene	10	U
Benzo(g,h,i)perylene	10	U
	Naphthalene2-MethylnaphthaleneAcenaphthyleneAcenaphtheneFluorenePhenänthreneAnthraceneFluoranthenePyreneBenzo(a) anthraceneChryseneBenzo(b) fluorantheneBenzo(k) fluorantheneBenzo(a) pyreneIndeno(1, 2, 3-cd) pyrene	Naphthalene102-Methylnaphthalene10Acenaphthylene10Acenaphthene10Fluorene10Phenänthrene10Phenänthrene10Anthracene10Fluoranthene10Pyrene10Benzo (a) anthracene10Benzo (b) fluoranthene10Benzo (k) fluoranthene10Benzo (a) pyrene10Indeno (1, 2, 3-cd) pyrene10Dibenzo (a, h) anthracene10

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

18

EPA SAMPLE NO.

HIMW-058

VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALYI	Contra	ct:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS180
Matrix: (soil/water)	WATER	Lab Sample ID:	1403146-007A
Sample wt/vol: <u>5</u>	(g/mL) <u>mL</u>	Lab File ID:	G24200.D
Level: (low/med)	TOM	Date Received:	03/26/14
% Moisture: not dec.		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(µL)	Soil Aliquot Volu	me(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	ប
1330-20-7	Xylene (total)	1	U

KEY-URS180 S39

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1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Namo, DACE ANALVIITCAL	····	HIMW-05S
Lab Name: <u>PACE ANALYTICAL</u> Cont	tract:	1
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	1403146-007B
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>R21354.D</u>
Level: (low/med) LOW	Date Received:	03/26/14
<pre>% Moisture: Decanted:(Y/N) N</pre>	Date Extracted:	03/28/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/03/14
Injection Volume: $2 (\mu L)$	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type) <u>CONT</u>

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	υ
83-32-9	Acenaphthene	10	υ
86-73-7	Fluorene	10	Ū
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	ΰ
206-44-0	Fluoranthene	10	υ
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chryșene	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	υ
193-39-5	Indeho(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	υ
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

1A

EPA SAMPLE NO.

HIMW-051

VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALY	<u>FICAL</u> Contra	lct:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS180
Matrix: (soil/water)	WATER	Lab Sample ID:	1403146-006A
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	G24199.D
Level: (low/med)	TOM	Date Received:	03/26/14
% Moisture: not dec.		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(µL)	Soil Aliquot Volu	me (hr)

CONCENTRATION UNITS:

COMPOUN D	(µg/L or µg/Kg <u>µg/L</u>	Q
Benzene	4	3
Toluene	1	
Ethylbenzene	7	
Xylene (total)	130	
	Benzene Toluene Ethylbenzene	Benzene 4 Toluene 1 Ethylbenzene 7

5/8/14

KEY-URS180 S38

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CONCENTRATION UNITS:

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

		HIMW-05I
Lab Name: PACE ANALYTICAL Cont	tract:	8
Lab Code: <u>10478</u> Case No.: <u>KEY-URS</u>	SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATER	Lab Sample ID:	1403146-006B
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	R21353.D
Level: (low/med) <u>LOW</u>	Date Received:	03/26/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	03/28/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/03/14
Injection Volume: 2 (μ L)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH:	Extraction: (Type) <u>CONT</u>

CAS NO. COMPOUND (µg/L or µg/Kg) µg/L Q 91-20-3 Naphthalene 1400 2400 K 91-57-6 2-Methylnaphthalene 420 430 \boldsymbol{E} 208-96-8 Acenaphthylene 200 220 P 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 υ 218-01-9 Chrysene 10 U 205-99-2 Benzo(b)fluoranthene 10 υ 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 Ū

(1) Cannot be separated from Diphenylamine

FORM I SV- 1

OLM04.2

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	10		EPA SAMPLE	NO.
SEMIVOLA	TILE ORGANICS ANALYSIS D	ATA SHEET		
			HIMW-05IDL	
	1	\frown		
Lab Name: PACE ANAL	YTICAL Contr	act:		
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> S	SAS No.:	SDG No.: KEY	-URS180
Matrix: (soil/water) WATTER	Lab Sample ID:	1403146-006B	DT.
Matrix. (Boil) water	, MATER	Han Sampre ID:	1403149-0099	
Sample wt/vol:	<u>1000</u> (g/mL) ML	Lab File ID:	R21401.D	
Level: (low/med)	LOW	Date Received:	03/26/14	
		61		
<pre>% Moisture:</pre>	Decanted: (Y/N)	Date Extracted:	03/28/14	
Concentrated Extract	t Volume: 1000 (µL)	Date Analyzed:	04/05/14	
		4		
Injection Volume:	<u>2</u> (μL)	Dilution Factor:	50.00	
	2	Extraction. (The		
GPC Cleanup: (Y/N)) <u>N</u> pH:	Extraction: (Type	CONT	
		CONCE	NTRATION UNITS	2.7
	COMPOUND		·····	
CAS NO.	COMPOUND	(µg/1	or µg/Kg) <u>µg/</u>	<u>L</u> Q
91-20-3	Naphthalene	i	2400	D
A A	2-Methylnaphthalene		430	DJ
208-96-8			220	DJ
83-32-9			500	U
86-73-7	Fluorene		500	U
85-01-8	Phenanthrene	I	\$00	υ
120-12-7	Anthracene		500	T U
206-44-0	Fluoranthene		500	Ū
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	Ū
207-08-9	Benzo(k) fluoranthene		500	Ū
50-32-8	Benzo (a) pyrene		500	U
193-39-5	Indeno(1,2,3-cd)pyrene	X	500	Ū
53-70-3	Dibenzo(a, h) anthracene		500	Ū
	Benzo(g,h,i)perylene		500	U
	ated from Diphenylamine			-

(1) Cannot be separated from Diphenylamine

5/30/14

FORM I SV- 1

3 3 1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-05D

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS179
Matrix: (soil/water)	WATER	Lab Sample ID:	1403K10-006A
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	G24208.D
Level: (low/med)	TOM	Date Received:	03/28/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Volu	me(µL)

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
71-43-2	Benzene	1	T
108-88-3	Toluene	1	Ū
100-41-4	Ethylbenzene	1 1	ש
1330-20-7	Xylene (total)	29	

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FORM I VOA - 1

5/6/14

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SEMIVOLATILE ORGANICS ANAL	YSIS DATA SHEET	HIMW-05D
Lab Name: PACE ANALYTICAL	Contract:	
Lab Code: 10478 Case No.: KEY-U	JRS SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	1403K10-006B
Sample wt/vol: 1000 (g/mL)	<u>mL</u> Lab File ID:	R21363.D
Level: (low/med) LOW	Date Received:	03/28/14
% Moisture: Decanted: (Y/N)	<u>N</u> Date Extracted:	03/31/14
Concentrated Extract Volume: 1000 (μL) Date Analyzed:	04/04/14
Injection Volume: <u>2</u> (µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH:	Extraction: (Type)	CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	430 320	ZI
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	ΰ
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	1.0	U
207-08-9	Benzo(k)fluoranthene	10	υ
50-32-8	Benzo(a)pyrene	10	υ
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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FORM I SV- 1

5 8/14

HIMW-05DDL Lab Name: PACE ANALYTICAL Contract: Lab Code: 10478 SDG No.: KEY-URS179 Case No.: KEY-URS SAS No.: Matrix: (soil/water) WATER Lab Sample ID: 1403K10-006BDL Sample wt/vol: 1000 (g/mL) <u>ML</u> Lab File ID: R21403.D Level: (low/med) LØW Date Received: 03/28/14 % Moisture: Decanted: (Y/N) Date Extracted: N 03/31/14 Concentrated Extract Volume: 1000 (µL) Date Analyzed 04/05/14

Injection Volume: <u>2</u> (µL) GPC Cleanup: (Y/N) <u>N</u> pH: ____

CONCENTRATION UNITS:

Dilution Factor: 10.00

Extraction: (Type) CONT

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/I</u>	ي ي
91-20-3	Naphthalene	430	D
91-57-6	2-Methylnaphthalene	52	DJ
208-96-8	Acenaphthylene	27	IJ
83-32-9	Acenaphthene	100	υ
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) anthragene	100	U
218-01-9	Chrysene	100	Ŭ
205-99-2	Benzo(b)fluoranthène	100	U
207-08-9	Benzo(k) fluoranthene	100	U
50-32-8	Benzo (a) pyrene	100	U
193-39-5	Indepo(1,2,3-cd)pyrene	100	υ
53-70-3	Dibenzo(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	υ

(1) Cannot be separated from Diphenylamine

FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

HIMW-85

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALY	TICAL	Contract:	8 8	
Lab Code: <u>10478</u>	Case No.: KEY-1	URS SAS No.:	SDG No.:	KEY-URS179
Matrix: (soil/water)	WATER	Lab Samp	le ID: <u>1403D98-(</u>	007A
Sample wt/vol: 5	(g/mL) mL	Lab File	ID: F64659.D	
Level: (low/med)	LOW	Date Rec	eived: <u>03/19/14</u>	
<pre>% Moisture: not dec.</pre>	2	Date Ana	lyzed: 03/29/14	L
GC Column: DB-624	ID: <u>0.16</u>	(mm) Dilution	Factor: <u>1.00</u>	
Soil Extract Volume:	(µ	L) Soil Alio	quot Volume	(PL)

CONCENTRATION UNITS:

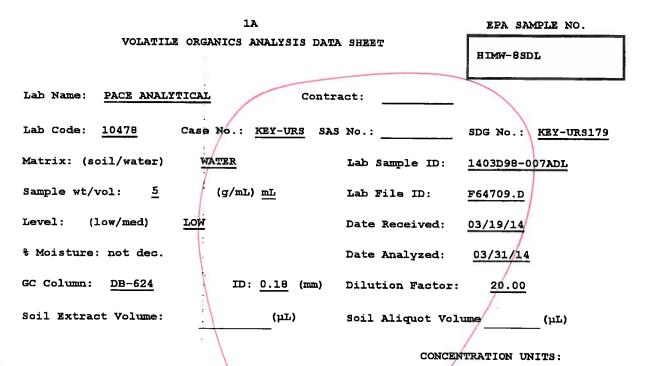
CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
71-43-2	Benzène	2100 900	20
108-88-3	Toluène	590 300	2-2
100-41-4	Ethylbenzene	41	
1330-20-7	Xylene (total)	210	

5/6/14

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OLM04.2



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

OLM04.2

KEY-URS179 S29

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE (DRGANICS ANALYSIS	DATA SHEET	HIMW-85
Lab Name: PACE ANALYTICA	Li Cont	ract:	
Lab Code: <u>10478</u> Ca	se No.: KEY-URS	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATE	R.	Lab Sample ID:	1403D98-007B
Sample wt/vol: 1000	(g/mL) <u>mL</u>	Lab File ID:	N64531.D
Level: (low/med)	TOM	Date Received:	03/19/14
<pre>% Moisture: Deca</pre>	nted: (Y/N) N	Date Extracted:	03/24/14
Concentrated Extract Volu	ime: <u>1000</u> (μL)	Date Analyzed:	03/28/14
Injection Volume: 2	(µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) M	pH:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

	CONCEANINGTION ONLY		+U.	
CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q	
91-20-3	Naphthalene	5	J	
91-57-6	2-Methylnaphthalene	10	U	
208-96-B	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	υ	
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	υ	
205-99-2	Benzo(b)fluoranthene	10	ט ד	
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	υ	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

OLM04.2

5/8/14

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-81

Lab Name: PACE ANALY	TTICAL Contr	act:	
Lab Code: <u>10478</u>	Case No.: KEY-URS SAS	3 No.:	SDG No.: KEY-URS179
Matrix: (soil/water)	WATER	Lab Sample ID:	1403D98-008A
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	F64712.D
Level: (low/med)	TOM	Date Received:	03/19/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	03/31/14
GC Column: <u>DB-624</u>	ID: 0.18 (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(بتت)	Scil Aliquot Vol	ume (µL)

CONCENTRATION UNITS:

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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)	3	

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLAT.	ILE ORGANICS ANALYSIS	DATA SHEET	HIMW-8I
Lab Name: PACE ANALY	TICAL Con	tract:	<i>n</i>
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u>	SAS No.:	SDG No.: <u>KEY-URS179</u>
Matrix: (soil/water)	WATER	Lab Sample ID:	1403D98-008B
Sample wt/vol: 1	<u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	N64532.D
Level: (low/med)	LOW	Date Received:	03/19/14
<pre>% Moisture:</pre>	Decanted: (Y/N) N	Date Extracted:	03/24/14
Concentrated Extract	Volume: <u>1000</u> (μ L)	Date Analyzed:	03/28/14
Injection Volume:	<u>2</u> (μL)	Dilution Factor:	<u>1.00</u>
GPC Cleanup: (Y/N)	<u>N</u> pH:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

	Concentrative onitio.	
COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
Naphthalene	10	U
2-Methylnaphthalene	10	υ
Acenaphthylene	10	υ
Acenaphthene	10	U
Fluorene	10	υ
Phenanthrene	10	U
Anthracene	10	U
Fluoranthene	10	U
Pyrene	10	U
Benzo(a)anthracene	10	U
Chrysene	10	υ
Benzo(b)fluoranthene	10	ט 打
Benzo(k)fluoranthene	10	U
Benzo(a)pyrene	10	υ
	10	U
Dibenzo(a,h)anthracene	10	U
Benzo(g,h,i)perylene	10	υ
	Naphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	COMPOUND(µg/L or µg/Kg) µg/LNaphthalene102-Methylnaphthalene10Acenaphthylene10Acenaphthene10Fluorene10Phenanthrene10Anthracene10Fluoranthene10Pyrene10Benzo (a) anthracene10Benzo (b) fluoranthene10Benzo (a) pyrene10Benzo (a) pyrene10Dibenzo (a, h) anthracene10Indeno (1, 2, 3-cd) pyrene10Dibenzo (a, h) anthracene10

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-8D

Lab Name: PACE ANALY	TICAL Contra		
Lab Code: <u>10478</u>	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) <u>mL</u>	Lab File ID:	F64661.D
Level: (low/med)	LOW	Date Received:	03/19/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	03/29/14
GC Column: DB-624	ID: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(بىت	Soil Aliquot Volu	ume (µL)

CONCENTRATION UNITS:

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

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EPA SAMPLE NO.

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SEMIVOLATILE ORGANICS ANALYS	IS DATA SHEET	HIMW-8D
Lab Name: PACE ANALYTICAL C	ontract:	
Lab Code: 10478 Case No.: KEY-UR	5 SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID:	1403D98-009B
Sample wt/vol: 1000 (g/mL)	nL Lab File ID:	<u>N64533.D</u>
Level: (low/med) LOW	Date Received:	03/19/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	03/24/14
Concentrated Extract Volume: 1000 (µI) Date Analyzed:	03/28/14
Injection Volume: 2 (μ L)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type)) <u>CONT</u>

CONCENTRATION UNITS:

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CONCLATENCE		concentration ontio.	
CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	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	ប
120-12-7	Anthracene	10	υ
206-44-0	Fluoranthene	10	U
129-00-0	Pyreae	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	υ
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

KEY-URS179 S56

5/8/14

EPA SAMPLE NO.

HIMW-128

VOLATILE ORGANICS ANALYSIS DA TA SHEBT

Lab Name:PACE ANALYT ICALContract:Lab Code:10478Case No.:KEY-URSSAS No.:SDG No.:KEY-URS180Matrix:(soil/water)WATERLab Sample ID:1403I46-001ASample wt/vol:5(g/mL) mLLab File ID:624192.DLevel:(low/med)LOWDate Received:03/26/14% Moisture:not dec.Date Analyzed:04/03/14GC Column:Rtx-624ID:.18(mm)Dilution Factor:1.00Soil 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 1	υ
108-88-3	Toluene	1	Ū
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

KEY-URS180 S33

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

	NDIDID DAIA DIIDII	HIMW-12S
Lab Name: PACE ANALYTICAL	Contract:	
Lab Code: 10478 Case No.: KE	Y-URS SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATER	Lab Sample ID	: <u>1403I46-001B</u>
Sample wt/vol: 1000 (g/mL) <u>mL</u> Lab File ID:	R21346.D
Level: (low/med) LOW	Date Received	: <u>03/26/14</u>
% Moisture: Decanted:(Y/N)	<u>N</u> Date Extracted	1: <u>03/28/14</u>
Concentrated Extract Volume: 1000	(µL) Date Analyzed	: 04/03/14
Injection Volume: $\underline{2}$ (µL)	Dilution Facto	or: <u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (?	Type) <u>CONT</u>

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	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	Ŭ
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	ΰ
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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FORM I SV- 1

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EPA SAMPLE NO.

HIMW-121

VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALY	Contra	ct:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: <u>REY-URS180</u>
Matrix: (soil/water)	WATER	Lab Sample ID:	1403146-002A
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	G24193.D
Level: (low/med)	TOM	Date Received:	03/26/14
% Moisture: not dec.		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(րւ)	Soil Aliquot Volu	me (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg µg/L	Q
71-43-2	Benzene	25	T
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene (total)	1	<u> </u>

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KEY-URS180 S34

CONCENTRATION UNITS:

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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SEMIVULATIUS ORGANICS ANALI	ISIS DATA SHEET	
		HIMW-12I
Lab Name: PACE ANALYTICAL	Contract:	
Lab Code: 10478 Case No.: <u>KEY-U</u>	RS SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATER	Lab Sample ID:	1403I46-002B
Sample wt/vol: 1000 (g/mL)	<u>mL</u> Lab File ID:	R21347.D
Level: (low/med) LOW	Date Received:	03/26/14
<pre>% Moisture: Decanted:(Y/N)</pre>	<u>N</u> Date Extracted:	03/28/14
Concentrated Extract Volume: 1000 ()	μL) Date Analyzed:	04/03/14
Injection Volume: <u>2</u> (μ L)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type)	CONT
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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	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	υ
50-32-8	Benzo(a)pyrene	10	υ
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	υ

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

HIMW-12D

VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALY	Contra	act:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS180
Matrix: (soil/water)	WATER	Lab Sample ID:	1403146-003A
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: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(hг) 	Soil Aliquot Volu	me(µL)

CONCENTRATION UNITS:

COMPOUN D	(µg/L or µg/Kg µg/L	
Benzene	1 1	U
Toluene	1	
Ethylbenzene	1	
Xylene (total)	1	
	Benzene Toluene Ethylbenzene	Benzene 1 Toluene 1 Ethylbenzene 1

CONCENTRATION UNITS:

IC SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE C	RGANICS ANALYSIS DAT	IA SHEET	HIMW-12D
Lab Name: PACE ANALYTICA	L Contrac	st:	
Lab Code: <u>10478</u> Ca	șe No.: <u>Key-URS</u> SA	S No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATE	Ř.	Lab Sample ID:	1403I46-003B
Sample wt/vol: 1000	(g/mL) <u>mL</u>	Lab File ID:	<u>R21348.D</u>
Level: (low/med)	LOW	Date Received:	03/26/14
<pre>% Moisture: Deca</pre>	nted: (Y/N) <u>N</u>	Date Extracted:	03/28/14
Concentrated Extract Volu	me: <u>1000</u> (μL)	Date Analyzed:	04/03/14
Injection Volume: 2	(µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u>	рн:	Extraction: (Type)	CONT

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	υ
91-57-6	2-Methylnaphthalene	10	υ
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluotene	10	U
85-01-8	Phenanthrene	10	υ
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	υ
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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FORM I SV- 1

OLM04.2

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

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BPA SAMPLE NO.

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HIMW-135

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	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) <u>mL</u>	Lab File ID:	F64652.D
Level: (low/med)	TOM	Date Received:	03/19/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	03/29/14
GC Column: DB-624	ID: 0.18 (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Volu	me(µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
71-43-2	Benzene	1	Ū
108-88-3	Toluene	391	υ
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U

OLM04.2

EPA SAMPLE NO.

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SEMIVOLATILE	ORGANICS ANALYSIS	DATA SHEET	HIMW-135
Lab Name: PACE ANALYTIC	Cont:	ract:	L
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u>	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) <u>WA</u>	TER	Lab Sample ID:	1403D98-003B
Sample wt/vol: 100	0 (g/mL) <u>mL</u>	Lab File ID:	<u>N64527.D</u>
Level: (low/med)	LOW	Date Received:	03/19/14
% Moisture: De	canted:(Y/N) <u>N</u>	Date Extracted:	03/24/14
Concentrated Extract Vo	lume: <u>1000</u> (µL)	Date Analyzed:	03/28/14
Injection Volume: 2	<u>2</u> (μL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u>	pH:	Extraction: (Type)	CONT

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	υ
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	ບ 🇊
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	υ
191-24-2	Benzo(g,h,i)perylene	10	U

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

HIMW-13I

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALYT	ICAL Contra	act:	80
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS179
Matrix: (soil/water)	WATER	Lab Sample ID:	1403D98-004A
Sample wt/vol: $\frac{5}{2}$	(g/mL) <u>mL</u>	Lab File ID:	F64656.D
Level: (low/med)	TOM	Date Received:	03/19/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	03/29/14
GC Column: <u>DB-624</u>	ID: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Vol	ume(µL)

CONCENTRATION UNITS:

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

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KEY-URS179 S25

EPA SAMPLE NO.

HIMW-13I

	SEMIVOLATILE	ORGANICS	ANALYSIS	DATA	SHEET
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Lab Name: PACE ANALYTICAL Co	ontract:	
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID:	1403D98-004B
Sample wt/vol: <u>1000</u> (g/mL) <u>m</u>	L Lab File ID: 1	N64528.D
Level: (low/med) <u>LOW</u>	Date Received:	03/19/14
<pre>% Moisture: Decanted:(Y/N) N</pre>	Date Extracted:	03/24/14
Concentrated Extract Volume: 1000 (µI) Date Analyzed:	03/28/14
Injection Volume: <u>2</u> (µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type)	CONT

CONCENTRATION UNITS:

	*		
CAS NO.	COMPOUND	(μg/L or μg/Kg) <u>μg/L</u>	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	υ
218-01-9	Chrysene	10	υ
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

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5/8/14

FORM I SV- 1

DUP-031814 (HIMW-13I)

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS179
Matrix: (soil/water)	WATER	Lab Sample ID:	1403D98-010A
Sample wt/vol: 5	(g/mL) mL	Lab File ID:	F64662.D
Level: (low/med)	TOM	Date Received:	03/19/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	03/29/14
GC Column: DB-624	ID: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µ 正)	Soil Aliquot Volu	ume (µL)

CONCENTRATION UNITS:

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

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5/7/14

KEY-URS179 S32

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

1A	EPA SAMPLE NO.
VOLATILE ORGANICS ANALYSIS DATA	DUP-031814DL (HIMW-ISI)
Lab Name: PACE ANALYTICAL Contra	act:
Lab Code: 10478 Case No.: KEY-URS SAS	NO.: SDG NO.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID: <u>1403D98-010ADL</u>
Sample wt/vol: <u>5</u> (g/mL) <u>mL</u>	Lab File ID: <u>F64713.D</u>
Level: (low/med) LOW	Date Received: 03/19/14
<pre>% Moisture: not dec.</pre>	Date Analyzed: 03/31/14
GC Column: <u>DB-624</u> ID: <u>0.18</u> (mm)	Dilution Factor: 2.00
Soil Extract Volume: (µL)	Soil Aliquot Volume(µL)

CONCENTRATION UNITS:

5/7/14

COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
Benzène	200	D
Toluene	2	U
Ethylbenzene	2	U
Xylene (total)	5	D
	Benzène Toluene Ethylbenzene	Benzène200Toluene2Ethylbenzene2

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FORM I VOA – 1

KEY-URS179 S33

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DUP-031814 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: 1403D98-010B Sample wt/vol: 1000 (g/mL) mL Lab File ID: N64534.D Level: (low/med) LOW Date Received: 03/19/14 % Moisture: Decanted: (Y/N) Date Extracted: N 03/24/14 Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/28/14 Injection Volume: 2 (μL) Dilution Factor: 1.00 -Extraction: (Type) CONT GPC Cleanup: (Y/N) <u>N</u> рн: ____ CONCENTRATION UNITS: CAS NO. COMPOUND $(\mu g/L \text{ or } \mu g/Kg) \mu g/L$ Q 91-20-3 Naphthalene 10 U 91-57-6 2-Methylnaphthalene 10 υ 208-96-8 Acenaphthylene 66 83-32-9 Acenaphthene :7 Ĵ 86-73-7 Fluorene 9 J 85-01-8 Phenanthrene 13 120-12-7 Anthracene 1 J 206-44-0 Fluoranthene 10 IJ 129-00-0 Pyrene 10 U 56-55-3 Benzo(a) anthracene 10 Ū 218-01-9 Chrysene 10 υ 205-99-2

(1) Cannot be separated from Diphenylamine

207-08-9

50-32-8

193-39-5

53-70-3

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Indeno(1,2,3-cd)pyrene

Dibenzo(a,h)anthracene

Benzo(a)pyrene

191-24-2 Benzo(g,h,i)perylene

FORM I SV- 1

EPA SAMPLE NO.

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EPA SAMPLE NO.

HIMW-13D

VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: PACE ANALY	TICAL Contra	Act:	
Lab Code: <u>10478</u>	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) <u>mL</u>	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: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Vol	nue (hr)

CONCENTRATION UNITS:

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

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EPA SAMPLE NO.

SEMIVOLATILE OR	GANICS ANALYSIS DA	NTA SHEET	HIMW-13D
Lab Name: PACE ANALYTICAL	Contra	ct:	L
Lab Code: <u>10478</u> Case	NO.: <u>KEY-URS</u> SA	AS No.:	SDG No.: <u>KEY-URS179</u>
Matrix: (soil/water) WATER		Lab Sample ID:	1403D98-005B
Sample wt/vol: <u>1000</u>	(g/mL) <u>mL</u>	Lab File ID:	N64529.D
Level: (low/med)	LOW	Date Received:	03/19/14
% Moisture: Decant	ed:(Y/N) <u>N</u>	Date Extracted:	03/24/14
Concentrated Extract Volume	e: <u>1000</u> (μL)	Date Analyzed:	03/28/14
Injection Volume: 2	(µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u>	рН:	Extraction: (Type) <u>CONT</u>
		00100	

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	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	υ		
56-55-3	Benzò(a)anthracene	10	U		
218-01-9	Chrysene	10	U		
205-99-2	Benzo(b)fluoranthene	10	Ū 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	Ū		
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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FORM I SV- 1

OLM04.2

CAS NO.

EPA SAMPLE NO.

HIMW-141

CONCENTRATION UNITS:

VOLATILE ORGANICS ANALYSIS DA TA SHEET

 Lab Name:
 PACE ANALYT ICAL
 Contract:

 Lab Code:
 10478
 Case No.:
 KEY-URB
 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)

COMPOUND (µg/L or µg/Kg µg/L Q Benzene 13

71-43-2	Benzene	13	
108-88-3	Toluene	1	υ
100-41-4	Ethylbenzene	1	υ
1330-20-7	Xylene (total)	2	

KEY-URS180 S29

BPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

DUP-032014 (HIMW-14I)

Lab Name:	PACE ANALYT	ICAL	Co	ontrad	ct:	-	
Lab Code:	10478	Case No.;	KEY-URS	SAB 1	No.:	SDG No.:	KEY-URS180
Matrix: (so	il/water)	WATER			Lab Sample ID:	<u>1403899-00</u>	<u>5A</u>
Sample wt/v	ol: <u>5</u>	(g/mL)) <u>mL</u>		Lab File ID:	F64718.D	
Level: (1	ow/med)	TOM			Date Received:	03/20/14	
% Moisture:	not dec.				Date Analyzed:	03/31/14	
GC Column:	DB-624	ID:	<u>0.18</u> (mr	m)	Dilution Factor	: <u>1.00</u>	
Soil Extrac	t Volume :		(րբ)		Soil Aliquot Vo	lume	(hr)

CONCENTRATION UNITS:

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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE ORGANICS ANALYSIS DA	HIMW-14I	
Lab Name: PACE ANALYTICAL Contra	ct:	2
Lab Code: 10478 Case No.: KEY-URS SA	AS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	1403E99-002B
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>N64536.D</u>
Level: (low/med) LOW	Date Received:	03/20/14
% Moisture: Decanted:(Y/N) <u>N</u>	Date Extracted:	03/24/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	03/28/14
Injection Volume: 2 (μ L)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(μg/L or μg/Kg) <u>μg/L</u>	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	υ
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	υ
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	υ
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	ບ 🗂
207-08-9	Benzo(k)fluoranthene	10	υ
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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FORM I SV- 1

5/30/14

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE ORGANICS ANALYSIS I	DUP-032014	
Lab Name: PACE ANALYTICAL Contr	ract:	(HIMW-14I)
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATER	Lab Sample ID:	<u>1403E99-005B</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>N64550.D</u>
Level: (low/med) <u>LOW</u>	Date Received:	03/20/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	03/25/14
Concentrated Extract Volume: 1000 (μ L)	Date Analyzed:	03/30/14
Injection Volume: 2 (µL)	Dilution Factor:	<u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type) <u>CONT</u>

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	υ
208-96-8	Acenaphthylene	15	
83-32-9	Acenaphthene	13	
86-73-7	Fluorene	6	J
85-01-B	Phenanthrene	7	J
120-12-7	Anthracene	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Ругеле	10	υ
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

FORM I SV- 1

1B

EPA SAMPLE NO.

HIMW-14D

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VOLATILE ORGANICS ANALYSIS DA TA SHEET

Lab Name: PACE ANALYT	ICAL Contra	ct:	
Lab Code: <u>10478</u>	Case No.: KEY-URS SAS	No.:	SDG No.: <u>KEY-URS180</u>
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.	4	Date Analyzed:	03/31/14
GC Column: DB-624	ID: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume :	(بىتە)	Soil Aliquot Volu	me (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUN D	(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

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CONCENTRATION UNITS:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

			HIMW-14D
Lab Name: PACE ANALY	TICAL Co	ontract:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u>	SAS No.:	SDG No.: KEY-URS180
Matrix: (soil/water)	WATER	Lab Sample ID:	1403E99-001B
Sample wt/vol: <u>1</u>	.000 (g/mL) <u>m</u>	Lab File ID:	<u>N64535.D</u>
Level: (low/med)	LOW	Date Received:	03/20/14
<pre>% Moisture:</pre>	Decanted: (Y/N) N	Date Extracted:	03/24/14
Concentrated Extract	Volume: <u>1000</u> (µ1) Date Analyzed:	03/28/14
Injection Volume:	<u>2</u> (µL)	Dilution Factor:	<u>1.00</u>
GPC Cleanup: (Y/N)	<u>м</u> рн:	Extraction: (Type) <u>CONT</u>

COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q	
Naphthalene	10	U	
2-Methylnaphthalene	10	υ	
Acenaphthylene	10	U	
Acenaphthene	10	U	
Fluorene	10	U	
Phenanthrene	10	U	
Anthracene	10	U	
Fluoranthene	10	υ	
Pyrene	10	υ	
Benzo(a)anthracene	10	υ	
Chrysene	10	U	
Benzo(b)fluoranthene	10	ט 🎝	
Benzo(k)fluoranthene	10	U	
Benzo(a)pyrene	10	U	
Indeno(1,2,3-cd)pyrene	10	U	
Dibenzo(a,h)anthracene	10	U	
Benzo(g,h,i)perylene	10	U	
	Naphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo (a) anthracene Chrysene Benzo (b) fluoranthene Benzo (c) fluoranthene Benzo (a) pyrene Indeno (1, 2, 3-cd) pyrene Dibenzo (a, h) anthracene	Naphthalene102-Methylnaphthalene10Acenaphthylene10Acenaphthene10Fluorene10Phenanthrene10Anthracene10Fluoranthene10Pyrene10Benzo (a) anthracene10Benzo (b) fluoranthene10Benzo (a) pyrene10Benzo (a) pyrene10Indeho (1, 2, 3-cd) pyrene10Dibenzo (a, h) anthracene10	

(1) Cannot be separated from Diphenylamine

OLM04.2

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5/30/14

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

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: . EPA SAMPLE NO.

HIMW-151

Lab Name: PACE ANALY	FICAL Contra	lot:	
Lab Code: <u>10478</u>	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) <u>mL</u>	Lab File ID:	G24203.D
Level: (low/med)	TOM	Date Received:	03/28/14
f Moisture: not dec.		Date Analyzed:	04/03/14
GC Column: Rtx-624	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(μL)	Soil Aliquot Volu	ume (µL)

CONCENTRATION UNITS:

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CAS NO. COMPOUND		(µg/L or µg/Kg) <u>µg/L</u>	Q	
71-43-2	Benzene	13	5	
108-88-3	Toluene	1	υ	
100-41-4	Ethylbenzene	1	υ	
1330-20-7	Xylene (total)	4		

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SEM	NIVOLATILE ORG	ANICS ANALYS	IS DATA SHEET	HIMW-151
Lab Name: PAC	E ANALYTICAL	Cc	ontract:	L.;
Lab Code: <u>1047</u>	8 Case	No.: KEY-URS	SAS No.:	SDG NO.: KEY-URS179
Matrix: (soil/	water) <u>WATER</u>		Lab Sample ID:	1403K10-001B
Sample wt/vol:	1000	(g/mL) <u>m</u>	L Lab File ID:	R21358.D
Level: (low	/med)	LOW	Date Received:	03/28/14
<pre>% Moisture:</pre>	Decant	ed:(Y/N) <u>N</u>	Date Extracted:	03/31/14
Concentrated E	xtract Volume	: <u>1000</u> (µL) Date Analyzed:	04/03/14
Injection Volu	ime: <u>2</u>	(µL)	Dilution Factor:	1.00
GPC Cleanup:	(Y/N) <u>N</u>	рн:	Extraction: (Type	e) <u>CONT</u>
CAS NO.	COME	OUND		or $\mu q/Kq) \mu q/L 0$

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CAS NO.	COMPOUND	(#d\r or #d\rd) #d\r	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	υ
207-08-9	Benzo(k)fluoranthene	10	υ
50-32-8	Benzo(a)pyrene	10	υ
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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FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

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1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

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HIMW-15D

Lab Name: PACE ANALY	TICAL Contra		
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) <u>mL</u>	Lab File ID:	G24204.D
Level: (low/med)	TOM	Date Received:	03/28/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(یلر)	Soil Aliquot Volu	me (µL)

CONCENTRATION UNITS:

CAS NO.	AS NO. COMPOUND		(µg/L or µg/Kg) <u>µg/L</u>	Q
	71-43-2	Benzéne	1	U
-	108-88-3	Toluene	.1	U
	100-41-4	Ethylbenzene	1	U
1:	330-20-7	Xylene (total)	1	U

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KEY-URS179 S36

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.	PA SZ	MP	\mathbf{LE}	NO.
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HIMW-	15D

Lab Name: PACE ANAL	YTICAL	Contra	act:	·
Lab Code: <u>10478</u>	Case No.: 1	CEY-URS S	BAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water)	WATER		Lab Sample ID:	1403K10-002B
Sample wt/vol:	<u>1000</u> (g/1	mL) <u>mL</u>	Lab File ID:	R21359.D
Level: (low/med)	LOW		Date Received:	03/28/14
<pre>% Moisture:</pre>	Decanted: (Y/I	N) <u>N</u>	Date Extracted:	03/31/14
Concentrated Extract	: Volume: <u>100</u>	<u>0</u> (µL)	Date Analyzed:	04/04/14
Injection Volume:	<u>2</u> (μL)		Dilution Factor:	1.00
GPC Cleanup: (Y/N)	<u>м</u> рн	:	Extraction: (Type)) <u>CONT</u>
	:			

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μg/L or μg/Kg) <u>μg/L</u>	Q
91-20-3	Naphthalene	10	υ
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	υ
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	σ
218-01-9	Chrysene	10	υ
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	1.0	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	Ū

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-20S

Lab Name: PACE ANALY	FICAL Contra	.ot:	
Lab Code: <u>10478</u>	Case No.: KEY-URS SAS	No.:	SDG No.: <u>Key-urs179</u>
Matrix: (soil/water)	WATER	Lab Sample ID:	1403K10-003A
Sample wt/vol: 5	(g/mL) mL	Lab File ID:	G24205.D
Level: (low/med)	TOM	Date Received:	03/28/14
<pre>% Moisture: not dec.</pre>	-	Date Analyzed:	04/03/14
GC Column: Rtx-624	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µL)	Soil Aliquot Volu	une(µL)

CONCENTRATION UNITS:

CAS NO.		COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
71-4	43-2	Benzène	1	U
108-8	88-3	Toluene	1	U
100-4	41-4	Ethylbenzene	1	U
1330-2	20-7	Xylene (total)	1	U

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYS	IS DATA SHEET	
Lab Name: PACE ANALYTICAL	ontract:	HIMW-20S
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID:	1403K10-003B
Sample wt/vol: 1000 (g/mL) m	Lab File ID:	R21360.D
Level: (low/med) <u>LOW</u>	Date Received:	03/28/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	03/31/14
Concentrated Extract Volume: 1000 (µI) Date Analyzed:	04/04/14
Injection Volume: <u>2</u> (µL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH:	Extraction: (Type)) CONT

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	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	υ	
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		
207-08-9	Benzo(k)fluoranthene	10	υ	
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

FORM I SV- 1

EPA SAMPLE NO.

HIMW-201

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	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) <u>mL</u>	Lab File ID:	<u>G24207.D</u>
Level: (low/med)	TOM	Date Received:	03/28/14
<pre>% Moisture: not dec.</pre>		Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(يتر)	Soil Aliquot Vol	ume(µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
71-43-2	Benzène	1	U
108-88-3	Toluène	1	U
100-41-4	Ethylbenzene	.1	U
1330-20-7	Xylene (total)	5	

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EPA SAMPLE NO.

SEMIVOLATILE	ORGANICS	ANALYSIS	DATA	SHEET
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SEMITODATIDE ORGANICS ANADISIS DATA SREET			HIMW-20I
Lab Name: PACE ANALYTICA	- Cont	cract:	L
Lab Code: <u>10478</u> Ca	se No.: <u>KEY-URS</u>	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) <u>WATE</u>	÷ R	Lab Sample ID:	1403K10-005B
Sample wt/vol: 1000	(g/mL) <u>mL</u>	Lab File ID:	R21362.D
Level: (low/med)	TOM	Date Received:	03/28/14
<pre>% Moisture: Deca</pre>	nted: (Y/N) <u>N</u>	Date Extracted:	03/31/14
Concentrated Extract Volu	me: <u>1000</u> (μL)	Date Analyzed:	04/04/14
Injection Volume: 2	(μL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u>	pH:	Extraction: (Type)) <u>CONT</u>
	÷	CONCEN	TRATION UNITS:

CONCENTRATION UNITS:

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		CONCERTION DIVIS.		
CAS NO.	COMPOUND	(μg/L or μg/Kg) <u>μg/L</u>	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	Chryșene	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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EPA SAMPLE NO.

HIMW-22

VOLATILE ORGANICS ANALYSIS DA TA SHEET

	(*) (
Lab Name: PACE ANALYI	ICAL Contra		
Lab Code: <u>10478</u>	Case No.: <u>KBY-URS</u> SAS	No.:	SDG No.: <u>KEY-URS180</u>
Matrix: (soil/water)	WATER	Lab Sample ID:	1403E99-003A
Sample wt/vol: 5	(g/mL) <u>mL</u>	Lab File ID:	<u>F64716.D</u>
Level: (low/med)	LOW	Date Received:	03/20/14
% Moisture: not dec.		Date Analyzed:	03/31/14
GC Column: DB-624	ID: <u>0.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume ;	(pL)	Soil Aliquot Volu	me(ll)

CONCENTRATION UNITS:

CAB NO.	COMPOUND (7	1g/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	Ŭ

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1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE O	KGANICS ANALISIS DA	IA SHEEL	HIMW-22
Lab Name: PACE ANALYTICAL	Contrac	et:	L
Lab Code: <u>10478</u> Cas	e No.: <u>KEY-URS</u> SA	S No.:	SDG No.: KEY-URS180
Matrix: (soil/water) WATE	R	Lab Sample ID:	1403E99-003B
Sample wt/vol: <u>1000</u>	(g/mL) <u>mL</u>	Lab File ID:	<u>N64537.D</u>
Level: (low/med)	LOW	Date Received:	03/20/14
<pre>% Moisture: Decar</pre>	nted:(Y/N) <u>N</u>	Date Extracted:	03/24/14
Concentrated Extract Volu	me: <u>1000</u> (µL)	Date Analyzed:	03/28/14
Injection Volume: <u>2</u>	(μL)	Dilution Factor:	<u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u>	pH:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	υ
83-32-9	Acenaphthene	10	บ
86-73-7	Fluorene	10	ប
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	υ
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	ับ
205-99-2	Benzo(b)fluoranthene	10	ប 🤳
207-08-9	Benzo(k)fluoranthene	10	υ
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

FORM I SV- 1

OLM04.2

5/30/14

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EPA SAMPLE NO.

H1MW-23

VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: PACE ANALY	TICAL Contra	Act:	5
Lab Code: <u>10478</u>	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: <u>0.10</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(hr)	Soil Aliquot Volu	ume (µL)

CONCENTRATION UNITS:

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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	υ
1330-20-7	Xylene (total)	1	υ

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EPA SAMPLE NO.

SEMIVOLA	TILE ORGANICS ANALYSIS	DATA SHEET	HIMW-23
Lab Name: PACE ANAL	YTICAL Cont	tract:	20
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u>	SAS No.:	SDG NO.: KEY-URS179
Matrix: (soil/water)	WATER	Lab Sample ID:	1403D98-001B
Sample wt/vol:	<u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>N64525.D</u>
Level: (low/med)	LOW	Date Received:	03/19/14
<pre>% Moisture:</pre>	Decanted: (Y/N) <u>N</u>	Date Extracted:	03/24/14
Concentrated Extract	Volume: 1000 (μL)	Date Analyzed:	03/28/14

Dilution Factor:

Extraction: (Type) CONT

1.00

CONCENTRATION UNITS:

 $(\mu g/L \text{ or } \mu g/Kg) \mu g/L$

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(1) Cannot be separated from Diphenylamine

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(Y/N) <u>N</u>

91-20-3

91-57-6

208-96-8

83-32-9

86-73-7

85-01-8

120-12-7

206-44-0

129-00-0

56-55-3

218-01-9

205-99-2

207-08-9

193-39-5

191-24-2

50-32-8

53-70-3

(µL)

2-Methylnaphthalene

COMPOUND

Acenaphthylene

Acenaphthene

Phenanthrene

Fluoranthene

Benzo(a)pyrene

Benzo(a) anthracene

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Indeno(1,2,3-cd)pyrene

Dibenzo(a,h)anthracene

Benzo(g,h,i)perylene

Anthracene

Pyrene

Chrysene

3

Fluorene

Naphthalene

pH:

Injection Volume:

GPC Cleanup:

CAS NO.

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FORM I SV- 1

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EPA SAMPLE NO.

HIMW-24

VOLATILE ORGANICS ANALYSIS DATA SHEET

 Lab Name:
 PACE ANALYTICAL
 Contract:

 Lab Code:
 10478
 Case 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:
 1B (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	200	T	
108-88-3	Toluene	11		
100-41-4	Ethylbenzene	6		
1330-20-7	Xylene (total)	230		

FORM I VOA - 1

5/6/14

SEMIVOLATILE	ORGANICS	ANALYSIS	DATA	SHEET	

SEMIVOLATILE ORGANICS ANALYSIS I	DATA SHEET	HIMW-24
Lab Name: PACE ANALYTICAL Contr	act:	
Lab Code: <u>10478</u> Case No.: <u>KEY-URS</u>	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) WATER	Lab Sample ID:	1403K10-007B
Sample wt/vol: 1000 (g/mL) mL	Lab File ID:	<u>R21395.D</u>
Level: (low/med) LOW	Date Received:	03/28/14
% Moisture: Decanted:(Y/N) N	Date Extracted:	04/03/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/05/14
Injection Volume: <u>2</u> (µL)	Dilution Factor:	<u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type) <u>CONT</u>

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	650 980	FD
91-57-6	2-Methylnaphthalene	11	
208-96-8	Acenaphthylene	25	
83-32-9	Acenaphthene		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	υ
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	υ
191-24-2	Benzo(g,h,i)perylene	10	υ

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

	1C		EPA SAMPLE N	ю.
SEMIVOLAT	ILE ORGANICS ANALYSIS DATA SHE	ST	HIMW-24DL	
Lab Name: PACE ANALY	TICAL Contract:		4	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> SAS No.:		SDG No.: KEY-	URS179
Matrix: (soil/water)	WATER Lab S	ample ID:	<u>1403K10-007BD</u>	Ŀ
Sample wt/vol:	<u>1000</u> (g/mL) <u>ML</u> Lab F	ile ID:	R21407.D	
Level: (low/med)	LOW Date	Received:	03/28/14	
<pre>% Moisture:</pre>	Decanted: (Y/N) <u>N</u> Date	Extracted:	04/03/14	
Concentrated Extract	Volume: <u>1000</u> (µL) Date	Analyzed:	04/07/14	
Injection Volume:	2 (µL) Dilut	ion Factor:	<u>10.00</u>	
GPC Cleanup: (Y/N)	N pH: Extra	ction: (Type)	CONT	
		CONCEN	TRATION UNITS:	:
CAS NO.	COMPOUND	(µg/L	or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene		650	D
91-57-6			100	ΰ
208-96-8	Acenaphthylene		34	DJ
83-32-9	Acenaphthene		100	U
the state of the s	Fluorene		100	U
85-01-8	Phenanthrene		100	υ
120-12-7	Anthracene		100	U
	Fluoranthene	/ i	100	U
	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> </u>
193-39-5	Indeno(1,2,3-cd)pyrene		100	U
and the second s	Dibenzo(a,h)anthracene		100	<u>U</u>
53-70-3	Benzo(g,h,i)perylene		100	<u>บ</u>
171-41-4	Devine (A) 11/ 1/ ber Arene >		T V V	

(1) Cannot be separated from Diphenylamine

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FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HIMW-25

Lab Name:	PACE ANALY	FICAL	Contra	act:		
Lab Code:	10478	Case No.:	Key-urs sas	No.:	SDG No.:	KEY-URS179
Matrix: (so	il/water)	WATER		Lab Sample ID:	1403D98-00)2A
Sample wt/v	rol: <u>5</u>	(g/mL) <u>mL</u>	Lab File ID:	F64651.D	
Level: (1	.ow/med)	LOW		Date Received:	03/19/14	
% Moisture:	not dec.			Date Analyzed:	03/29/14	
GC Column:	DB-624	ID:	: <u>0.18</u> (mm)	Dilution Factor:	1.00	
Soil Extrac	t Volume:	10) •	(LT)	Soil Aliquot Vol	une	(µL)

CONCENTRATION UNITS:

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

SEMIVOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

SEMIVOLATILE ORGANICS ANALYSIS DAT	HIMW-25	
Lab Name: PACE ANALYTICAL Contrac	t:	
Lab Code: 10478 Case No.: KEY-URS SAS	8 No.:	SDG No.: <u>KEY-URS179</u>
Matrix: (soil/water) WATER	Lab Sample ID:	<u>1403D98-002B</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	N64526.D
Level: (low/med) LOW	Date Received:	03/19/14
<pre>% Moisture: Decanted:(Y/N) N</pre>	Date Extracted:	03/24/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	03/28/14
Injection Volume: $2 (\mu L)$	Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH:	Extraction: (Type)	CONT

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(μg/L or μg/Kg) <u>μg/</u>	<u>L</u> Q
91-20-3	Naphthalene	120 100	JED.
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	υ
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	ប
191-24-2	Benzo(g,h,i)perylene	10	Ū

(1) Cannot be separated from Diphenylamine

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5/8/14

	10	EPA SAMPLE NO.
SEMIVOLA	ATILE ORGANICS ANALYSIS DATA SHEET	HIMW-25DL
Lab Name: PACE ANA	LYTICAL Contract:	
hab hame. There have		
Lab Code: <u>10478</u>	Case No.: KEY-URS SAS No.:	SDG No.: <u>KEY-URS179</u>
Matrix: (soil/water) <u>WATER</u> Lab Sample ID:	1403D98-002BDL
Sample wt/vol:	1000 (g/mL) <u>ML</u> Lab File ID:	<u>N64563.D</u>
Level: (low/med)	LOW Date Received:	03/19/14
<pre>% Moisture:</pre>	Decanted: (Y/N) N Date Extracted	: 03/24/14
Concentrated Extrac	t Volume: <u>1000</u> (μ L) Date Analyzed:	03/31/14
Injection Volume:	2 (µL) Dilution Factor	r: <u>2.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH: Extraction: (T	ype) <u>CONT</u>
	COL	NCENTRATION UNITS:
CAS NO.		1
91-20-3		
91-57-6		120 D
208-96-8		9 DJ 3 DJ
83-32-9	Acenaphthene	
86-73-7	Fluorene	20 U 20 U
85-01-8	Phenanthrene	20 U 20 U
••••••••••••••••••••••••••••••••••••••	/ / ·	20 0
120-12-7		20 U
206-44-0	Fluoranthene	20 U
129-00-0	Pyrene	20U
56-55-3	Benzo(a) anthracene	20 Ŭ
218-01-9		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

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OLM04.2

EPA SAMPLE NO.

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: PACE A	NALYTICAL	Contract:			
Lab Code: <u>10478</u>	Case No.: KEY-	URS SAS No.:	s	DG No.:	KEY-URS179
Matrix: (soil/wat	er) WATER	Lab	Sample ID: 1	403D98-01	1A
Sample wt/vol:	<u>5</u> (g/mL) mL	Lab	File ID: <u>F</u>	64663.D	
Level: (low/med) LOW	Date	Received: 0	3/19/14	
% Moisture: not d	ec.	Date	Analyzed:	03/29/14	
GC Column: DB-62	1D: 0.11	3 (mm) Dilu	tion Factor:	1.00	
Soil Extract Volu	ne: (µ	L) Soil	. Aliquot Volum	ne 🗄	(µL)

CONCENTRATION UNITS:

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

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

FB032814

Lab Name: PACE ANALY	TICAL Contra	act:	
Lab Code: <u>10478</u>	Case No.: <u>KEY-URS</u> 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:	<u>G24211.D</u>
Level: (low/med)	TOM	Date Received:	03/28/14
% Moisture: not dec.	2	Date Analyzed:	04/03/14
GC Column: <u>Rtx-624</u>	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract Volume:	(µī.)	Soil Aliquot Volu	me (µL)

CONCENTRATION UNITS:

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

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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS	DATA SHEET	FB032814
Lab Name: PACE ANALYTICAL Con	tract:	L
Lab Code: 10478 Case No.: KEY-URS	SAS No.:	SDG No.: KEY-URS179
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	1403K10-010B
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>	Lab File ID:	<u>R21398.D</u>
Level: (low/med) <u>LOW</u>	Date Received:	03/28/14
* Moisture: Decanted: (Y/N) N	Date Extracted:	04/03/14
Concentrated Extract Volume: <u>1000</u> (μ L)	Date Analyzed:	04/05/14
Injection Volume: 2 (μ L)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:	Extraction: (Type	e) <u>CONT</u>

CONCENTRATION UNITS:

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CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>µg/L</u>	Q
91-20-3	Naphthalene	10	υ
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	υ
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	Ŭ
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	υ
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	υ

(1) Cannot be separated from Diphenylamine

FORM I SV- 1

OLM04.2

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TB032814

Lab Name: PAC	E ANALYTICAL	Contr	act:	
Lab Code: <u>104</u>	78 Case N	D.: <u>KEY-URS</u> SAS	No.:	SDG No.: KEY-URS179
Matrix: (soil/	water) WAT	IR	Lab Sample ID:	1403K10-011A
Sample wt/vol:	<u>5</u> (e	۶/mL) <u>mL</u>	Lab File ID:	<u>G24212.D</u>
Level: (low/)	med) LOW		Date Received:	03/28/14
<pre>% Moisture: no</pre>	t dec.		Date Analyzed:	04/03/14
GC Column: Rt	.x-624	ID: <u>.18</u> (mm)	Dilution Factor:	1.00
Soil Extract V	olume:	(µL)	Soil Aliquot Vol	ume(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	3 Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-	7 Xylene (total)	1	U
	10 10		

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DA TA SHEET

TB032614

Lab Name: Pl	ACE ANALYT I	CAL	Cor	atrac	t:		
Lab Code: <u>10</u>	0 <u>478</u> C	ase No.:	KEY-URS	SAS N	ŇO.:	SDG No.:	KEY-URS180
Matrix: (soil	/water)	WATER		I	Lab Sample ID:	1403146-00	9 <u>A</u>
Sample wt/vol	L: <u>5</u>	(g/mL)	<u>ml</u>	I	Lab File ID:	G24202.D	
Level: (low	v/med) <u>L</u>	JOW		I	Date Received:	03/26/14	
% Moisture: n	not dec.			I	Date Analyzed:	04/03/14	
GC Column:	<u>Rtx-624</u>	ID:	<u>.18</u> (mm) I	Dilution Factor:	1.00	
Soil Extract	Volume :		(µL)	E	Boil Aliquot Volu	me ····	(hr)

		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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A	Section B		Section C				Page:		of
	ξ		Involce Information:	ttion:				11	
COMPRINY: URS CO.R.P.	Report To: Pletter ham branks		Attention:	Lev L	formaries	W			13000
Address: 77 CODELL ST.	Copy To:		Company Name:	いたい	. A.W.	REGULATORY AGENCY	Y AGENCY		
Buttor, N.J.			Address:			I NPDES	L GROUN		DRINKING WATER
Empleting partonna & UAS . W	Purchase Order No.: 11,72693	00004	Pace Quote Reference:			L UST	L RCRA	L	OTHER
Phone: 354 . 56 36 Fax:	Upromore G223	(remound)	Pace Project Manager.	5*		Site Location		1. N 6. S	
oquested Due Data/TAT: Sports	Project Number.		Pace Profile #:			STATE:	3		
					Requeste	Requested Analysis Filtered (Y/N)	red (Y/N)		
Section D Matri Required Client Information MATRI	8 High Dig (Hello	CTED		Preservatives	† N /4				
	Vater DV Vater VVT VVT VVT VVT VV VVT VV V V V V V V V		S					(N/A)	
SAMPLE ID OI (A-Z, 0-9 / -) Ar Sample IDs MUST BE UNIQUE Tissue Other	в) ЭООС (8		SO4 preserved SO4	ner thanol OH O ₃ O ₃	nitest Tesy Mi Mi			ənholrið Isubia	
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11							-		
ADDITIONAL COMMENTS		I DATE	TIME	ACCEPTE	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMF	SAMPLE CONDITIONS
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	UK Algoria	3-62.14	SEJI	A A		3-19-44	15:35		
	D			-	,		5	.6.	_
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2.9- Red Corles- 0	ORIGINAL PP	SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER:	NOHN	1 646	SPO I DATE Staned			emp in "C eceived on ice (Y/V)	Custody sied Cooler (Y/N) (Y/N)
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Analytical" ww.pacelats.com	
Pace Analytical	

CHAIN-OF-CUSTODY / Analytical Request Document The Cheln-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



WWW.pacalabs.com	44	21 전 1 1 1		
Condition A	Section B	Section C	Радо:	of
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02.6.	Report To: Yayper P. M. Baw KS	& Attention: PETER FARE SAVES		-11C34T
27.		Company Name: URS Care?	REGULATORY AGENCY	all and a solution of the solution
Bueraro N.Y.		Address:	T NPDES F GROUND WATER F DRINKING WATER	DRINKING WATER
Employer . Park Carlos Cort	Purchases Order No.: 11176098, 00004	Pace Cuote Reference:	L'UST L'RCRA	OTHER
Phone 25, 27 3 Fax	Project Millinghur Garo, HEMPG 7533	Pace Project Manager:	Site Location K) / /	
Requested Due Data/TAT:	Project Number: State	Pace Profile #:	State: State: /	THE PARTY OF THE P
		Requested	Requested Analysis Filtered (Y/N)	
Section D Matrix Codes	Codes (1)	1N/		

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	Section D Matrix Codes				COLLECTED	ECTED		<u>.</u>	•	Prese	Preservatives	Se	N/Ļ								2.44	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
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影	TONAL COMMENTS	N RE	ELING	UUSHED B	3	ON S	DATE		TIME			CCEP	TED BY	ACCEPTED BY / AFFILIATION	NOL	DATE		TIME		SAMP	SAMPLE CONDITIONS	SNOL	
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				Þ		SIGNATURE	NTURE of SAMPLER:	끮	10	Ś	Ş	25	`	DATE Signed (MM/DD/YY):	igned (YY):	3	_		ы	e B	98S	- 1	
	the state of 1.5% per month for any involces not paid with 30 days and ameeting to late changes of 1.5% per month for any involces not paid with 30 days	Dunale NFT 3	and of		and amadin	to late charges	of 1 5% per m	unth for	-dinvole	we not no	ald within	30 Have							F-ALL-(2-020rev.	F-ALL-Q-020rev.07, 15-May-2007	y-2007	

"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 involces not paid within 30 days.

bed accurately.	Page: of AES-URSA	1773061		REGULATORY AGENCY	F NPDES F GROUND WATER F DRINKING WATER	F UST F RCRA F OTHER	2		Requested Analysis Filtered (Y/N)		(N/X) Əl	Residual Chlorin Residual Chlorin Pace Project No./ Lab I.D.	1403Eat a - ces	7.92-	205						DATE TIME SAMPLE CONDITIONS	A. 51 miner	3 270 M 100	5.8.0	l on y soler ntact	(Y/N)
CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.	Section C		الح	Company Name: URS CU. R.R.	Address:	Pace Quote Reference:	Paca Project Vocanos	manager. Pace Profile #:	Requeste	Preservatives		# OF CONTRINEI Unpreserved H2SO4 H2SO4 Methanoi Other Other Other Other Other HACI	4 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		2	7	2 2 2				TIME ACCEPTED BY / AFFILIATION	1530 N. H. Werken	16:00 1 20 0		SE	E A ALAN CARTS PS
CHAIN-OF-CU The Chain-of-Custody is a l	Section B	lion:	PEREN FANBANES			Purchase Order No.: []] 76099, 00004	s toto	ALD CILLA AND		8 Å		? 통 등 당 은) ЭООЭ ХІЯТАМ	3 20/14 9:30	-	Wr 6 0900	w12 14:14	WT 6 V 13500					Pola Curron / URS 3/20114	WALT conday H ? 10/14	>	SAMPLER NAME AND SIGNATURE	ORIGINAL PRINT Name of SAMPLER:
Pace Analytical	bs.com	ilent information:	Company: URS CORP	Address: 77 600 PLC ST.	15	WKIGURS . C.CM	Fax:			Section D Matrix Codes Required Client Information MATRIX / CODE	Drinking Water Water Waste Water Product	SAMPLE ID Wine (A-Z, 0-9 (, -) Ar Wine Sample IDs MUST BE UNIQUE Tissue Other	HTMW-14 D	HI-MMJH	DUP 03 201	4 HIMW-22		6	60 65	10	12 ADDITIONAL COMMENTS					OR

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Pace Analytical

CC Long Island

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

dal

Ursula Middel Quality Analyst

 $(x,y)_{1,2} = (y^{2},y^{2},\cdots)$

3A

SYSTEM MONITORING SPIKE RECOVERY

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Lab Name:	PACE ANALYTI	CAL	Contract		<u>.</u>	
Lab Code: 10	478 Case	No.: KE	Y-UR SAS No.:	SDG	No.:	KEY-URS179
Sample ID	LFB040214A			Level:(lc	w/med)	LOW
Column ID	Rtx-624			Colum	n Diam	.18
Inst. ID	HP5972-2		Init. Ca	lib. Date(s):	4/01/1	4 16:32
Analysis Dat		:59		<u>c</u>	4/01/1	4 19:46
		SPIKE	SAMPLE	SPIKE	SPIKE	QC.
	÷ .	ADDED	CONCENTRATION	CONCENTRATION	%	
COMPOUND	=	(µg/L)	(µg/L)	(µg/L)	REC #	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 CO	De used to I	Lay IECOV	ery and RPD val	Laco Hich an ac		
* Values out	side of QC 1	imits				
Spike Recove	ery: <u>1</u> o	out of	4 outside li	mits		
COMMENTS:						
		<u></u>				

FORM III

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SW8260

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5A VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

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

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	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
-Valu	e is % mass 174 2-Value is % mass	176

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

r		·			
1	EPA	LAB	LAB	DATE	TIME
l	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	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-15ł	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-201	1403K10-004A	G24206.D	04/03/14	9:57
08	HIMW-201	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

page <u>1</u> of <u>1</u>

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FORM V VOA

OLM04.2

ace Long Island

575 Broad Hollow Road Melville, NY 11747 tel 631.694.3040 fax 631.420.8436

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

For Sample(s):

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

The above water sample(s) was/were analyzed for a select list of base/neutral-aeid 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

n' a dal

Ursula Middel Quality Analyst 5-17/140

5B SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

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

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1		& RELATIVE
m/e	ION ABUNDÀNCE CRITERIA	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
	is % mass 69 · · · · · · · · · · · · · · · · · ·	

1-Value is % mass 69

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

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01[SSTD025	SSTD025	N64519R.D	03/28/14	11:03
22	MB-43778	MB-43778	N64520.D	03/28/14	11:34
33[LFB-43778	LFB-43778	N64521.D	03/28/14	12:04
24	HIMW-23	1403D98-001B	N64525.D	03/28/14	14:09
25	HIMW-25	1403D98-002B	N64526.D	03/28/14	14:40
60	HIMW-13S	1403D98-003B	N64527.D	03/28/14	15:11
72	HIMW-13I	1403D98-004B	N64528.D	03/28/14	15:42
08[HIMW-13D	1403D98-005B	N64529.D	03/28/14	16:12
)9[HS-HIMW-8S	1403D98-006B	N64530.D	03/28/14	16:43
١٥	HIMW-8S	1403D98-007B	N64531.D	03/28/14	17:14
11[HIMW-81	1403D98-008B	N64532.D	03/28/14	17:45
L2[HIMW-8D	1403D98-009B	N64533.D	03/28/14	18:15
١зГ	DUP-031814	1403D98-010B	N64534.D	03/28/14	18:46

page <u>1</u> of <u>1</u>

FORM V SV

OLM04.2

KEY-URS179 B12

²⁻Value is % mass 442

7C SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	PACE ANALYTICAL	<u>.</u>	Contract:		
Lab Code:	<u>10478</u> Case	No.: <u>KEY-URS</u>	SAS No.:	SDG No.:	KEY-URS179
Instrument	ID: <u>HP5973N</u>	Calibra	tion Date: <u>3/28/2014</u>	Time:	<u>11:03</u>
Lab File ID	: <u>N64519R.D</u>		<pre>Init. Calib. Date(s)</pre>	02/19/14	02/19/14
EPA Sample 1	No.(SSTD050##):	SSTD025	Init. Calib. Times:	11:27	15:01
GC Column:	Rxi-5SILMS	ID: <u>0.25</u>	(mm)		

			MIN		MAX
COMPOUND	RRF	RRF50	RRF	% D [;]	۶D
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

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ACE Long Island

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:

,040214A

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 - ost, HS - HIMW - ost.

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 21, 2014

i'd del

Ursula Middel Quality Analyst 3A SYSTEM MONITORING SPIKE RECOVERY

Lab Name:	PACE ANALYTI	CAL	Contrac	t:		
Lab Code: 10	478 Case	No.: <u>K</u>	EY-UR SAS No.:	SDG	No.:	KEY-URS180
Sample ID	LFB040214A	-		Level: (lo	ow/med)	LOW
Column ID	Rtx-624			Colum	nn Diam	.18
Inst. ID	HP5972-2	Init. Calib. Date(s) 04/01/14 16:32				4 16:32
Analysis Date	: <u>04/03/14 2:</u>	59	•	<u>(</u>	04/01/1	4 19:46
		SPIKE	SAMPLE	SPIKE	SPIKE	QC.
		ADDED	CONCENTRATION	CONCENTRATION	%	LIMITS
COMPOUND		(µg/L)	(µg/L)	(µg/L)	REC #	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:

FORM III

SW8260

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: <u>G24188.D</u>	BFB Injection Date:	04/03/14
Instrument ID: <u>HP5972-2</u>	BFB Injection Time:	1:36
GC Column: <u>Rtx-624</u> ID: <u>.18</u> (mm)		

		& RELATIVE
m/e	ION ABUNDANCE CRITERIA	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
-Valu	e is % mass 174 2-Value is % mass	176

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

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	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-125	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-D04AMS	G24196.D	D4/03/14	5:19
09	HIMW-03SMSD	1403146-004AMSD	G24197.D	04/03/14	5:46
10	HS-HIMW-05I	1403 46-005A	G24198.D	04/03/14	6:14
11	HIMW-051	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

page <u>1</u> of <u>1</u>

FORM V VOA

OLMO4.2

CC Long Island

575 Broad Hollow Road Melville, NY 11747 tel 631.694.3040 fax 631.420.8436

SDG NARRATIVE FOR SEMIVOLATILE ANALYSES SAMPLE(S) RECEIVED: 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

Not de

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

		% RELATIVE
m/e	ION ABUNDÂNCE CRITERIA	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
17-1-1-0		442

1-Value is % mass 69

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

Γ	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
ןז(SSTD025	SSTD025	N64519R.D	03/28/14	11:03
2	MB-43778	MB-43778	N64520.D	03/28/14	11:34
3	LFB-43778	LFB-43778	N64521.D	03/28/14	12:04
94	HIMW-14D	1403E99-001B	N64535.D	03/28/14	19:17
5	HIMW-14	1403E99-002B	N64536.D	03/28/14	19:47
6	HIMW-22	1403E99-003B	N64537.D	03/28/14	20:18

page <u>1</u> of <u>1</u>

FORM V SV

OLM04.2

²⁻Value is % mass 442

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	PACE ANAL	YTICAL		Contract	:		
Lab Code:	10478	Case No.	: KEY-URS	SAS No.:_		SDG No.:	KEY-URS180
Instrument	ID: <u>HP59</u>	<u>73N</u>	Calibra	tion Date: <u>3/2</u>	8/2014	Time:	<u>11:03</u>
Lab File ID	: <u>N64519</u>	<u>R.D</u>		Init. Calib.	Date(s):	02/19/14	02/19/14
EPA Sample	No. (SSTD05	0##): <u>s</u>	ST0025	Init. Calib.	Times:	11:27	15:01
GC Column:	<u>Rxi-5SILM</u>	<u>s</u>	ID: <u>0.25</u>	(mm)		:	

	i	3	MIN		MAX
COMPOUND	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

1

KEY-URS180 B186

7D

APPENDIX B

OXYGEN SYSTEM OPERATION & MAINTENANCE MEASUREMENTS

SYSTEM #1

Date: Time: Weather: Outdoor Temper Inside Trailer Tem Performed B	perature:	15 Clo ~4 ~60	/2014 :10 oudy 5° F 0° F Ryan										
O ₂ Generator (AirSep)							Compressor	(Kaesar Rotai	<mark>y Screw</mark>	/)			
Hours			7,590.0		Compressor T	`ank *			120		(psi)		
Feed Air Pressure *			115	(psi)	(readings below are made from				(readings below are made from control panel)				
Cycle Pressure *			70	(psi)	Delivery Air Element Outle	at Tamparatu	170		115 174		(psi) (oF)		
			70	(1)		er remperate	iic		1/4				
Oxygen Receiver Pressu	ire *			95 (mai)	Running Hou				8,747		(hours)		
				(psi)	Loading Hours				5,531		(hours)		
Oxygen Purity98.4 (percent) * maximum reading during loading cycle O_2 Injection Injection Bank 1						ing during loadi	ng cycle		Inicat	ion Bank 3			
ID	Depth	scfh	psi	ID	Injection Bank 2 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		
				te of ~30 scfh provided that that that that #1 and Bank #3 were set a		was no greater	than the pressur	es provided in the h	ydrostatic	tables prepared	by URS		

SYSTEM #1

ection System # Injection Ban Depth Openation Openation	Bank 5 scfh scfh 5 30 3 30 9 30 5 30 5 30 5 30 5 30 5 30 5 30 5 30 5 30 2 30 eading was no greated and the second and the se	30 1 30 3 30 3 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 soft p seffh p	17 OW 30 OW 31 OW 26 OW 27 OW 28 OW 27 OW 28 OW	ID Depti '-1-21S 49.3 '-1-22S 49.3 '-1-22S 49.3 '-1-23S 48.8 '-1-24S 48.4 '-1-25S 48.8 '-1-26SR 48.3 '-1-27S 48.3 '-1-28S 48.3	30 30 31 325 335 34 35 35 30 30 30 30 30 30 30 30 30 30	psi 16 15 13 13 13 14
Depth 79.5 78.3 78.9 79.5 79.5 79.5 79.5 79.5 79.5 79.5 79.5 79.5 78.7 78.2 at the pressure read ection System # Injection Bar Depth 48.5	th scfh 5 30 3 30 9 30 5 30 5 30 5 30 5 30 5 30 5 30 5 30 7 30 2 30 eading was no greated and the state of the s	30 1 30 3 30 3 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 soft p seffh p	17 OW 30 OW 31 OW 26 OW 27 OW 28 OW 27 OW 28 OW	ID Depti '-1-21S 49.3 '-1-22S 49.3 '-1-22S 49.3 '-1-23S 48.8 '-1-24S 48.4 '-1-25S 48.8 '-1-26SR 48.3 '-1-27S 48.3 '-1-28S 48.3	h scfh 30 30 25 35 35 35 4 35 5 40 5 30 5 30 5 30 5 30 5 30	16 15 13 13 13 13 16 16 16 14
79.5 78.3 78.9 79.5 79.5 79.5 79.5 79.5 79.5 79.5 79.5 79.5 79.5 78.7 78.2 at the pressure read ection System # Injection Bar Depth 48.5	5 30 3 30 3 30 9 30 5 30 5 30 5 30 5 30 5 30 5 30 7 30 2 30 eading was no greated and the set of	30 1 30 3 30 3 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 soft p seffh p	17 OW 30 OW 31 OW 26 OW 27 OW 28 OW 27 OW 28 OW	'-1-21S 49.3 '-1-22S 49.3 '-1-23S 48.8 '-1-24S 48.4 '-1-25S 48.8 '-1-26SR 48.3 '-1-27S 48.3 '-1-28S 48.3	30 30 31 325 335 34 35 35 30 30 30 30 30 30 30 30 30 30	16 15 13 13 13 13 16 16 16 14
78.3 78.9 78.9 79.5 79.5 79.5 79.5 78.7 78.2 at the pressure read res. ection System # Injection Bar 48.5	3 30 9 30 5 30 5 30 5 30 5 30 5 30 5 30 5 30 7 30 2 30 eading was no greated and the second and	30 3 30 3 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 soft p	30 OW 31 OW 26 OW 27 OW 28 OW 27 OW 28 OW	-1-22S 49.3 '-1-23S 48.8 '-1-24S 48.4 '-1-25S 48.8 '-1-26SR 48.3 '-1-27S 48.3 '-1-28S 48.3	25 3 35 4 35 4 36 30 30 30 30	15 13 13 13 13 16 16 16 14
78.9 79.5 79.5 79.5 79.5 78.7 78.2 at the pressure read res. ection System # Injection Bar 0 48.5	9 30 5 30 5 30 5 30 5 30 5 30 7 30 2 30 eading was no greated in the second se	30 3 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 scfh p	31 OW 26 OW 27 OW 28 OW 27 OW 28 OW 28 OW	-1-23S 48.8 -1-24S 48.4 -1-25S 48.8 -1-26SR 48.3 -1-27S 48.3 -1-28S 48.3	3 35 3 35 4 35 3 40 3 30 3 30 3 30	13 13 13 13 16 16 16 14
79.5 79.5 79.5 79.5 78.7 78.2 att the pressure read tess. ection System # Injection Bar Depth 48.5	5 30 5 30 5 30 5 30 7 30 2 30 eading was no greated and the second and th	30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 30 2 softh p	26 OW 27 OW 28 OW 27 OW 28 OW 27 OW 28 OW	-1-24S 48.4 -1-25S 48.8 -1-26SR 48.3 -1-27S 48.3 -1-27S 48.3	4 35 40 3 30 3 30 3 30	13 13 16 16 14
79.5 79.5 78.7 78.2 78.2 at the pressure read tess. ection System # Injection Bar Depth 48.5	5 30 5 30 5 30 7 30 2 30 eading was no greated in the second	30 2 30 2 30 2 30 2 30 2 30 2 scfh p	27 OW 28 OW- 27 OW 28 OW 28 OW	-1-25S 48.8 -1-26SR 48.3 -1-27S 48.3 -1-27S 48.3 -1-28S 48.3	 40 30 30 30 30 	13 16 16 14
79.5 78.7 78.2 at the pressure read ection System # Injection Bar 0 Depth 48.5	5 30 7 30 2 30 eading was no greated in the second	30 2 30 2 30 2 30 2 so greater than the	28 OW- 27 OW- 28 OW-	-1-26SR 48.3 -1-27S 48.3 -1-28S 48.3	30 30 30 30 30	16 16 14
at the pressure read res. ection System # Injection Bar Depth 48.5	7 30 2 30 eading was no greated in the second seco	30 2 30 2 9 greater than the scfh p	27 OW 28 OW	-1-27S 48.3 -1-28S 48.3	30 30 30	16
at the pressure read res. ection System # Injection Bar 0 Depth 48.5	2 30 eading was no grea m #1 Bank 8 th scfh 5 30	30 2 o greater than the scfh p	28 OW-	7-1-28S 48.3	30	14
at the pressure read res. ection System # Injection Bar Depth 48.5	eading was no greated ing was no	o greater than the				
ection System # Injection Ban Depth 48.5	m #1 Bank 8 th scfh 5 30	scfh p	e pressures provid	led in the hydrosta	tic tables prepared	11 1120
48.5	5 30			Inje	ection Bank 9	
		30 1	psi 🔤	ID Dept	h scfh	psi
48.8	8 30		13 OW-	-1-33D 83.2	30	31
		30 1	13 OW-	-1-34D 84.5	30	31
49.3	3 30	30 1	12 OW-	-1-35D 85.0	35	29
49.3	3 30	30 1	15 OW-	-1-36D 85.0	30	30
49.7	7 30	30 1	14 OW-	-1-37D 84.0	30	30
				-1-38D 82.0	30	35
50.1	1 40	40 1	13 OW-		40	29
50.1				-1-39D 78.0		
	3 45	45 1	14 OW-	-1-39D 78.0 -1-40D 76.0		30
50.3	3 45 3 45	45 1 45 1	14 OW- 14 OW-	-1-40D 76.0) 40	
	49. 49.	49.3 49.3 49.7	49.3 30 49.3 30 49.3 30 49.7 30	49.3 30 12 OW 49.3 30 15 OW 49.7 30 14 OW	49.3 30 12 OW-1-35D 85.0 49.3 30 15 OW-1-36D 85.0 49.7 30 14 OW-1-37D 84.0 50.1 40 13 OW-1-38D 82.0	49.3 30 12 OW-1-35D 85.0 35 49.3 30 15 OW-1-36D 85.0 30 49.7 30 14 OW-1-37D 84.0 30 50.1 40 13 OW-1-38D 82.0 30

SYSTEM #1

					C	D ₂ Injectio	n System #1							
	In	jection Bank 10]	Injection Bank 11			Injection Bank 12				
ID		Depth	scfh	psi	ID		Depth	scfh	psi	ID	Depth	scfh	psi	
OW-1-3	78	50.5	30	17	OW-1-41	1D	73.6	30	24	OW-1-43 67.4		25	20	
OW-1-3	8S	50.6	30	16	OW-1-42	2D	71.0	30	23	OW-1-44 66.6		35	20	
OW-1-3	98	50.7	40	16	OW-1-4	45	65.7	30	20	OW-1-51R	60.6	30	20	
OW-1-4	08	51.1	40	15	OW-1-4	46	64.3	40	18	OW-1-52	59.3	30	19	
OW-1-4	15	51.5	35	16	OW-1-4	47	63.4	40	17	OW-1-53	60.0	30	17	
OW-1-4	28	51.3	50	16	OW-1-4	48	62.5	50	17	OW-1-54	60.0	30	16	
					OW-1-4	49	61.5	45	18					
					OW-1-5	50	61.0	30	17					
	Mon	itoring Points L	O ₂ Injection System #1 tts Log Monitoring Points Log Monitoring Points Log											
ID	DTW	DO (m	α/Ι)					log			Monitori			
		Botto		PID (ppm)	ID	DTW	DO (m Botte	ıg/L)	PID (ppm)	ID	Monitori	DO (mg/L) ddle	
MP-1-1D	27.99			PID (ppm) 0.2	ID MP-1-5	DTW 27.71	DO (m	ng/L) om	PID (ppm) 0.2			DO (Mi		
MP-1-1D MP-1-1S	27.99 28.04		m				DO (m Bott	ig/L) om 45		ID)	DO (<u>Mi</u> 12	ddle	
		Botto	m	0.2	MP-1-5	27.71	DO (m Bott 15.4	g/L) om 45 2	0.2	ID MP-1-1D)	DO (Mi 12 27	ddle 2.38	
MP-1-1S	28.04	Botto	2	0.2	MP-1-5 MP-1-6	27.71	DO (m Botta 15.4 8.0	g/L) om 45 2 12	0.2	ID MP-1-1D MP-1-2D)	DO (Mi 12 27 23	ddle 2.38 7.11	
MP-1-1S MP-1-2D	28.04 22.25	Botta 14.1	2	0.2	MP-1-5 MP-1-6 MP-1-7	27.71 19.97 23.33	DO (m Botta 15.4 8.0 21.1	g/L) om 45 2 12	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 12 27 23	ddle 2.38 7.11 3.33	
MP-1-1S MP-1-2D MP-1-2S	28.04 22.25 22.52	Botta 14.1	2 7	0.2 0 0 0 0 0.2	MP-1-5 MP-1-6 MP-1-7	27.71 19.97 23.33	DO (m Botta 15.4 8.0 21.1	g/L) om 45 2 12	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 12 27 23	ddle 2.38 7.11 3.33	
MP-1-1S MP-1-2D MP-1-2S MP-1-3D	28.04 22.25 22.52 20.44	Botto 14.1 12.7	2 7	0.2 0 0 0.2 0	MP-1-5 MP-1-6 MP-1-7	27.71 19.97 23.33	DO (m Botta 15.4 8.0 21.1	g/L) om 45 2 12	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 12 27 23	ddle 2.38 7.11 3.33	
MP-1-1S MP-1-2D MP-1-2S MP-1-3D MP-1-3S	28.04 22.25 22.52 20.44 20.31	Botto 14.1 12.7	2 2 7 1	0.2 0 0 0.2 0 0	MP-1-5 MP-1-6 MP-1-7	27.71 19.97 23.33	DO (m Botta 15.4 8.0 21.1	g/L) om 45 2 12	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 12 27 23	ddle 2.38 7.11 3.33	

SYSTEM #1

				Date:	1/13/2014
		OPERATIONAL	NOTES		
GA5 Air Compressor		OI ERATIONAL			
1) Oil Level Checked	Low (red) X Yes Yes Yes Yes Yes Yes	is less than 9 psi Normal (green) X	Yes X No X No X No X No X No X No X	No High (orange)	
AS-80 O ₂ Generator					
1) Prefilter changed 2) Coalescing changed	Yes Yes	X X	No No		
		GENERAL SYSTEN	A NOTES		
<u>Trailer</u> 1) Performed	d general housekeeping (i.e. sv	weep, collect trash inside and o	out, etc.) Yes <u>X</u>	No	
2) Abnormal	l conditions observed (e.g. van	idalism)			
3) Other maj	jor activities completed				
4) Supplies	needed				
5) Visitors					
Record routine activities such as a transported off-site, oil/filter/gasl	•				
On January 2, 2014, installed new c compressor to make adjustments. I				justed oil levels. Cleared all alar	ms from system and ran
Returned to site on January 13, 201 equipment and filled oil canister to Restarted system and left running. down all equipment and cleaned up	run system. Found leak in oil No additional leaks were obse	cooling canister fitting. Remerved during the balance of the	oved fitting and reinstalle	ed with additional sealant tape an	d liquid pipe sealant.
DO Meter was calibrated to 100% of and was reading 0.0 ppm. Calibrate			ene prior to calibration a	nd unit was reading 97 ppm. Zer	oed unit with fresh air
Electric Meter # 96-934-323 tied in	to Pole #4				
Action Items:					

SYSTEM #1

Date: Time: Weather: Outdoor Temper Inside Trailer Temp Performed B	berature:	11 Light ~9 ~3(/2014 :15 Snow ° F O° F Ryan	- - - -										
	O ₂ Generator (AirSep)						Compressor (Kaesar Rotary Screw)							
Hours7,738.2					Compressor T	Cank *			110		(psi)			
Feed Air Pressure *110				(psi)	Daliwary Air	(rea	dings below a	are made from c	-	anel)	(73)			
Cycle Pressure *			70	(psi)	Delivery Air Element Outle	et Temperatu	re		105 170		(psi) (oF)			
Oxygen Receiver Pressu	re *			105 (psi)	Running Hour Loading Hour				8,898 5,628		(hours) (hours)			
Oxygen Purity * maximum reading during loa	ding cycle		98.5	(percent)	* maximum readi	ing during loadi	ng cycle							
	Injection Bank 1	1			Injection Bank 2				Iniecti	ion 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			
				ate of ~30 scfh provided that th ank #1 and Bank #3 were set at		was no greater	han the pressure	es provided in the h	ydrostatic	tables prepared	by URS			

SYSTEM #1

				O ₂ Injecti	on System #1									
	Injection Bank				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			
iments: Corporati	on after collecting	greadings. Inje		ate of ~30 scfh provided that th ank #5 were set at 3 minutes. O ₂ Injecti	on System #1	-	than the pressur	es provided in the h	-		l by URS			
ments: Corporati	on after collecting	g readings. Inje	ction times at B	ank #5 were set at 3 minutes. O ₂ Injecti	on System #1 Injection Bank 8				Injecti	on Bank 9				
Corporati	on after collecting	greadings. Inje		ank #5 were set at 3 minutes.	on System #1	-	than the pressur	es provided in the h	-					
ments: Corporati	on after collecting	g readings. Inje	ction times at B	ank #5 were set at 3 minutes. O ₂ Injecti	on System #1 Injection Bank 8				Injecti	on Bank 9	psi			
ID	on after collecting Injection Bank ' Depth	g readings. Inje 7 scfh	ction times at B	ank #5 were set at 3 minutes. O ₂ Injecti ID	on System #1 Injection Bank 8 Depth	scfh	psi	ID	Injecti Depth	on Bank 9 scfh	l by URS			
ID OW-1-25D	on after collecting Injection Bank ' Depth 78.1	g readings. Inje 7 7 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ction times at B psi 27	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S	on System #1 Injection Bank 8 Depth 48.5	scfh 30	psi 12	ID OW-1-33D	Injecti Depth 83.2	ion Bank 9 scfh 30	psi 28 30			
ID OW-1-25D OW-1-26D	on after collecting Injection Bank 7 Depth 78.1 78.1	g readings. Inje 7 7 30 30 25	psi 27 27 27	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S OW-1-30S	on System #1 Injection Bank 8 Depth 48.5 48.8	scfh 30 15	psi 12 12	ID OW-1-33D OW-1-34D	Injecti Depth 83.2 84.5	3 0 Bank 9 scfh 3 0 3 0	psi 28			
ID OW-1-25D OW-1-26D OW-1-27D	on after collecting Injection Bank 7 Depth 78.1 78.1 77.9	g readings. Inje 7 7 30 25 30	psi 27 27 28	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S OW-1-30S OW-1-31S	on System #1 Injection Bank 8 Depth 48.5 48.8 49.3	scfh 30 15 20	psi 12 12 12 12	ID OW-1-33D OW-1-34D OW-1-35D	Injecti Depth 83.2 84.5 85.0	scfh 30 30 40	psi 28 30 26			
ID Corporati ID OW-1-25D OW-1-26D OW-1-26D OW-1-27D OW-1-28D	Injection Bank ' Depth 78.1 78.1 78.1 78.1 78.1	7 scfh 30 25 30 45	psi 27 27 27 28 29	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S	On System #1 Injection Bank 8 Depth 48.5 48.8 49.3 49.3	scfh 30 15 20 30	psi 12 12 12 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D	Injecti Depth 83.2 84.5 85.0 85.0	ion Bank 9 scfh 30 30 40 30	psi 28 30 26 29 29 29			
ID ID OW-1-25D OW-1-26D OW-1-27D OW-1-28D OW-1-29D	Injection Bank ' Depth 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.4	g readings. Inje 7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	psi 27 27 27 27 27 27 27 27 27 27 27 27 27 27 27 27 28 29 27 27	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S	On System #1 Injection Bank 8 Depth 48.5 48.8 49.3 49.3 49.7	scfh 30 15 20 30 30	psi 12 12 12 12 12 12 12 12 12 12 12 12 13 12	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D OW-1-37D	Injecti Depth 83.2 84.5 85.0 85.0 84.0	ion Bank 9 scfh 30 30 40 30 35	psi 28 30 26 29			
ID Corporati ID 0W-1-25D OW-1-25D 0W-1-26D OW-1-26D 0W-1-27D OW-1-28D 0W-1-28D OW-1-29D 0W-1-30D	Injection Bank ' Depth 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 77.9 78.0 78.4 79.0	g readings. Inje 7 7 30 30 25 30 45 45 40	psi 27 27 27 27 28 29 27 34	ank #5 were set at 3 minutes. O ₂ Injecti ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S OW-1-34S	On System #1 Injection Bank 8 Depth 48.5 48.8 49.3 49.3 49.7 50.1	scfh 30 15 20 30 30 30 30	psi 12 12 12 12 12 12 12 12 12 12 12 13 12 12 12	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D OW-1-37D OW-1-38D	Injecti Depth 83.2 84.5 85.0 85.0 84.0 82.0	tion Bank 9 scfh 30 30 40 30 35 30	psi 28 30 26 29 29 32 32 28			
nents: Corporati ID ID OW-1-25D OW-1-26D OW-1-26D OW-1-27D OW-1-27D OW-1-28D OW-1-29D OW-1-30D OW-1-31D OW-1-32D	Injection Bank ' Depth 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 80.5 81.6	readings. Inje	psi 27 27 27 28 29 27 34 22 28	O ₂ Injecti O ₂ Injecti ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S OW-1-34S OW-1-35S	On System #1 Injection Bank 8 Depth 48.5 48.8 49.3 49.3 49.7 50.1 50.3	scfh 30 15 20 30 30 30 30 30 40	psi 12 12 12 12 12 13 12 13 13 13 13 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-35D OW-1-36D OW-1-37D OW-1-38D OW-1-39D OW-1-40D	Injecti Depth 83.2 84.5 85.0 85.0 84.0 82.0 78.0 76.0	ion Bank 9 scfh 30 30 40 30 35 30 30 30 30	psi 28 30 26 29 29 32 32 28 28 28			

SYSTEM #1

					C	D ₂ Injectio	on System #1							
	Ir	njection Bank 1	0			ן	Injection Bank 11	l		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-1-3	88	50.6	30	14	OW-1-42D		71.0	45	20	OW-1-44	66.6	35	18	
OW-1-3	95	50.7	40	13	OW-1-45		65.7	50	19	OW-1-51R	60.6	40	17	
OW-1-4	-0S	51.1	30	13	OW-1-46		64.3	55	18	OW-1-52	59.3	30	18	
OW-1-4	-1S	51.5	30	14	OW-1-4	47	63.4	50	17	OW-1-53	60.0	30	15	
OW-1-4	-28	51.3	30	15	OW-1-4	48	62.5	30	17	OW-1-54	60.0	35	14	
					OW-1-4	49	61.5	30	17					
					OW-1-5	50	61.0	30	17					
Monitoring Points Log						minutes.								
	Mor	nitoring Points	Log			D ₂ Injectio	on System #1 onitoring Points I	Jog			Monitori	ng Points Log		
ID	Mor DTW	nitoring Points : DO (1 Bot	mg/L)	PID (ppm)	C ID	D ₂ Injectio		ıg/L)	PID (ppm)	ID	Monitori	DO	(mg/L) ddle	
ID MP-1-1D		DO (I	mg/L)	PID (ppm) 0		D ₂ Injectio Ma	onitoring Points L DO (m	ng/L) om	PID (ppm) 0.2			DO (Mi		
	DTW	DO (1 Bot	mg/L)		ID	D ₂ Injectio Ma DTW	Donitoring Points I DO (n Bott	ng/L) om 89		ID)	DO (Mi	ddle	
MP-1-1D	DTW 28.06	DO (1 Bot	ng/L) tom	0	ID MP-1-5	D2 Injection Mo DTW 27.87	Ditoring Points I DO (n Bott 14.3	1g/L) om 89 88	0.2	ID MP-1-1E)	DO (Mi	ddle	
MP-1-1D MP-1-1S	DTW 28.06 28.12	DO (r Bot 19	ng/L) tom	0	ID MP-1-5 MP-1-6	D2 Injection Mode DTW 27.87 20.08	pnitoring Points I DO (n Bott 14.3 7.5	ng/L) om 89 88 02	0.2	ID MP-1-1E MP-1-2E)	DO (Mi 1) 20	ddle 1.15 5.88	
MP-1-1D MP-1-1S MP-1-2D	DTW 28.06 28.12 22.31	DO (r Bot 19	ng/L) tom	0 0 0 0.1	ID MP-1-5 MP-1-6 MP-1-7	D2 Injection Mode DTW 27.87 20.08 23.33	Domitoring Points I DO (m Bott 14.3 7.5 29.0	ng/L) om 89 88 02	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 1) 20	ddle 1.15 5.88 2.14	
MP-1-1D MP-1-1S MP-1-2D MP-1-2S	DTW 28.06 28.12 22.31 22.57	DO (r Bot 19	ng/L) tom	0 0 0.1 0	ID MP-1-5 MP-1-6 MP-1-7	D2 Injection Mode DTW 27.87 20.08 23.33	Domitoring Points I DO (m Bott 14.3 7.5 29.0	ng/L) om 89 88 02	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 1) 20	ddle 1.15 5.88 2.14	
MP-1-1D MP-1-1S MP-1-2D MP-1-2S MP-1-3D	DTW 28.06 28.12 22.31 22.57 20.55	DO (r Bot 19	mg/L) tom .12 .87	0 0 0.1 0 0 0	ID MP-1-5 MP-1-6 MP-1-7	D2 Injection Mode DTW 27.87 20.08 23.33	Domitoring Points I DO (m Bott 14.3 7.5 29.0	ng/L) om 89 88 02	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 1) 20	ddle 1.15 5.88 2.14	
MP-1-1D MP-1-1S MP-1-2D MP-1-2S MP-1-3D MP-1-3S	DTW 28.06 28.12 22.31 22.57 20.55 20.44	DO (r Bot 19 18 25	mg/L) tom .12 .87	0 0 0.1 0 0	ID MP-1-5 MP-1-6 MP-1-7	D2 Injection Mode DTW 27.87 20.08 23.33	Domitoring Points I DO (m Bott 14.3 7.5 29.0	ng/L) om 89 88 02	0.2	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 1) 20	ddle 1.15 5.88 2.14	

SYSTEM #1

	Date: 1/24/2014
	OPERATIONAL NOTES
GA5 Air Compressor	
1) Oil Leve * Unload 2) Oil Leve	el Checked with system unloaded* Yes X No d system, wait until Delivery Air Pressure is less than 9 psi No High (orange) el with system unloaded Ves No
	res No X • changed Yes No X
AS-80 O ₂ Generator 1) Prefilter 2) Coalesci	
	GENERAL SYSTEM NOTES
<u>Trailer</u> 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
	es such as any alarm/shutdowns, sampling, maintenance, material //filter/gasket and/or any other abnormal operating conditions:
Found a problem with in when the snow and ice h	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 ajection 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 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 equipment and cleaned up all garbage from around fence areas.
	d 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 n. Calibrated with 100 ppm isobutylene and reading was 100 ppm.
Electric Meter # 96-934-	-323 tied into Pole #4
Action Items:	

SYSTEM #1

Date: Time: Weather: Outdoor Temperature: Inside Trailer Temperature: Performed By:		13 Cold & ~2 ~6	2014 :10 & Snow 7° F 0° F Ryan								
	O ₂ G e	<mark>enerator (A</mark> i	Compressor (Kaesar Rotary Screw)								
Hours	rs <u>7,916.2</u>					`ank *			100		(psi)
Feed Air Pressure *	ed Air Pressure * 100 (psi)					(rea	dings below	are made from	control p	anel)	
Carala Decasara *			70		Delivery Air	T			105 172		(psi)
Cycle Pressure *			70	(psi)	Element Outle	et Temperati	ire		172		(oF)
Oxygen Receiver Pressu	re *			95 (psi)	Running Hours9,09Loading Hours5,75						
Oxygen Purity * maximum reading during log	ading cycle		98.5	(percent) O ₂ Inject	* maximum read	ing during loadi	ing cycle				
	Injection Bank 1	l			Injection Bank 2				Inject	ion 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
				ate of ~30 scfh provided that th ank #1 and Bank #3 were set a		was no greater	than the pressur	es provided in the l	nydrostatic	tables prepared	by URS

SYSTEM #1

Bank 4 pth scfh 3.1 35		O ₂ Injectio	n System #1							
pth scfh			n System #1							
			Injection Bank 5			Injection Bank 6				
.1 35	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi	
	13	OW-1-17D	79.5	30	14	OW-1-21S	49.3	30	11	
2.7 30	14	OW-1-18D	78.3	30	26	OW-1-228	49.3	20	11	
	16	OW-1-19D	78.9	30	21	OW-1-23S	48.8	25	11	
.8 30	19	OW-1-20D	79.5	30	27	OW-1-24S	48.4	30	12	
0.7 30	24	OW-1-21D	79.5	30	26	OW-1-25S	48.8	30	13	
0.2 30	13	OW-1-22D	79.5	40	26	OW-1-26SR	48.3	30	14	
0.7 35	4	OW-1-23D	78.7	30	25	OW-1-27S	48.3	30	13	
9.3 30	12	OW-1-24D	78.2	30	27	OW-1-28S	48.3	30	14	
Bank 7							Injecti	ion Bank 9		
pth scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi	
3.1 30	26	OW-1-298	48.5	40	12	OW-1-33D	83.2	30		
3.1 40	27	OW-1-30S	48.8	45	13				29	
						OW-1-34D	84.5	30	29 30	
7.9 30	28	OW-1-31S	49.3	30	13	OW-1-34D OW-1-35D	84.5 85.0	30 35		
7.9 30 8.0 30	28 27	OW-1-31S OW-1-32S	49.3 49.3	30 30					30	
					13	OW-1-35D	85.0	35	30	
3.0 30	27	OW-1-32S	49.3	30	13	OW-1-35D OW-1-36D	85.0 85.0	35	30 27 28	
3.0 30 3.4 30	27 25	OW-1-32S OW-1-33S	49.3 49.7	30 30	13 12 13	OW-1-35D OW-1-36D OW-1-37D	85.0 85.0 84.0	35 35 40	30 27 28 28	
30 30 3.4 30 2.0	27 25 37	OW-1-32S OW-1-33S OW-1-34S	49.3 49.7 50.1	30 30 30	13 12 13 12	OW-1-35D OW-1-36D OW-1-37D OW-1-38D	85.0 85.0 84.0 82.0	35 35 40 30	30 27 28 28 37	
3.0 30 3.4 30 0.0 40 0.5 30 .6 30	27 25 37 26 28	OW-1-328 OW-1-338 OW-1-348 OW-1-358	49.3 49.7 50.1 50.3 50.3	30 30 30 30 30 30	13 12 13 12 13 13 13	OW-1-35D OW-1-36D OW-1-37D OW-1-38D OW-1-39D OW-1-40D	85.0 85.0 84.0 82.0 78.0 76.0	35 35 40 30 35 30	30 27 28 28 37 27 27 27	
	.7 30 .2 30 .7 35 .3 30 lows were adjusted to llecting readings. In Bank 7 oth scfh .1 30	.7 30 24 .2 30 13 .7 35 4 .3 30 12 Identify readings. Injection times at B	.7 30 24 OW-1-21D .2 30 13 OW-1-22D .7 35 4 OW-1-23D .7 35 4 OW-1-24D .3 30 12 OW-1-24D Oy-1-24D Oy-1-24D Oy-1-24D Oy-1-24D Oy-1-29S Oy-1-29S	.7 30 24 OW-1-21D 79.5 .2 30 13 OW-1-22D 79.5 .7 35 4 OW-1-23D 78.7 .3 30 12 OW-1-24D 78.2 Oy-1 Injection System #1 Bank 7 Injection Bank 8 OW-1-29S 48.5 OW-1-29S 48.5	.73024OW-1-21D79.530.23013OW-1-22D79.540.7354OW-1-23D78.730.33012OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OW-1-24D78.230OLOW-1-24DInjection times at Bark #5 were set at 3 minutes.Injection System #1Bank 7Injection Bank #5Injection Bank 5OW-1-29S48.540	.73024OW-1-21D79.53026.23013OW-1-22D79.54026.7354OW-1-23D78.73025.33012OW-1-24D78.23027Ower adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressure lecting readings. Injection times at Bank #5 were set at 3 minutes.O_2 Injection System #1Bank 7Injection Bank 8Injection Bank 8	Image: Constraint of the section o	Image: Constraint of the constr	Image: Constraint of the section o	

SYSTEM #1

ID					U	^J ₂ mjecuo	n System #1						
ID	In	ijection Bank 1	0]	njection Bank 11				Injecti	on Bank 12	
		Depth	scfh	psi	ID		Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-37	7S	50.5	30	14	OW-1-4	1D	73.6	30	23	OW-1-43	67.4	30	19
OW-1-38	8S	50.6	30	15	OW-1-42	2D	71.0	30	22	OW-1-44	66.6	20	18
OW-1-39	9S	50.7	30	15	OW-1-4	45	65.7	35	18	OW-1-51R	60.6	25	17
OW-1-40	0 S	51.1	40	14	OW-1-4	46	64.3	30	17	OW-1-52	59.3	35	17
OW-1-41	15	51.5	40	14	OW-1-4	47	63.4	40	17	OW-1-53	60.0	30	17
OW-1-42	2S	51.3	35	16	OW-1-4	48	62.5	30	17	OW-1-54	60.0	30	16
					OW-1-4	49	61.5	30	18				
					OW-1-5	50	61.0	30	17				
					nte of ~30 scfh prov nk #11 was set at 6	minutes.		was no greater	than the pressure	es provided in the h	ydrostatic	tables prepared	by URS
	Corporation	after collecting	readings. Inje		nk #11 was set at 6	minutes. D ₂ Injectio	on System #1 mitoring Points L	og	than the pressure		-	ng Points Log	
	Corporation	after collecting	readings. Inje Log ng/L)		nk #11 was set at 6	minutes. D ₂ Injectio	on System #1	.og Ig/L)	than the pressure		-	ng Points Log	by URS (mg/L) (ddle
omments:	Corporation Mon	after collecting	readings. Inje Log ng/L)	ction time at Ba	nk #11 was set at 6	minutes. D ₂ Injectio Mo	on System #1 onitoring Points L DO (m	.og g/L) om			Monitori	ng Points Log DO (Mi	(mg/L)
ID	Corporation Mon DTW	after collecting	readings. Inje	ction time at Bar	nk #11 was set at 6	minutes. D2 Injectio Ma DTW	on System #1 mitoring Points L DO (m Bott	og g/L) om 22	PID (ppm)	ID	Monitori	ng Points Log DO Mi	(mg/L) ddle
ID MP-1-1D	Corporation Mon DTW 28.11	nitoring Points	readings. Inje	PID (ppm) 0.4	nk #11 was set at 6	minutes. D2 Injectio Mo DTW 27.92	on System #1 onitoring Points L DO (m Bott 30.2	.og g/L) pm 222 18	PID (ppm) 0.3	ID MP-1-1E	Monitori	ng Points Log DO Mi	(mg/L) iddle
ID MP-1-1D MP-1-1S	Corporation Mon DTW 28.11 28.17	a after collecting aitoring Points 3 DO (r Bot 38	readings. Inje	PID (ppm) 0.4 0.2	nk #11 was set at 6	minutes. D2 Injectio Mo DTW 27.92 20.08	on System #1 onitoring Points L DO (m Bott 30.2	222 18	PID (ppm) 0.3 0	ID MP-1-1E MP-1-2E	Monitori	ng Points Log DO (Mi 20 30 30	(mg/L) iddle 9.93 8.39
ID MP-1-1D MP-1-1S MP-1-2D	Mon 28.11 28.17 22.42	a after collecting aitoring Points 3 DO (r Bot 38	readings. Inje	PID (ppm) 0.4 0.2 0	nk #11 was set at 6	minutes.)2 Injectio Mo DTW 27.92 20.08 23.32	on System #1 mitoring Points L DO (m Botto 30.2 19.1	222 18	PID (ppm) 0.3 0 0.4	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO (Mi 20 30 30	(mg/L) (ddle).93 3.39 5.66
ID MP-1-1D MP-1-1S MP-1-2D MP-1-2S	Mon DTW 28.11 28.17 22.42 22.66	a after collecting attoring Points DO (r Bot 38	readings. Inje	PID (ppm) 0.4 0.2 0 0.2	nk #11 was set at 6	minutes.)2 Injectio Mo DTW 27.92 20.08 23.32	on System #1 mitoring Points L DO (m Botto 30.2 19.1	222 18	PID (ppm) 0.3 0 0.4	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO (Mi 20 30 30	(mg/L) (ddle).93 3.39 5.66
ID MP-1-1D MP-1-1S MP-1-2D MP-1-2S MP-1-3D	Mon DTW 28.11 28.17 22.42 22.66 20.55	a after collecting attoring Points DO (r Bot 38	readings. Inje Log ng/L) tom 81	PID (ppm) 0.4 0.2 0 0.2 0 0.2	nk #11 was set at 6	minutes.)2 Injectio Mo DTW 27.92 20.08 23.32	on System #1 mitoring Points L DO (m Botto 30.2 19.1	222 18	PID (ppm) 0.3 0 0.4	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO (Mi 20 30 30	(mg/L) (ddle).93 3.39 5.66

SYSTEM #1

	Date: 2/6/2014
	OPERATIONAL NOTES
GA5 Air Compressor 1) Oil Level	
	Checked with system unloaded* Yes X No system, wait until Delivery Air Pressure is less than 9 psi Ves X No
	with system unloaded
3) Oil added	Low (red) X Normal (green) High (orange) I Yes X No ged Yes No X changed Yes No X Changed Yes No X ator changed Yes No X strips checked Yes No X
4) Oil chang	Yes No X
5) Oil filter of6) Air filter of	changed Yes No X Changed Yes No X
7) Oil separa	Changed $\text{res}_{}$ $\text{No}_{}$ $X_{}$ ator changed Yes_{} No_{} $X_{}$
	strips checked Yes No X
AS-80 O2 Generator	
1) Prefilter c	
2) Coalescin	g changed Yes X No
	GENERAL SYSTEM NOTES
Trailer	
	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 Temp fencing is setup near shed with steel stakes being driven in ground to hold in place.
ŕ	
4)	Supplies needed
יד (י	
5	X7 *
5)	Visitors
·	
	s such as any alarm/shutdowns, sampling, maintenance, material filter/gasket and/or any other abnormal operating conditions:
transporteu on-site, on/	Inter/gasket and/or any other abnormal operating conditions.
Added small amount of oi	il to compressor. Repaired auto drain at base of air holding tank. Soaked up small amount of oil and water from separator unit for disposal. Found a
	bint 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 dissipate	ed to a point to allow access. Wiped down all equipment and cleaned up all garbage from around fence areas.
	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 # 96-934-3	323 tied into Pole #4
Action Items:	

SYSTEM #1

Date: Time: Weather: Outdoor Temper Inside Trailer Temp Performed B	perature:	12 Co ~3: ~60	/2014 :40 old 5° F 0° F 2 Ryan	-							
	O ₂ Ge	<mark>enerator (A</mark> i	irSep)				Compressor	(Kaesar Rotar	<mark>y Screw</mark>	7)	
Hours			8,099.1		Compressor T	ſank *			110		(psi)
Feed Air Pressure * Cycle Pressure * Oxygen Receiver Pressu	re *		105 70	(psi) (psi) 110	Delivery Air Element Outle Running Hou	et Temperatu	-	are made from c	control p <u>115</u> <u>171</u> 9,296	anel)	(psi) (oF) (hours)
Oxygen Receiver Fressu Oxygen Purity * maximum reading during loa			98.0	(psi) (percent)	Loading Hour	rs	ing cycle		5,883		(hours)
				O ₂ Injecti	on System #1						
ID	Injection Bank 1	scfh		ID	Injection Bank 2 Depth	scfh		ID		ion Bank 3	
OW-1-1	Depth 95.5	25	psi 30	OW-1-5S	67.3	30	psi 17	OW-1-9D	Depth 88.5	scfh 30	psi 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	OW-1-7D 91.1 30 29 OW-1-11S						13	OW-1-15D	83.3	35	28
OW-1-8D	OW-1-8D 89.6 30 28 OW-1-12					30	13	OW-1-16D	82.5	30	13
				ate of ~30 scfh provided that th ank #1 and Bank #3 were set a		was no greater	than the pressur	es provided in the h	ydrostatic	tables prepared	by URS

SYSTEM #1

scfh .1 30 .7 20	psi 13															
scfh .1 30 .7 20			O ₂ Injection System #1 Injection Bank 4 Injection Bank 5 Injection Bank 6													
.1 30 .7 20		ID														
.7 20	13		Depth	scfh	psi	ID	Depth	scfh	psi							
		OW-1-17D	79.5	30	14	OW-1-21S	49.3	15	12							
2 20	14	OW-1-18D	78.3	30	25	OW-1-22S	49.3	25	11							
.2 20	16	OW-1-19D	78.9	30	21	OW-1-23S	48.8	10	11							
.8 30	25	OW-1-20D	79.5	40	28	OW-1-24S	48.4	30	12							
.7 30	24	OW-1-21D	79.5	40	27	OW-1-258	48.8	30	14							
.2 35	12	OW-1-22D	79.5	30	26	OW-1-26SR	48.3	30	14							
.7 30	4	OW-1-23D	78.7	40	24	OW-1-27S	48.3	30	13							
.3 40	12	OW-1-24D	78.2	35	27	OW-1-28S	48.3	20	14							
Bank 7							Injecti	ion Bank 9								
oth scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi							
.1 25	26	OW-1-29S	48.5	30	12	OW-1-33D	83.2	35	29							
.1 25	27	OW-1-30S	48.8	30	13	OW-1-34D	84.5	55	31							
.9 35	28	OW-1-31S	49.3	30	13	OW-1-35D	85.0	50								
		OW 1 225							27							
.0 20	28	OW-1-32S	49.3	30	13	OW-1-36D	85.0	30	27 29							
.0 20 .4 30	28 25	OW-1-328	49.3 49.7	30 35	13	OW-1-36D OW-1-37D	85.0 84.0	30 20								
									29							
.4 30	25	OW-1-33S	49.7	35	13	OW-1-37D	84.0	20	29 28							
.4 30	25 36	OW-1-33S OW-1-34S	49.7	35 30	13	OW-1-37D OW-1-38D	84.0 82.0	20	29 28 37							
.4 30 .0 30 .5 30 .6 30	25 36 26 29	OW-1-33S OW-1-34S OW-1-35S	49.7 50.1 50.3 50.3	35 30 35 30	13 12 13 13	OW-1-37D OW-1-38D OW-1-39D OW-1-40D	84.0 82.0 78.0 76.0	20 30 30 30	29 28 37 27 27							
	7 30 2 35 7 30 3 40 3 40 ows were adjusted to llecting readings. Inju Bank 7 The seft 1 25 .1 25	730242351223512730434012ows were adjusted to the target flow ra llecting readings. Injection times at BBank 7The sefth psi1252612527	73024OW-1-21D23512OW-1-22D7304OW-1-23D34012OW-1-24DOwen-1-24DImage: Owen-1-24DImage: Owen-1-24D <td c<="" td=""><td>7 30 24 OW-1-21D 79.5 2 35 12 OW-1-22D 79.5 7 30 4 OW-1-23D 78.7 3 40 12 OW-1-24D 78.2 OLympiction times at Bank #5 were set at 3 minutes. Injection Bank 8 Injection Bank 8 Sefh psi ID Depth 1 25 26 OW-1-29S 48.5 48.5 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 4</td><td>7 30 24 $OW-1-21D$ 79.5 40 2 35 12 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-23D$ 78.7 40 3 40 12 $OW-1-24D$ 78.2 35 Ow was no greater of ~30 scft provided that the pressure reading was no greater of lecting readings. Injection times at Bank #5 were set at 3 minutes. D2 Injection Bank 8 Softh psi Dopth scfh 1 25 26 $OW-1-29S$ 48.5 30 1 25 27 $OW-1-30S$ 48.8 30</td><td>1 1 td>1 1 td>Image: Constraint of the section of the sec</td><td>1 1 /td></td></td></td>	<td>7 30 24 OW-1-21D 79.5 2 35 12 OW-1-22D 79.5 7 30 4 OW-1-23D 78.7 3 40 12 OW-1-24D 78.2 OLympiction times at Bank #5 were set at 3 minutes. Injection Bank 8 Injection Bank 8 Sefh psi ID Depth 1 25 26 OW-1-29S 48.5 48.5 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 4</td> <td>7 30 24 $OW-1-21D$ 79.5 40 2 35 12 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-23D$ 78.7 40 3 40 12 $OW-1-24D$ 78.2 35 Ow was no greater of ~30 scft provided that the pressure reading was no greater of lecting readings. Injection times at Bank #5 were set at 3 minutes. D2 Injection Bank 8 Softh psi Dopth scfh 1 25 26 $OW-1-29S$ 48.5 30 1 25 27 $OW-1-30S$ 48.8 30</td> <td>1 1 td>1 1 td>Image: Constraint of the section of the sec</td><td>1 1 /td></td></td>	7 30 24 OW-1-21D 79.5 2 35 12 OW-1-22D 79.5 7 30 4 OW-1-23D 78.7 3 40 12 OW-1-24D 78.2 OLympiction times at Bank #5 were set at 3 minutes. Injection Bank 8 Injection Bank 8 Sefh psi ID Depth 1 25 26 OW-1-29S 48.5 48.5 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48.8 4	7 30 24 $OW-1-21D$ 79.5 40 2 35 12 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-22D$ 79.5 30 7 30 4 $OW-1-23D$ 78.7 40 3 40 12 $OW-1-24D$ 78.2 35 Ow was no greater of ~30 scft provided that the pressure reading was no greater of lecting readings. Injection times at Bank #5 were set at 3 minutes. D2 Injection Bank 8 Softh psi Dopth scfh 1 25 26 $OW-1-29S$ 48.5 30 1 25 27 $OW-1-30S$ 48.8 30	1 <td>1 1 td>Image: Constraint of the section of the sec</td><td>1 1 /td></td>	1 <td>Image: Constraint of the section of the sec</td> <td>1 1 /td>	Image: Constraint of the section of the sec	1 1						

SYSTEM #1

					0	D₂ Injectio	on System #1						
	Ir	<mark>ijection Bank 1</mark>	0			J	Injection Bank 11	l			Injecti	on Bank 12	
ID		Depth	scfh	psi	ID		Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-3	37 S	50.5	30	15	OW-1-4	1D	73.6	25	23	OW-1-43	67.4	30	19
OW-1-3	38S	50.6	40	15	OW-1-42	2D	71.0	35	22	OW-1-44	66.6	30	19
OW-1-3	39 S	50.7	30	15	OW-1-4	45	65.7	35	18	OW-1-51R	60.6	30	18
OW-1-4	40S	51.1	30	15	OW-1-4	46	64.3	45	17	OW-1-52	59.3	30	17
OW-1-4	41S	51.5	40	14	OW-1-4	47	63.4	40	18	OW-1-53	60.0	30	17
OW-1-4	42S	51.3	30	16	OW-1-4	48	62.5	30	17	OW-1-54	60.0	30	16
					OW-1-4	49	61.5	30	18				
					OW-1-5	50	61.0	30	17				
omments:					nk #11 was set at 6	minutes.		was no greater	than the pressur	es provided in the h	ydrostatic	tables prepared	by URS
omments:	Corporation	n after collecting	g readings. Inje		nk #11 was set at 6	i minutes. D ₂ Injectio	on System #1	Jog	than the pressure	_	-	ng Points Log	
Domments:	Corporation	n after collecting	g readings. Inje Log mg/L)		nk #11 was set at 6	i minutes. D ₂ Injectio	on System #1	.og Ig/L)	than the pressure	_	-	ng Points Log	by URS (mg/L) iddle
	Corporation Mon	after collecting	g readings. Inje Log mg/L)	ction time at Ba	nk #11 was set at 6	minutes. D ₂ Injectio Mo	on System #1 onitoring Points I DO (n	og g/L) om			Monitori	ng Points Log DO (Mi	(mg/L)
ID	Corporation Mor DTW	n after collecting	g readings. Inje Log mg/L)	ction time at Bar	nk #11 was set at 6	i minutes. D ₂ Injectio Mo DTW	on System #1 onitoring Points I DO (n Bott	og ng/L) om 55	PID (ppm)	ID	Monitori	ng Points Log DO Mi	(mg/L) ddle
ID MP-1-1D	Corporation Mor DTW 27.91	n after collecting	g readings. Inje Log mg/L) tom	PID (ppm) 0.2	nk #11 was set at 6	D DTW	on System #1 onitoring Points I DO (n Bott 26.:	og ng/L) om 55 19	PID (ppm) 0.2	ID MP-1-1E	Monitori	ng Points Log DO Mi	(mg/L) iddle
ID MP-1-1D MP-1-1S	Corporation Mor DTW 27.91 27.97	n after collecting nitoring Points DO (1 Bot 36	g readings. Inje Log mg/L) tom	PID (ppm) 0.2 0.1	nk #11 was set at 6	D2 Injection D2 Injection DTW 27.71 19.95	on System #1 onitoring Points I DO (n Bott 26.: 18.	20g 1g/L) om 555 19 94	PID (ppm) 0.2 0	ID MP-1-1E MP-1-2E	Monitori	ng Points Log DO 0 Mi 2' 3'	(mg/L) iddle 7.74 7.02
ID MP-1-1D MP-1-1S MP-1-2D	Corporation Mor DTW 27.91 27.97 22.21	n after collecting nitoring Points DO (1 Bot 36	g readings. Inje	PID (ppm) 0.2 0.1	nk #11 was set at 6	D2 Injectio D2 Injectio Mo Mo 27.71 19.95 23.05	on System #1 paitoring Points I DO (m Bott 26.: 18. 17.:	20g 1g/L) om 555 19 94	PID (ppm) 0.2 0 0.3	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO 0 Mi 2' 3'	(mg/L) (ddle 7.74 7.02
ID MP-1-1D MP-1-1S MP-1-2D MP-1-2S	Corporation Mor DTW 27.91 27.97 22.21	n after collecting nitoring Points DO (1 Bot 36	g readings. Inje	PID (ppm) 0.2 0.1	nk #11 was set at 6	D2 Injectio D2 Injectio Mo Mo 27.71 19.95 23.05	on System #1 paitoring Points I DO (m Bott 26.: 18. 17.:	20g 1g/L) om 555 19 94	PID (ppm) 0.2 0 0.3	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO 0 Mi 2' 3'	(mg/L) (ddle 7.74 7.02
ID MP-1-1D MP-1-1S MP-1-2D MP-1-2D MP-1-2S MP-1-3D	Mor Mor 27.91 27.97 22.21 22.43	n after collecting nitoring Points DO (1 Bot 36	g readings. Inje	PID (ppm) 0.2 0.1 0 0.2	nk #11 was set at 6	D2 Injectio D2 Injectio Mo Mo 27.71 19.95 23.05	on System #1 paitoring Points I DO (m Bott 26.: 18. 17.:	20g 1g/L) om 555 19 94	PID (ppm) 0.2 0 0.3	ID MP-1-1E MP-1-2E MP-1-3E	Monitori	ng Points Log DO 0 Mi 2' 3'	(mg/L) (ddle 7.74 7.02

SYSTEM #1

						Date:	2/21/2014
				OPERATIONAL	NOTES		
GA5 Air (Compressor						
<u>OAJ AII C</u>	1) Oil Level * Unload	l Checked with system unl l system, wait until Delive l with system unloaded		ss than 9 psi	Yes X	No	
	 3) Oil added 4) Oil chang 5) Oil filter 6) Air filter 7) Oil separ 	Low (red) d ged changed	X Yes 2 Yes 7 Yes 7 Yes 7 Yes 7 Yes 7 Yes 7	Normal (green) X	No X No X No X No X No X No X	High (orange)	-
AS-80 O ₂	Concretor						
AS-80 0 ₂	1) Prefilter 2) Coalescin	0	Yes	X X	No No		
				GENERAL SYSTEM	A NOTES		
<u>Trailer</u>	1) 2)	Performed general house Abnormal conditions obs			out, etc.) Yes X	No	-
	2)		erved (e.g. vandaars.				
	3)	Other major activities co	mpleted <u>Temp f</u>	fencing is setup near shec	l with steel stakes being	g driven in ground to hold in plac	e.
	4)	Supplies needed					
	5)	Visitors					
		es such as any alarm/shu /filter/gasket and/or any					
Wiped dow						ount of oil and water from separat 1-3S were covered with a 7-foot	
		to 100% oxygen saturation. Calibrated with 100 ppr			ene prior to calibration	and unit was reading 99 ppm. Ze	eroed unit with fresh air
Electric M	eter # 96-934-	323 tied into Pole #4					
Action Ite	ms:						

SYSTEM #1

Date: Time: Weather: Outdoor Tempera Inside Trailer Temp Performed By	erature:	13 Cl ~4 ~50	2014 :15 ear 1° F 2° F Ryan	- - - - -							
	O ₂ Ge	<mark>enerator (A</mark> i	irSep)				Compressor	(Kaesar Rotar	<mark>y Screw</mark>	7)	
Hours			8,267.4		Compressor T	ank *			110		(psi)
Feed Air Pressure *			100	(psi)		(rea	dings below	are made from c	control p	anel)	
Cycle Pressure *			70	(psi)	Delivery Air Element Outle	et Temperatu	ire		113 170		(psi) (oF)
Oxygen Receiver Pressur	re *			115 (psi)	Running Hou Loading Hour				9,482 6,001		(hours) (hours)
Oxygen Purity * maximum reading during loa	ding cycle		98.8	(percent)	* maximum read	ing during loadi	ing cycle				
	njection Bank 1	1		O ₂ Injecu	on System #1 Injection Bank 2				Iniect	ion 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	OW-1-8D 89.6 30 28 OW-1-12S						13	OW-1-16D	82.5	30	13
				ate of ~30 scfh provided that th ank #1 and Bank #3 were set a		was no greater	than the pressur	es provided in the h	ydrostatic	tables prepared	by URS

SYSTEM #1

Date: 3/7/2014																		
				O ₂ Injection	O ₂ Injection System #1 Injection Bank 4 Injection Bank 5 Injection Bank 6													
											1							
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-1-228	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-1-248	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							
				ate of ~30 scfh provided that the ank #5 were set at 3 minutes. O ₂ Injection		was no greater t	han the pressur	es provided in the h	ydrostatic	tables prepared	by URS							
Corporation		; readings. Inje		ank #5 were set at 3 minutes. O ₂ Injectio	e pressure reading on System #1 Injection Bank 8	was no greater t	han the pressur	es provided in the h	-	tables prepared	by URS							
Corporation	n after collecting	; readings. Inje		ank #5 were set at 3 minutes. O ₂ Injectio	on System #1	was no greater t	han the pressur	es provided in the h	-		by URS							
mments: Corporation	n after collecting	readings. Inje	ction times at B	ank #5 were set at 3 minutes. O ₂ Injectio	on System #1 Injection Bank 8				Injecti	on Bank 9								
ID	n after collecting Injection Bank 7 Depth	readings. Inje 7 scfh	ction times at B	ank #5 were set at 3 minutes. O ₂ Injectio ID	on System #1 Injection Bank 8 Depth	scfh	psi	ID	Injecti Depth	on Bank 9 scfh	psi							
ID OW-1-25D	Injection Bank 7 Depth 78.1	g readings. Inje 7 scfh 35	ction times at B	ank #5 were set at 3 minutes. O ₂ Injectio ID OW-1-29S	on System #1 Injection Bank 8 Depth 48.5	scfh 30	psi 12	ID OW-1-33D	Injecti Depth 83.2	on Bank 9 scfh 30	psi 28							
OW-1-26D	Injection Bank 7 Depth 78.1 78.1	readings. Inje	psi 26 26	ank #5 were set at 3 minutes. O2 Injectio ID OW-1-29S OW-1-30S	on System #1 Injection Bank 8 Depth 48.5 48.8	scfh 30 30	psi 12 13	ID OW-1-33D OW-1-34D	Injecti Depth 83.2 84.5	on Bank 9 scfh 30 30	psi 28 30							
OW-1-26D OW-1-27D	Injection Bank 7 Depth 78.1 78.1 77.9	readings. Inje	psi 26 26 28 28	ank #5 were set at 3 minutes. O2 Injectio ID OW-1-29S OW-1-30S OW-1-31S	on System #1 Injection Bank 8 Depth 48.5 48.8 49.3	scfh 30 30 45	psi 12 13 13	ID OW-1-33D OW-1-34D OW-1-35D	Injecti Depth 83.2 84.5 85.0	on Bank 9 scfh 30 30 30	psi 28 30 27							
Corporation Corporation ID OW-1-25D OW-1-26D OW-1-27D OW-1-28D	n after collecting Injection Bank 7 Depth 78.1 78.1 77.9 78.0	7 scfh 35 30 25	psi 26 26 28 28	O2 Injection ID 0W-1-29S 0W-1-30S 0W-1-31S 0W-1-32S	Depth 48.5 48.8 49.3	scfh 30 30 45 40	psi 12 13 13 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D	Injecti Depth 83.2 84.5 85.0 85.0	on Bank 9 scfh 30 30 30 40	psi 28 30 27 29							
Corporation Corporation ID OW-1-25D OW-1-26D OW-1-26D OW-1-27D OW-1-28D OW-1-29D	Injection Bank 7 Depth 78.1 78.1 78.1 78.1 78.4	7 scfh 35 30 25 30	psi 26 26 26 28 28 25	O ₂ Injectio O ₂ Injectio ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S	Depth 48.5 48.8 49.3 49.7	scfh 30 30 45 40 30	psi 12 13 13 13 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D OW-1-37D	Injecti Depth 83.2 84.5 85.0 85.0 84.0	on Bank 9 scfh 30 30 30 40 30	psi 28 30 27 29 28							
Corporation Corporation ID OW-1-25D OW-1-26D OW-1-26D OW-1-27D OW-1-28D OW-1-29D OW-1-30D	Injection Bank 7 Depth 78.1 78.1 78.1 78.1 78.4 79.0	scfh 35 30 25 30 30 30	psi 26 26 26 28 28 25 35	O ₂ Injectio O ₂ Injectio ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S OW-1-34S	Design System #1 Injection Bank 8 Depth 48.5 48.8 49.3 49.7 50.1	scfh 30 30 45 40 30 30	psi 12 13 13 13 13 13 13 13 13 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D OW-1-37D OW-1-38D	Injecti Depth 83.2 84.5 85.0 85.0 84.0 82.0	on Bank 9 scfh 30 30 30 40 30 35	psi 28 30 27 29 28 37							
ID I ID 0 OW-1-25D 0 OW-1-26D 0 OW-1-26D 0 OW-1-27D 0 OW-1-28D 0 OW-1-29D 0 OW-1-30D 0 OW-1-31D 0 OW-1-32D All injectio	Injection Bank 7 Depth 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 78.1 80.5 81.6	readings. Inje	psi 26 26 26 28 28 25 35 26 28 25 35 26 28	O2 Injection ID OW-1-29S OW-1-30S OW-1-31S OW-1-32S OW-1-33S OW-1-34S OW-1-35S	Depth Injection Bank 8 Depth 48.5 48.8 49.3 49.3 49.7 50.1 50.3 50.3	scfh 30 30 45 40 30 30 25 25	psi 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13	ID OW-1-33D OW-1-34D OW-1-35D OW-1-36D OW-1-36D OW-1-37D OW-1-38D OW-1-39D OW-1-40D	Injecti Depth 83.2 84.5 85.0 85.0 84.0 82.0 78.0 76.0	on Bank 9 scfh 30 30 30 40 30 35 30 30 30	psi 28 30 27 29 28 37 26 27							

SYSTEM #1

O ₂ Injection System #1													
	Ir	jection Bank 1)]	Injection Bank 11				Injecti	on Bank 12	
ID		Depth	scfh	psi	ID		Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-3	7S	50.5	20	16	OW-1-4	1D	73.6	25	22	OW-1-43	67.4	30	18
OW-1-3	8S	50.6	30	15	OW-1-42	2D	71.0	30	22	OW-1-44	66.6	35	19
OW-1-3	9S	50.7	30	15	OW-1-4	45	65.7	30	18	OW-1-51R	60.6	30	18
OW-1-4	os	51.1	35	15	OW-1-4	46	64.3	30	17	OW-1-52	59.3	30	16
OW-1-4	15	51.5	30	14	OW-1-4	47	63.4	35	18	OW-1-53	60.0	30	17
OW-1-4	28	51.3	30	15	OW-1-4	48	62.5	30	17	OW-1-54	60.0	35	17
					OW-1-4	49	61.5	30	17				
					OW-1-5	50	61.0	30	17				
	Mon	itoring Points I	Jog				on System #1 onitoring Points L	/og			Monitori	ng Points Log	
ID	DTW	DO (n Bott		PID (ppm)	ID	DTW	DO (m Botte		PID (ppm)	ID		DO (mg/L)
MP-1-1D	27.65			0								Mi	ddle
				0	MP-1-5	27.46	32.4		0.1	MP-1-1D)	•	ddle
MP-1-1S	27.70	32.	27	0	MP-1-5 MP-1-6	27.46 19.66	32.4	14	0.1	MP-1-1D MP-1-2D		33	
MP-1-1S MP-1-2D	27.70 21.98	32.	27					44)	33	3.21
		32. 28.		0	MP-1-6	19.66	12.4	14 12 53	0	MP-1-2D)	33	3.21
MP-1-2D	21.98			0	MP-1-6 MP-1-7	19.66 22.92	31.5	14 12 53	0	MP-1-2D MP-1-3D)	33	3.21
MP-1-2D MP-1-2S	21.98			0	MP-1-6 MP-1-7	19.66 22.92	31.5	14 12 53	0	MP-1-2D MP-1-3D)	33	3.21
MP-1-2D MP-1-2S MP-1-3D	21.98 22.20 -			0 0 0.1 -	MP-1-6 MP-1-7	19.66 22.92	31.5	14 12 53	0	MP-1-2D MP-1-3D)	33	3.21 3.12 -
MP-1-2D MP-1-2S MP-1-3D MP-1-3S	21.98 22.20 - -		44	0 0 0.1	MP-1-6 MP-1-7	19.66 22.92	31.5	14 12 53	0	MP-1-2D MP-1-3D)	33	3.21 3.12 -

SYSTEM #1

Hempstead Intersection Street Former MGP Site Nassau County, New York

							Date:	3/7/2014
				OPERATION	NAL NOTES			
GA5 Air C	Compressor							
	1) Oil Level * Unload	el Checked with system un d system, wait until Delive el with system unloaded		ess than 9 psi	Yes	<u>X</u>	No	
	 3) Oil added 4) Oil chang 5) Oil filter 	Low (red) aged)Yes Yes	Normal (gr	reen) No No No	X X X X X	High (orange)	_
	6) Air filter7) Oil separ		Yes Yes Yes		No No No	X X X X		
<u>AS-80 O₂ (</u>	Generator 1) Prefilter 2) Coalescin		Yes	X X	No No			
				GENERAL SYS	STEM NOTES	S		
<u>Trailer</u>	1)	Performed general house				X	No	
	2)	Abnormal conditions ob	served (e.g. vandans	;m)				
	3)	Other major activities co	ompleted Temp	fencing is setup near	r shed with stee	l stakes being	g driven in ground to hold in pla	ce.
	4)	Supplies needed						
	5)	Visitors						
11		es such as any alarm/shu l/filter/gasket and/or any						
_		t of oil and water from sep e covered with a pile of sno		_	ıll equipment an	nd cleaned up	all garbage from around fence a	reas. Monitoring points MP
		d to 100% oxygen saturati n. Calibrated with 100 pp		• •	• •	o calibration	and unit was reading 97 ppm. Z	Zeroed unit with fresh air
Electric M	leter # 96-934-	-323 tied into Pole #4						
Action Ite	ems:							

SYSTEM #1

Date: Time: Weather: Outdoor Tempera Inside Trailer Temp Performed By	erature:	12 Su ~50 ~65	/2014 :45 nny 0° F 5° F Ryan	- - - -							
	O ₂ Ge	<mark>enerator (A</mark> i	irSep)				Compressor	(Kaesar Rotai	ry Screw	7)	
Hours			8,435.1		Compressor T	lank *			100		(psi)
Feed Air Pressure * Cycle Pressure *			100 70	(psi) (psi)	(readings below are made from control panel) Delivery Air <u>103</u> (psi) Element Outlet Temperature <u>117</u> (oF)						(psi) (oF)
Oxygen Receiver Pressur Oxygen Purity			98.5	<u>(psi)</u> (psi) (percent)	Running Hou Loading Hou	rs ′S			9,669 6,117		(hours) (hours)
* maximum reading during loa	ding cycle			O ₂ Injecti	* maximum read	ing during loadi	ing cycle				
I	injection Bank 1	l			Injection Bank 2				Inject	ion 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	OW-1-8D 89.6 30 28 OW-1-12S						13	OW-1-16D	82.5	30	13
				ate of ~30 scfh provided that th ank #1 and Bank #3 were set a		was no greater	than the pressure	es provided in the h	nydrostatic	tables prepared	by URS

SYSTEM #1

SYSTEM #1

					0)₂ Injectio	on System #1						
	In	ijection Bank 1	0]	Injection Bank 11				Injecti	on Bank 12	
ID		Depth	scfh	psi	ID		Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-3	78	50.5	30	16	OW-1-4	1D	73.6	45	23	OW-1-43	67.4	30	18
OW-1-3	8S	50.6	30	16	OW-1-42	2D	71.0	40	22	OW-1-44	66.6	30	19
OW-1-3	9S	50.7	35	15	OW-1-4	45	65.7	30	18	OW-1-51R	60.6	35	18
OW-1-4	0S	51.1	30	15	OW-1-4	OW-1-46		30	18	OW-1-52	59.3	30	15
OW-1-4	1S	51.5	30	14	OW-1-47		63.4	30	18	OW-1-53	60.0	30	17
OW-1-4	28	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					
				0	#11 was set at 6 minutes. O ₂ Injection System #1								
	Mon	itoring Points I	Log		0		on System #1 onitoring Points L	-og			Monitori	ng Points Log	
ID	Mon DTW	iitoring Points I DO (n Bott	ng/L)	PID (ppm)	ID			ng/L)	PID (ppm)	ID	Monitori	DO	(mg/L) iddle
ID MP-1-1D		DO (n	ng/L)	PID (ppm)		Mo	onitoring Points L DO (m	ng/L) om	PID (ppm)			DO (Mi	
	DTW	DO (n	ng/L) tom		ID	Ma DTW	Donitoring Points L DO (m Botte	ng/L) om 21		ID)	DO (<u>Mi</u> 30	iddle
MP-1-1D	DTW 27.51	DO (n Bott	ng/L) tom	0	ID MP-1-5	DTW 27.31	onitoring Points L DO (m Bott 38.2	ng/L) om 21 21	0	ID MP-1-1E)	DO (Mi 30	iddle 5.69
MP-1-1D MP-1-1S	DTW 27.51 27.58	DO (n Bott	ng/L) tom	0	ID MP-1-5 MP-1-6	Md DTW 27.31 20.53	pnitoring Points L DO (m Bott 38.2	ng/L) om 21 21 21 21	0	ID MP-1-1E MP-1-2E)	DO (Mi 30 41 30	iddle 5.69 1.14
MP-1-1D MP-1-1S MP-1-2D	DTW 27.51 27.58 21.16	DO (n Bott 34.	ng/L) tom	0 0 0 0	ID MP-1-5 MP-1-6 MP-1-7	Mc DTW 27.31 20.53 22.82	Domitoring Points L DO (m Botta 38.2 14.2 51.0	ng/L) om 21 21 21 21	0 0 0	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 30 41 30	iddle 5.69 1.14 0.33
MP-1-1D MP-1-1S MP-1-2D MP-1-2S	DTW 27.51 27.58 21.16 22.08	DO (n Bott 34.	ng/L) fom 74 92	0 0 0 0 0	ID MP-1-5 MP-1-6 MP-1-7	Mc DTW 27.31 20.53 22.82	Domitoring Points L DO (m Botta 38.2 14.2 51.0	ng/L) om 21 21 21 21	0 0 0	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 30 41 30	iddle 5.69 1.14 0.33
MP-1-1D MP-1-1S MP-1-2D MP-1-2S MP-1-3D	DTW 27.51 27.58 21.16 22.08 20.02	DO (n Bott 34. 28.	ng/L) fom 74 92	0 0 0 0 0 0 0 0	ID MP-1-5 MP-1-6 MP-1-7	Mc DTW 27.31 20.53 22.82	Domitoring Points L DO (m Botta 38.2 14.2 51.0	ng/L) om 21 21 21 21	0 0 0	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 30 41 30	iddle 5.69 1.14 0.33
MP-1-1D MP-1-1S MP-1-2D MP-1-2S MP-1-3D MP-1-3S	DTW 27.51 27.58 21.16 22.08 20.02 19.85	DO (n Bott 34. 28.	ng/L) fom 74 92 11	0 0 0 0 0 0	ID MP-1-5 MP-1-6 MP-1-7	Mc DTW 27.31 20.53 22.82	Domitoring Points L DO (m Botta 38.2 14.2 51.0	ng/L) om 21 21 21 21	0 0 0	ID MP-1-1E MP-1-2E MP-1-3E)	DO (Mi 30 41 30	iddle 5.69 1.14 0.33

SYSTEM #1

								Dat	te:	3/22/2014	
				0	PERATIONAL	NOTES					
GA5 Air C	Compressor										
	1) Oil Leve * Unload	el Checked with system unle d system, wait until Deliver		s less than	9 psi	Yes	X	No	_		
	2) Oil Leve	el with system unloaded									
	3) Oil adde	Low (red)	X	v	Normal (green)	No	X	High (orange	e)		
	4) Oil chan		Yes	Λ	_		X				
	5) Oil filter	•	Yes		—	No	Х				
	6) Air filter		Yes		_ _		X				
		rator changed l strips checked	Yes	X		No No	Х				
	0) Termina	I sulps checked	105	Λ	_	110					
AS-80 O ₂	Generator										
	1) Prefilter	0	Yes Yes	X	_	No					
	2) Coalesci	ng changed	Yes	X	_	No					
				GE	NERAL SYSTEN	A NOTES					
Turilon											
<u>Trailer</u>	1)	Performed general house	ceeping (i.e. swe	en. collect	t trash inside and c	out. etc.)					
	-)			ср,		Yes	X	Ν	No		
	2		1 / 1	、							
	2)	Abnormal conditions obse	erved (e.g. vanda	alism)							
	3)	Other major activities cor	npleted Tem	np fencing	g is setup near shed	l with steel sta	akes being dr	riven in ground to ho	old in place.		
	4)	Supplies needed									
	4)	Supplies needed									
	5)	Visitors									
Decender											
		es such as any alarm/shut //filter/gasket and/or any (· -								
			/	• • P • • • • • • •	9						
Added sma	all amount of	oil to the compressor. Repa	aired leak in bow	vls of wate	er trap. Soaked up	small amoun	nt of oil and v	water from separator	unit for dispo	osal. Wiped de	own all
		ip all garbage from around						-	-	-	
	11	1		1 1 1	100	•	1'1	1		1	1
		d to 100% oxygen saturatio n. Calibrated with 100 ppm				ene prior to ca	alibration and	1 unit was reading 97	ppm. Zeroe	d unit with free	sh air
and was re	ading 0.0 ppn	i. Calibrated with 100 pph	i isobutylene and	i reading v	was for ppin.						
Electric M	eter # 96-934-	323 tied into Pole #4									
Action Ite	ms:										
11											

SYSTEM #2

Da Tir Wea Outdoor Te Inside Trailer Perforn	ne: ther: emperature: Temperature:	11 Su ~4 ~6	/2014 1:40 inny 5° F i0° F e Ryan	-								
	O ₂ Gei	<mark>nerator (Ai</mark> l	rSep)				Com	pressor (Kaesa	<mark>ar Rotary</mark>	Screw)		
Hours			21,037	-	Compressor	Tank *			80		(psi)	
Feed Air Pressu	ure *		90	(psi)			(reading					
Cycle Pressure	*		60	(psi)	Delivery Ai Element Ou		rature		(psi) (°F)			
Oxygen Receiv	er Pressure *			110 (psi)	Running Ho Loading Ho				(hours) (hours)			
Oxygen Purity	g during loading cy	cle	98	(percent)		ading during lo						
	Injection Ba	unk A		<u></u>		O ₂ Injection System #2 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	
	95.3'	35	29	OW-2-13S	75'	20	20	OW-2-13D	97'	30	36	
OW-2-5	93.5						20 0W-2-13D 97 30 30 21 0W-2-14 96.4' 40 27					
OW-2-5 OW-2-6	95.7'	30	29	OW-2-15S	75'	25	21	OW-2-14	96.4'	40	27	
		30 30	29 30	OW-2-15S OW-2-16S	75' 75.5'	25 20	21 20	OW-2-14 OW-2-15D	96.4' 94.6'	40	27 29	
OW-2-6	95.7'											
OW-2-6 OW-2-7	95.7' 96'	30	30	OW-2-16S	75.5'	20	20	OW-2-15D	94.6'	35	29	

SYSTEM #2

								Date:		1/9	/2014	
					O ₂ Injection	<mark>1 System #2</mark>	2					
	Injection Ba	ank D			Injection Ba	·			I	njection Bank I	ĩ	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	S	cfh
OW-2-18D	95.5'	40	28	OW-2-22S	76'	20	20	OW-2-26D	95'	35	3	31
OW-2-19	96.1'	50	29	OW-2-24S	77.8'	30	26	OW-2-27	93.5'	30	2	28
OW-2-20D	96.6'	55	31	OW-2-26S	74'	30	19	OW-2-28D	92.1'	30	2	26
OW-2-21	96.6'	40	30	OW-2-28S	76'	30	19	OW-2-29	92.2'	30	2	28
OW-2-22D	96.3'	35	26	OW-2-30S	67.8'	40	26	OW-2-30D	88'	30	2	25
OW-2-23	97.2'	30	27	OW-2-34	71'	45	18	OW-2-31	86'	30	2	27
OW-2-24D	97'	35	27	OW-2-35	69.2'	350	20	OW-2-32	84'	30	3	35
OW-2-25	96'	30	30	OW-2-36	64.8'	30	20	OW-2-33	82'	30	3	30
	Injection Ba	ank G			O ₂ Injection Injection Ba		2		Mor	nitoring Points	Log	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (I	mg/L) tom	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 URS Corporation a			et flow rate of ~30 s	scfh provided th	at the pressure	reading was	s no greater than the	pressures p	rovided in the h	ydrostatic table	es prepared by

SYSTEM #2

	Date:	1/9/2014
OPERATIONAL NOTES		
 <u>GA5 Air Compressor</u> 1) Oil Level Checked with system unloaded* * Unload system, wait until Delivery Air Pressure is less than 9 psi 2) Oil Level with system unloaded 	Yes X No	
Low (red) X Normal (green)	High (orange)	
3) Oil added Yes X 4) Oil changed Yes	No No X No X	
5) Oil filter changedYes6) Air filter ChangedYes7) Oil separator cleanedYes8) Terminal strips checkedYesX	No X No X	
AS-80 O ₂ Generator		
1) Prefilter changed Yes 2) Coalescing changed Yes	No X No X	
GENERAL SYSTEM NOTE	S	
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:		
Took apart auto drain that was stuck open and cleaned and adjusted float. Added small amount of was shutting booster pump off too early. Soaked up small amount of oil and water from separator 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 with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 10	-	eading 97 ppm. Zeroed unit
Electric Meter # 96-929-544 tied into Pole #3		
Action Items:		

SYSTEM #2

lours eed Air Pressure *	O ₂ Gen	omotor (A:-		-							
		ierator (All	rSep)				Com	pressor (Kaesa	<mark>ar Rotary</mark>	Screw)	
eed Air Pressure *			21,233	-	Compressor	r Tank *			120		(psi)
	*		105	(psi)			(reading	s below are mad			
ycle Pressure *			60	(psi)	Delivery Air Element Ou		ature		(psi) (°F)		
bxygen Receiver P	ressure *			100 (psi)	Running Ho Loading Ho				(hours) (hours)		
bxygen Purity maximum reading duri	ing loading cyc	cle	97.9	_(percent)	* maximum rea						
	Injection Ba	nk A		1	O ₂ Injection System #2 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

SYSTEM #2

								Date:		1/23	3/2014	
					O ₂ Injection	<mark>1 System #</mark> 2	2					
	Injection Ba	ank D			Injection Ba				Iı	njection Bank F	7	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	so	:fh
OW-2-18D	95.5'	30	33	OW-2-228	76'	30	19	OW-2-26D	95'	30	3	32
OW-2-19	96.1'	30	29	OW-2-248	77.8'	30	27	OW-2-27	93.5'	30	2	27
OW-2-20D	96.6'	20	30	OW-2-26S	74'	30	18	OW-2-28D	92.1'	30	2	27
OW-2-21	96.6'	30	28	OW-2-28S	76'	40	20	OW-2-29	92.2'	40	2	28
OW-2-22D	96.3'	30	27	OW-2-30S	67.8'	30	17	OW-2-30D	88'	50	2	26
OW-2-23	97.2'	35	29	OW-2-34	71'	35	18	OW-2-31	86'	35	3	60
OW-2-24D	97'	35	28	OW-2-35	69.2'	30	20	OW-2-32	84'	30	3	6
OW-2-25	96'	30	27	OW-2-36	64.8'	30	19	OW-2-33	82'	30	3	32
	UKS Corporation	after collecting	readings. Inject	tion banks D & E ar	-	*	C					s propuro
	-		readings. Inject		e turned off. O ₂ Injection	n System #2	-				Log	s prepared
ID	Injection B:		readings. Inject		e turned off.	n System #2	-	ID		itoring Points I	ng/L)	PID (pp
ID OW-2-37	Injection Ba	ank G			e turned off. O ₂ Injection Injection Ba	n System #2 nk H	2		Mon	itoring Points l	ng/L) tom	
	Injection Ba	ank G	psi	ID	e turned off. O2 Injection Injection Ba Depth	n System #2 nk H scfh	2 psi	ID	Mon DTW	itoring Points 1 DO (r Bot	ng/L) tom .66	PID (pp
OW-2-37	Injection Ba Depth 62.8'	ank G scfh 35	psi 19	ID OW-2-45	e turned off. O2 Injection Injection Ba Depth 61.1'	n System #2 nk H scfh 30	2 psi 19	ID MP-2-1	Mon DTW 30.98	itoring Points 1 DO (r Bot 25.	ng/L) tom .66 .58	PID (pp 0 0.2
OW-2-37 OW-2-38	Injection B: Depth 62.8' 62.1'	ank G scfh 35 35	psi 19 18	ID OW-2-45 OW-2-46	e turned off. O ₂ Injection Injection Ba Depth 61.1' 61'	n System #2 nk H 30 30	2 19 20	ID MP-2-1 MP-2-2	Mon DTW 30.98 32.37	itoring Points I DO (1 Bot 25. 47.	ng/L) tom .66 .58 .11	PID (pp 0 0.2
OW-2-37 OW-2-38 OW-2-39	Injection Bi Depth 62.8' 62.1' 60'	ank G scfh 35 35 30	psi 19 18 17	ID OW-2-45 OW-2-46	e turned off. O ₂ Injection Injection Ba Depth 61.1' 61'	n System #2 nk H 30 30	2 19 20	ID MP-2-1 MP-2-2 MP-2-3S	Mon DTW 30.98 32.37 32.18	itoring Points I DO (r Bot 25. 47. 50. 47.	ng/L) tom .66 .58 .11	PID (pp 0 0.2 0.2
OW-2-37 OW-2-38 OW-2-39 OW-2-40	Injection B: Depth 62.8' 62.1' 60' 61.7'	ank G Scfh 35 35 30 30 30	psi 19 18 17 19	ID OW-2-45 OW-2-46	e turned off. O ₂ Injection Injection Ba Depth 61.1' 61'	n System #2 nk H 30 30	2 19 20	ID MP-2-1 MP-2-2 MP-2-3S MP-2-3D	Mon DTW 30.98 32.37 32.18 32.34	itoring Points 1 DO (r Bot 25. 47. 50. 47. 11.	ng/L) tom .66 .58 .11 .79	PID (p) 0 0.2 0.2 0
OW-2-37 OW-2-38 OW-2-39 OW-2-40 OW-2-41	Injection Ba Depth 62.8' 62.1' 60' 61.7' 61.7'	ank G scfh 35 35 30 30 30	psi 19 18 17 19 19 19 19 19	ID OW-2-45 OW-2-46	e turned off. O ₂ Injection Injection Ba Depth 61.1' 61'	n System #2 nk H 30 30	2 19 20	ID MP-2-1 MP-2-2 MP-2-3S MP-2-3D MP-2-4	Mon DTW 30.98 32.37 32.18 32.34 20.85	itoring Points 1 DO (r Bot 25. 47. 50. 47. 11.	ng/L) tom .66 .58 .11 .79 .22	PID (pp 0 0.2 0.2 0 0

SYSTEM #2

		Date:	1/23/2014
	OPERATIONAL NOT	TES	
GA5 Air Compressor 1) Oil Level Checked with system unlow * Unload system, wait until Delivery		Yes X No	
2) Oil Level with system unloaded			
Low (re 3) Oil added	red) Normal (green) Yes	X High (orange) No X	
4) Oil changed		No X No X	
5) Oil filter changed	Yes	No X	
6) Air filter Changed	Yes	No X	
7) Oil separator cleaned	Yes	No <u>X</u>	
8) Terminal strips checked	Yes Yes Yes Yes Yes X	No	
AS-80 O ₂ Generator			
1) Prefilter changed	Yes	No X	
2) Coalescing changed	Yes Yes	No <u>X</u> No <u>X</u>	
	GENERAL SYSTEM NO	OTES	
	GENERAL STOLEM IN		
Trailer			
1) Performed general housekeeping (i.e	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/shuto		al	
transported off-site, oil/filter/gasket and/or any o	ther abnormal operating continuous.		
Sector large small array of all and water from some	with a star and Winod down all a	minuted alarmed up all comboos for	
Soaked up small amount of oil and water from separ	ator unit for disposal. wiped down an ec	juipment and cleaned up all garbage in	om around fence areas.
The threads on the bolt holes of monitoring points M	4P-2-1, MP-2-3D and MP-2-3S manholes	s can no longer be serviced and need to) be replaced.
DO Meter was calibrated to 100% oxygen saturation with fresh air and was reading 0.0 ppm. Calibrated			reading 98 ppm. Zeroed unit
Electric Meter # 96-929-544 tied into Pole #3			
Action Items:			

SYSTEM #2

Wea Outdoor Te Inside Trailer	me: ther:	10 Su ~3 ~6	/2014 D:45 Inny 60° F 64° F e Ryan								
	O ₂ Ger	nerator (Air	rSep)				Com	pressor (Kaesa	<mark>ar Rotary</mark>	Screw)	
Hours			21,460	-	Compressor	Tank *			85		(psi)
Feed Air Pressu	ure *		<u>80</u> 60	(psi)	Delivery Ai	r	(reading	s below are mad	(psi)		
Cycle Pressure	*		90	(psi)	Element Ou		ature		95 172		(°F)
Oxygen Receiv	ver Pressure *			100 (psi)	Running Ho Loading Ho					(hours) (hours)	
Oxygen Purity * maximum reading	g during loading cy	cle	99.2	(percent)		ading during lo					
	Injection Ba	ank A			O ₂ Injection Injection Ba		2		Ir	ijection Bank (1
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-2-3 OW-2-4	94.3' 94.7'	30 30	30 32	OW-2-10S OW-2-11S	75' 76.5'	40	29 20	OW-2-11D OW-2-12	100.8' 94'	30 20	30 18
OW-2-4	94.7'	30	32	OW-2-11S	76.5'	45	20	OW-2-12	94'	20	18
OW-2-4 OW-2-5	94.7' 95.3'	30	32	OW-2-11S OW-2-13S	76.5'	45	20	OW-2-12 OW-2-13D	94' 97'	20	18
OW-2-4 OW-2-5 OW-2-6	94.7' 95.3' 95.7'	30 40 30	32 29 29	OW-2-11S OW-2-13S OW-2-15S	76.5' 75' 75'	45 45 30	20 18 18	OW-2-12 OW-2-13D OW-2-14	94' 97' 96.4'	20 25 35	18 34 28
OW-2-4 OW-2-5 OW-2-6 OW-2-7	94.7' 95.3' 95.7' 96'	30 40 30 30	32 29 29 28	OW-2-11S OW-2-13S OW-2-15S OW-2-16S	76.5' 75' 75' 75.5'	45 45 30 35	20 18 18 18	OW-2-12 OW-2-13D OW-2-14 OW-2-15D	94' 97' 96.4' 94.6'	20 25 35 30	18 34 28 30

SYSTEM #2

ID											/2014	
ID					O ₂ Injection	n System #2	2					
ID	Injection Ba	ank D			Injection Ba	-			Iı	njection Bank H	<u>?</u>	
	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	so	:fh
OW-2-18D	95.5'	30	30	OW-2-228	76'	40	19	OW-2-26D	95'	30	3	80
OW-2-19	96.1'	30	29	OW-2-24S	77.8'	55	29	OW-2-27	93.5'	30	2	28
OW-2-20D	96.6'	30	30	OW-2-26S	74'	50	19	OW-2-28D	92.1'	30	2	27
OW-2-21	96.6'	35	27	OW-2-28S	76'	50	20	OW-2-29	92.2'	35	2	27
OW-2-22D	96.3'	30	27	OW-2-30S	67.8'	40	26	OW-2-30D	88'	35	2	25
OW-2-23	97.2'	35	29	OW-2-34	71'	30	18	OW-2-31	86'	30	2	28
OW-2-24D	97'	30	28	OW-2-35	69.2'	30	21	OW-2-32	84'	35	3	36
OW-2-25	96'	30	29	OW-2-36	64.8'	30	20	OW-2-33	82'	30	3	35
	Injection Ba	ank G			O ₂ Injection Injection Ba		2		Mon	itoring Points 1	Log	
ID	Injection Ba	ank G scfh	psi	ID	O ₂ Injection Injection Ba Depth		2 psi	ID	Mon DTW	itoring Points 1 DO (1 Bot	mg/L)	PID (pp
ID OW-2-37			psi 20		Injection Ba	nk H		ID MP-2-1		DO (1 Bot		PID (pp
	Depth	scfh		ID	Injection Ba Depth	nk H scfh	psi		DTW	DO (1 Bot	mg/L) tom .23	
OW-2-37	Depth 62.8'	scfh 30	20	ID OW-2-45	Injection Ba	nk H scfh 35	psi 21	MP-2-1	DTW 31.07	DO (1 Bot 27 50	mg/L) tom .23	0
OW-2-37 OW-2-38	Depth 62.8' 62.1'	scfh 30 20	20	D OW-2-45 OW-2-46	Injection Ba	nk H scfh 35 35	psi 21 20	MP-2-1 MP-2-2	DTW 31.07 32.46	DO (1 Bot 27 50 51	mg/L) tom .23 .41	0 0.2 0.2
OW-2-37 OW-2-38 OW-2-39	Depth 62.8' 62.1' 60'	scfh 30 20 30	20 19 17	D OW-2-45 OW-2-46	Injection Ba	nk H scfh 35 35	psi 21 20	MP-2-1 MP-2-2 MP-2-3S	DTW 31.07 32.46 32.28	DO (n Bot 27 50 51 47	mg/L) tom .23 .41 .12	0 0.2 0.2
OW-2-37 OW-2-38 OW-2-39 OW-2-40	Depth 62.8' 62.1' 60' 61.7'	scfh 30 20 30 30 30	20 19 17 20	D OW-2-45 OW-2-46	Injection Ba	nk H scfh 35 35	psi 21 20	MP-2-1 MP-2-2 MP-2-3S MP-2-3D	DTW 31.07 32.46 32.28 32.41	DO (1 Bot 27 50 51 47 14	mg/L) tom .23 .41 .12 .29	0 0.2 0.2 0.2 0.1
OW-2-37 OW-2-38 OW-2-39 OW-2-40 OW-2-41	Depth 62.8' 62.1' 60' 61.7' 61.7'	scfh 30 20 30 30 35 30 30	20 19 17 20 18	D OW-2-45 OW-2-46	Injection Ba	nk H scfh 35 35	psi 21 20	MP-2-1 MP-2-2 MP-2-3S MP-2-3D MP-2-4	DTW 31.07 32.46 32.28 32.41 20.82	DO (1 Bot 27 50 51 47 14	mg/L) tom .23 .41 .12 .29 .88	0 0.2 0.2 0.2

SYSTEM #2

	Date:	2/7/2014
OPERATIONAL NOTES		
GA5 Air Compressor	Vac V No	
 Oil Level Checked with system unloaded* * Unload system, wait until Delivery Air Pressure is less than 9 psi 	Yes X No	
2) Oil Level with system unloaded		
$L_{\rm OW}$ (red) X Normal (green)	High (orange)	
3) Oil added Yes X	No	
4) Oil changed Yes	No X	
5) Oil filter changed Yes	No X	
6) Air filter Changed Yes	No X	
7) Oil separator cleaned Yes	No No No X No X No X	
Low (red) X Normal (green) 3) Oil added Yes X 4) Oil changed Yes Yes 5) Oil filter changed Yes Yes 6) Air filter Changed Yes Yes 7) Oil separator cleaned Yes X 8) Terminal strips checked Yes X	No	
AS-80 O_2 Generator		
	No X	
1) Prefilter changedYes2) Coalescing changedYes	No X No X	
GENERAL SYSTEM NOTES	5	
Trailer		
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)		
Yes X	No	
2) Abnormal conditions observed (e.g. vandalism)		
2) Other major activities completed		
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 Thursday, February 6, 2014 at 1024 PM the system went into alarm for a low pressure conditio	on in the oxygen tank Found and	repaired a had valve on the low
pressure tank not holding causing the system to drain. Added small amount of oil to the compress		-
for disposal. Wiped down all equipment and cleaned up all garbage from around fence areas.	sr. Source up sman amount of of	rand water nom separator and
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 with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.	-	reading 99 ppm. Zeroed unit
with fresh and was reading 0.0 ppm. Canorated with 100 ppm isobitylene and reading was 100	J ppm.	
Electric Meter # 96-929-544 tied into Pole #3		
Action Items:		

SYSTEM #2

Tir Wea Outdoor Te Inside Trailer	ate: me: tther: emperature: Temperature: ned By:	11 Su ~4 ~6	0/2014 1:39 11:39 10° F 55° F e Ryan	- - - - -				npressor (Kaesar Rotary Screw)				
	O ₂ Ger	<mark>nerator (Ai</mark> i	rSep)				Com	pressor (Kaes:	<mark>ar Rotary</mark>	Screw)		
Hours			21,771	-	Compresso	Tank *			85		(psi)	
Feed Air Pressu	ure *		80	(psi)			(reading	s below are mad	le from co	ontrol panel)		
Cycle Pressure	*		60	(psi)	Delivery Ai Element Ou		rature	95 (p. 172 (°H				
Oxygen Receiv	ver Pressure *			100 (psi)	Running Ho Loading Ho				(hours) (hours)			
Oxygen Purity	g during loading cy	cle	85.8	(percent)	* maximum rea							
	Injection Ba	ank A			O ₂ Injection System #2 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	
	96.3'	30	29	OW-2-18S	74.5'	35	18	OW-2-16D	94.1'	30	29	
OW-2-8								II				
OW-2-8 OW-2-9D	96.7'	30	29	OW-2-20S	79'	30	22	OW-2-17	95'	35	28	

SYSTEM #2

								Date:	-	2/20	0/2014	
					O ₂ Injection	n System #2	2					
	Injection Ba	ank D			Injection Ba				I	njection Bank I	?	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	S	rfh
OW-2-18D	95.5'	25	30	OW-2-228	76'	30	19	OW-2-26D	95'	30		80
OW-2-19	96.1'	20	30	OW-2-24S	77.8'	30	29	OW-2-27	93.5'	35	2	28
OW-2-20D	96.6'	20	30	OW-2-26S	74'	30	19	OW-2-28D	92.1'	30	2	27
OW-2-21	96.6'	30	27	OW-2-28S	76'	30	20	OW-2-29	92.2'	35	2	27
OW-2-22D	96.3'	30	27	OW-2-30S	67.8'	30	26	OW-2-30D	88'	40	2	25
OW-2-23	97.2'	30	29	OW-2-34	71'	30	18	OW-2-31	86'	40	2	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
	Injection Ba	ank G			O ₂ Injection Injection Ba		2		Mor	nitoring Points 1	Log	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (I	ng/L)	PID (ppm)
	Dopui	Jein	Por		Depti	Jein	por		DI	Bot	tom	The (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									
omments:	All injection point URS Corporation a			et flow rate of ~30 s	scfh provided th	at the pressure	e reading was	s no greater than the	e pressures p	rovided in the h	ydrostatic table	es prepared by

SYSTEM #2

		Date:	2/20/2014
	OPERATIONAL NO	TEC	
GA5 Air Compressor	UPERATIONAL NO	IES	
 1) Oil Level Checked with system unload * Unload system, wait until Delivery A 2) Oil Level with system unloaded 	Air Pressure is less than 9 psi		
	l) Normal (green) Yes	X High (orange)	
3) Oil added4) Oil changed		No <u>X</u> No <u>X</u>	
5) Oil filter changed	Yes Yes Yes Yes	$ \begin{array}{c} \text{No} \underline{X} \\ \text{No} \underline{X} \\ \text{No} \underline{X} \\ \text{No} \underline{X} \\ \text{No} \underline{X} \end{array} $	
6) Air filter Changed	Yes	No X	
7) Oil separator cleaned	Yes	No X	
8) Terminal strips checked	Yes X	No	
AS-80 O ₂ Generator			
1) Prefilter changed	Yes	No X	
2) Coalescing changed	Yes Yes	No <u>X</u> No <u>X</u>	
	GENERAL SYSTEM N	OTEC	
	GENERAL STOLEN IN	UIE5	
Trailer			
1) Performed general housekeeping (i.e. s	-		
	Yes X	No	
2) Abnormal conditions observed (e.g. va	andalism)		
3) Other major activities completed			
4) Supplies needed			
4) Supplies needed			
5) Visitors			
Record routine activities such as any alarm/shutdo	www.compling maintenance materi	ما	
transported off-site, oil/filter/gasket and/or any oth		ai	
· · · · · · · · · · · · · · · · · · ·	••• ••••		
Found and repaired a bad solenoid valve on the air sep equipment and cleaned up all garbage from around fer	-	of oil and water from separator unit for d	lisposal. Wiped down all
The threads on the bolt holes of monitoring points MP	P-2-1, MP-2-3D and MP-2-3S manhole	s can no longer be serviced and need to	be replaced.
DO Meter was calibrated to 100% oxygen saturation. with fresh air and was reading 0.0 ppm. Calibrated with			eading 99 ppm. Zeroed unit
Electric Meter # 96-929-544 tied into Pole #3			
Action Items:			

SYSTEM #2

Wea Outdoor Te Inside Trailer	ne: ther: emperature:	22014 2:35 0° F 0° F 0° F e Ryan	- - - - -											
	O ₂ Ger	<mark>nerator (Ai</mark> ı	rSep)		Compressor (Kaesar Rotary Screw)									
Hours			21,908		Compressor Tank * <u>120</u> (psi)									
Feed Air Pressu	ure *		100	(psi)			(reading	s below are mad	le from co	ntrol panel)				
Cycle Pressure	*		60	(psi)	Delivery Ai Element Ou		ature		116 147		(psi) (°F)			
Dxygen Receiv	er Pressure *			105 (psi)	Running Ho Loading Ho				22,251 21,679		(hours) (hours)			
Dxygen Purity maximum reading	g during loading cy	cle	97.9	(percent)	* maximum rea									
	Injection Ba	nk A			O ₂ Injection Injection Ba		2		Iv	ijection Bank C	ч			
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	31			
	94.7' 95.3'	30 35	31	OW-2-11S OW-2-13S	76.5' 75'	30 30	20	OW-2-12 OW-2-13D	94' 97'	30 30				
OW-2-4											19			
OW-2-4 OW-2-5	95.3'	35	30	OW-2-13S	75'	30	18	OW-2-13D	97'	30	19 32			
OW-2-4 OW-2-5 OW-2-6	95.3' 95.7'	35	30	OW-2-13S OW-2-15S	75'	30	18	OW-2-13D OW-2-14	97' 96.4'	30	19 32 28			
OW-2-4 OW-2-5 OW-2-6 OW-2-7	95.3' 95.7' 96'	35 35 30	30 29 28	OW-2-13S OW-2-15S OW-2-16S	75' 75' 75.5'	30 35 30	18 19 19	OW-2-13D OW-2-14 OW-2-15D	97' 96.4' 94.6'	30 40 30	19 32 28 29			

SYSTEM #2

								Date:		3/6	/2014	
					O ₂ Injection	n System #2	2					
	Injection Ba	ank D			Injection Ba				I	njection Bank H	ĩ	
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	S	:fh
OW-2-18D	95.5'	30	29	OW-2-228	76'	30	19	OW-2-26D	95'	35	3	30
OW-2-19	96.1'	40	30	OW-2-248	77.8'	30	28	OW-2-27	93.5'	30	2	29
OW-2-20D	96.6'	45	30	OW-2-26S	74'	30	19	OW-2-28D	92.1'	30	2	28
OW-2-21	96.6'	50	27	OW-2-28S	76'	30	21	OW-2-29	92.2'	30	2	28
OW-2-22D	96.3'	40	26	OW-2-30S	67.8'	20	27	OW-2-30D	88'	30	2	25
OW-2-23	97.2'	30	30	OW-2-34	71'	30	18	OW-2-31	86'	30	2	28
OW-2-24D	97'	30	29	OW-2-35	69.2'	30	21	OW-2-32	84'	30	3	34
OW-2-25	96'	30	29	OW-2-36	64.8'	25	20	OW-2-33	82'	30	3	35
	Injection Ba	ank G			O ₂ Injection		2		Mor	nitoring Points	Log	
ID										DO (1		
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	Bot	tom	PID (ppr
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									
omments:	All injection point URS Corporation			et flow rate of ~30 s	scfh provided th	at the pressure	reading was	s no greater than the	pressures p	rovided in the h	ydrostatic table	es preparec

SYSTEM #2

	Date:	3/6/2014
OPERATIONAL NO'	TES	
GA5 Air Compressor 1) Oil Level Checked with system unloaded*	Vac V No	
* Unload system, wait until Delivery Air Pressure is less than 9 psi	Yes X No	
2) Oil Level with system unloaded		
Low (red) X Normal (green)	High (orange)	
3) Oil added Yes X	No X No X	
4) Oil changed Yes	NoX	
5) Oil filter changed Yes	No X	
6) Air filter Changed Yes	NoX	
7) Oil separator cleaned Yes	No <u>X</u>	
Low (red) X Normal (green) 3) Oil added Yes X 4) Oil changed Yes Yes 5) Oil filter changed Yes Yes 6) Air filter Changed Yes Yes 7) Oil separator cleaned Yes X 8) Terminal strips checked Yes X	No	
AS-80 O ₂ Generator		
	No X	
1) Prefilter changedYes2) Coalescing changedYes	No X No X	
GENERAL SYSTEM N	OTES	
Trailer		
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)	
Yes X	No	
	<u></u>	
2) Abnormal conditions observed (e.g. vandalism)		
2) Other mains activities completed		
3) Other major activities completed		
4) Supplies needed		
· · · · · · · · · · · · · · · · · · ·		
5) Visitors		
Record routine activities such as any alarm/shutdowns, sampling, maintenance, materia	al	
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		
amount of oil to the compressor. Soaked up small amount of oil and water from separator un	int for disposal. wiped down all equipin	ient 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 service	ed and need to be replaced.	
	-	
DO Meter was calibrated to 100% oxygen saturation. PID was checked with 100 ppm isobut		reading 97 ppm. Zeroed unit
with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading w	'as 101 ppm.	
Electric Meter # 96-929-544 tied into Pole #3		
Action Items:		

SYSTEM #2

Da Tir Wea Outdoor Te Inside Trailer Perforn	ne: ther: emperature:	0/2014 2:25 lear .0° F .0° F .e Ryan	-											
	O ₂ Ger	<mark>nerator (Ai</mark> ı	rSep)		Compressor (Kaesar Rotary Screw)									
Hours			22,025	-	Compressor Tank * <u>120</u> (psi)									
Feed Air Pressu	ıre *		100	(psi)			(reading	s below are mad	le from co	ontrol panel)				
Cycle Pressure	*		60	(psi)	Delivery Ai Element Ou		rature		115 133		(psi) (°F)			
Oxygen Receiv	er Pressure *		120 (psi)	Running Ho Loading Ho				22,378 21,788		(hours) (hours)				
Oxygen Purity ⁴ maximum reading	g during loading cy	cle	98	_(percent)	* maximum rea									
	Injection Ba	nlt A		<u></u>	O ₂ Injection Injection Ba		2		T.	ijection Bank (.			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh			
OW-2-2	90.2'	30	30	OW-2-98	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	3S 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			
	All injection point	•		1				I						

SYSTEM #2

								Date:		3/19	9/2014				
					O ₂ Injection	<mark>1 System #2</mark>	2								
	Injection Ba	ank D			Injection Ba				I 1	njection Bank I	ŗ				
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	S	cfh			
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	2	28			
OW-2-21	96.6'	35	26	OW-2-28S	76'	30	21	OW-2-29	92.2'	40	2	27			
OW-2-22D	96.3'	45	26	OW-2-30S	67.8'	30	27	OW-2-30D	88'	45	2	25			
OW-2-23	97.2'	40	31	OW-2-34	71'	30	18	OW-2-31	86'	35	2	28			
OW-2-24D	97'	30	29	OW-2-35	69.2'	30	21	OW-2-32	84'	30	2	35			
OW-2-25	96'	35	29	OW-2-36	64.8'	30	20	OW-2-33	82'	30	3	36			
	Injection Ba	ank G			O ₂ Injection Injection Ba		2		Mor	nitoring Points	Log				
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (I	ng/L) tom	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												
omments:	All injection point URS Corporation			et flow rate of ~30 s	scfh provided th	at the pressure	reading was	s no greater than the	pressures p	rovided in the h	ydrostatic table	es prepared by			

SYSTEM #2

	Date: 3/19/2014
OPERATIONAL NOTE	S
GA5 Air Compressor	5
 1) Oil Level Checked with system unloaded* * Unload system, wait until Delivery Air Pressure is less than 9 psi 2) Oil Level with system unloaded 	Yes X No
Low (red) X Normal (green)	High (orange)
3) Oil added Yes X 4) Oil changed Yes X 5) Oil filter changed Yes Yes 6) Air filter Changed Yes Yes 7) Oil separator cleaned Yes Yes	No
4) Oil changed Yes	No X No X No X No X No X
5) Oil filter changed Yes	No <u>X</u>
6) Air filter Changed Yes	No <u>X</u>
7) Oil separator cleanedYes8) Terminal strips checkedYes	No X No X
8) Terminal strips checked Yes	
AS-80 O ₂ Generator	
1) Prefilter changedYes2) Coalescing changedYes	No X No X
2) Coalescing changed Yes	No <u>X</u>
GENERAL SYSTEM NOT	TES
Trailer	
1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)	A.
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:	
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.	•
up small amount of oil and water from separator unit for disposal. Repaired roof shingles that w	vere 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 isobutyle	ene 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	
Electric Meter # 96-929-544 tied into Pole #3	
Action Items:	

APPENDIX C

BORING LOGS AND WELL CONSTRUCTION DIAGRAMS FOR ADDITIONAL MONITORING WELLS

ROJECT/PROJECT LOCATION: Intersection SL Former MGP Site, Hempstead, NY SHEET: 1 OF 5 LIENT: National Ord J08 NO 0: 11176096 ORING CONTRACTOR: Aquifer Drilling and Testing BORING LOCATION: South side of Medical Place ROUNDWATER: 25 bgs CAS. SAMPLER CORE TUBE GROUND ELEVATION: ATE TIME LEVEL TYPE 9' Sonic DATE STARTED: 3/28/14 ATE TIME LEVEL TYPE 9' Sonic DATE STARTED: 3/28/14 ATE TIME LEVEL TYPE 0' Sonic DRILER: David Moon FRAIL ROW ROV COLOR CONSTERNY MATERIAL MCGP Moon PPM STRATA SAMPLE REC% COLOR CONSTERNY MATERIAL Uscs SOLIC PPM STRATA REC% COLOR CONSTERNY MATERIAL Uscs SOLIC PH NO RDOW ROV COLOR CONSTERNY MATERIAL <td< th=""><th></th><th></th><th></th><th>UR</th><th>S ca</th><th>orpora</th><th>ntion</th><th></th><th></th><th>TES BORING NO. :</th><th></th><th>RING</th><th>LOG</th><th>i</th></td<>				UR	S ca	orpora	ntion			TES BORING NO. :		RING	LOG	i
LIENT: National Grid JOB NO : 1117898 ORING CONTRACTOR: Aquifer Drilling and Testing BORING LOCATION: South side of Medical Place ORING CONTRACTOR: CAS. SAMPLER CORN CONTRACTOR: South side of Medical Place ATE TIME LEVEL TYPE CAS. SAMPLER CORN CAS. South Side of Medical Place ATE TIME LEVEL TYPE OA 37 DATE STARTED: 328/14 TIME COLOR PATE SOUL 37 DATE STARTED: 328/14 TIME PTH STRATA WT. TIME DATE STARTED: 328/14 TIME PTH STRATA WT. POCKET PEMETROMETER READING REVIEWED BY: K.McGovern PTH STRATA ROV COLOR SOUL MCG Place MCG MCG Place						-		materd	NIX					
ORING CONTRACTOR: Aquifer Drilling and Testing DORING LOCATION: South adde of Medical Place ROUNDWATER: 25 bgs CAS. SAMPLER Core Tube CROUND LEVATION: South adde of Medical Place NATE Time LeVeL TYPE TYPE 0'S Sonic DATE STATED 3225/14 Image: International Control Time LeVeL TYPE 0'S Sonic DATE STATED 3226/14 Image: International Control FALL Image: International Control DESCLORIST: Megan Dascoli Image: International Control FALL Image: International Control Color Mon Image: International Control RECVEWED BY: K. McGovern Mointon Image: International Control RODM RODM RODM RODM Image: International Control RODM RODM RODM RODM RODM Image: International Control RODM RODM RODM RODM RODM RODM Image: International Control RODM RODM RODM RODM RODM RODM Image: International Control RODM RODM RODM RODM RODM RODM Image: International Contro RODM RODM RODM						L. Former	MGP Sile, HE	empsteau	, IN T					
ROUNDWATER: 25 bgs CAS. SAMPLER CORE TUBE GROUND ELEVATION: THE LEVEL TYPE TYPE 5 Sink G DATE STARTED: 3/25/14 THE LEVEL TYPE TYPE 5 Sink DATE STARTED: 3/25/14 THE LEVEL TYPE TYPE 5 Sink DATE STARTED: 3/25/14 THE LEVEL TYPE TYPE 5 Sink DATE STARTED: 3/25/14 TATE TIME LEVEL TYPE TYPE 5 Sink DATE STARTED: 3/25/14 TATE STARTED: 3/25/14 TA													Andinal	Diago
ATE TIME LEVEL TYPE S Sone DATE STARTED: 3/25/14 Image: Level Image: Level Type 3" DATE STARTED: 3/25/14 Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: Level Image: L						-	-					side of in	ledical	Place
Image: Nome and the second			1		<u> </u>		SAMPLER	CORE	TUBE					
With Construction With Construction DRILLER: David Moon PALL FALL GEOLOGIST: Megan Dascoli POCKET PENETROMETER READING REVEWED BY: K. McGovern PPTH STRATA NO. BLOW RO% COUNT RO% COLOR CONSISTENCY MARDNESS MATERIAL pescreption Uses PTH STRATA NO. BLOW RO% COLOR COUNT REPTH STRATA NO. BLOW RO% MATERIAL NO. BLOW RO% COLOR COLOR COLOR REPTH STRATA SAMPLE SAMPLE MATERIAL NO. BLOW REVEWED BY: K. McGovern MoolSTU REVEWED BY: STRATA SAMPLE SOTOLOGISTIC MATERIAL Strata STRATA STRATA STRATA STRATA	DATE	TIME	LEVE	L TYPE	ТҮРЕ		5' Sonic							
PALL PALL GEOLOGIST: Megan Dascoli EPTH SAMPLE *POCKET PENETROMETER READING REVIEWED BY: K. McGovern SOLL SOLL COLOR COLOR FID MOISTU COUNT ROD% COLOR COUNT ROD% COLOR FID MOISTU COUNT ROD% COLOR COUNT ROD% COLOR FID MOISTU COUNT ROD% COLOR FID MOISTU USCS COOR FID MOISTU COUNT ROD% ROD% ROD% ROD% ROD% ROD% ROD% ROD% ROD% COUNT ROD%					DIA.		3"							
SAMPLE REC%, NO. COLOR SOIL ROCK MATERIAL DESCRIPTION USCS COLOR MOP ROCK FFIH EET STRATA NO. BLOW ROCK ROD% COLOR COLOR ROCK HARDNESS MATERIAL DESCRIPTION USCS COLOR PID MOISTU MCN Advanced to 20' without sampling. Advanced to 20' without sampling. Boring frand cleared to 5' bgs. advanced to 20' without sampling. Boring frand cleared to 5' bgs. advanced to 20' without sampling. Boring frand cleared to 5' bgs. advanced to 20' without sampling. Boring frand cleared to 5' bgs. advanced to 20' without sampling. Boring frand cleared to 5' bgs. advanced to 20' without sampling. Boring completed as 2' PVC well HIM-V20 With sample from 15' to 137'. Boring completed as 2' PVC well with screen from 15' to 137'. Boring 60' 20' bgs. Fine SAND, trace fine gravel and sit, no dor SP 0.5 Image: 1 41.6 Med. Eterm Fine SAND, trace fine gravel and sit, fine gravel. SP 0.5 Image: 2 53.3 Tam Very fine to coarse SAND, trace fine SW 62.1					WT.					DRILLER:				
PTH EFT SAMPLE REC% ROP COUNT COLOR SOIL CONSISTENCY ROP% MATERIAL DESCRIPTION USCS MOP COLOR HIO					FALL					GEOLOGIST:	Mega	n Dascoli		
BYRATA NO. BLOW COUNT ROX COLOR COLOR MATERIAL DESCRIPTION USCS ODDR CODE PD MOUSIU (HeX) Image: Count in the i					*	POCKET P	PENETROMETE	R READIN	G	REVIEWED BY:	K. Mc	Govern		
REI NO. COUNT ROM ROM ROM ROM CODE HCN Advanced to 5' bgs, advanced to 20' without sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling. Image: Count for the sampling.			SA	MPLE	REC%							MGP		MOISTUR
Image: Count ROW HARDNESS CODE HOW AARDNESS Boring hand cleared to 5' bgs, advanced to 20' without sampling. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south side of Medical Place (formerly Wylder) near Hilton Ave. Boring isoated in grassy area on south isoated isoated in grassy area	DEPTH	STRATA	NO	BLOW		COLOR	CONSISTENCY	' -			USCS		PID	
Boring hand cleared to 5 bgs. advanced to 25 bgs. Boring located in grassy area on south side of Medical Places (formerfy Wylder) near Hilton Ave. Boring completed as 2° PVC well with screen from 15° to 137°. Adjacent boring completed as 2° PVC well HIMW-201 with screen from 65° to 85° and sump from 85° to 87°. Began Sampling @ 20° bgs. 1 41.6 Med. Fine SAND, trace fine gravel and silt, Brown Tan Very fine to coarse SAND, trace fine Wery fine to coarse SAND, trace fine Here SAN			NO.	COUNT	RQD%				DEC			CODE		HCN
1 41.6 Med. Orange Fine SAND, trace fine gravel and silt, no odor SP 0.5 - <	-5 - - - - - - - - - - 5 - - - -							Boring c screen f from 13 Adjacen well HIN	completed rom 115' 5' to 137'. t boring c IW-26I w	as 2" PVC well with to 135' and sump completed as 2" PVC ith screen from 65' to				
Image								Began S	Sampling	@ 20' bgs.				
Image	0 —		1		41.6			Fine SA	ND, trace	e fine gravel and silt,	SP		0.5	1
Image: Second system Image: Second system <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>Crunge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6.1</td> <td>1</td>	-					Crunge							6.1	1
Image: Second system Image: Second system <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td>14.5</td> <td>-</td>	-												14.5	-
Image: Constraint of the second se	-									AND, trace silt and	sw	-		-
2 53.3 Very fine to coarse SAND, trace fine	-							Very fin	a to fino G	SAND some silt	SP		185.1	1
- - <td>5 —</td> <td>·····</td> <td>2</td> <td></td> <td>53.3</td> <td>- </td> <td></td> <td></td> <td></td> <td></td> <td>SW</td> <td> </td> <td>0.2</td> <td>-</td>	5 —	·····	2		53.3	-					SW		0.2	-
		•••••	-		00.0			<u> </u>		/				
COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.		•.•.•.	 					very fine	e to coars	Se SAND, trace fine	I		0.2	Wet
	COM	IMENTS: A	vanced v	with track-mo	ounted XL	Max Sonic	drill rig using	3" sample	er and 5"	OD casing to 40' then 7	casing	to 137'.		

			UR	S co	rnor	ation				RING	LOG	ì
PROJE	CT:	Inte				lempstead, N	Y	BORING NO. : HIM				
CLIENT			ional Grid		or one, i	iempsteau, N	1	SHEET: 2 OF 5 JOB NO. : 11176098				
DEPTH		SA	AMPLE	REC %		SOIL CONSISTANCY		MATERIAL	MGP			MOISTURE
FEET	STRATA	NO.	BLOW	RQD %	COLOR	ROCK	-		USCS	COLOR CODE	PID	HCN
			COUNT			HARDNESS	S			-		
I I	· · · · · · ·	1			1		gravel and silt, no	odor	1			I
							3 • • • • •				0.1	
					Lt. Brown		Very fine to fine S	SAND, trace silt and	SP		0.1	
-30 —					-		coarse gravel, no				0.1	
		3		53.3			very fine sand, fe	w sit			0.1	
_											0.1	Wet
_											0.0	
_					Tan						0.0	
-35 —		4		50	·		very fine sand, fe	w silt			0.1	
_											011	
-												
-												
-							Coarse SAND an	d fine to coarse	SW/GW			
-40 —		5		58.3	-			e SAND and fine to			0.0	Wet
-							coarse GRAVEL					
-					Lt.		Coarse SAND, fe	w fine to medium	GP			
-	•••••				Brown		sand and trace fir					
-							Very fine to fine S	AND, trace coarse	SP			
-45 —		6		35			sand and fine gra				0.0	
-												
50												
-50 —		7		65							0.0	
											0.0	
										[0.1	
							/ Very fine SAND,	trace silt and fine			0.2	
-55 —					-		gravel				0.4	
		8		55			Very fine SAND,	trace silt			0.0	
	- <u>^</u> · ^v · - <u>^</u> · v				Med.				SW/GW			
	0.7:0.7: 0.7.0.7.				Orange		Coarse SAND an	d fine GRAVEL	300/000			
СОМ	IMENTS: A	dvanced	with track-mo	ounted XL N	/lax Soni	c drill rig using	3" sampler and 5"	OD casing to 40' then 7'	' casing	to 137'.]
								E	BORING	NO.: H	IIMW-2	6D
]

			UR	S co	rpora	ation		TES BORING NO. : HIM		RING	LOG	;
PROJE	CT:	Inte				Hempstead, N	Y	SHEET: 3 OF				
CLIENT	Г:		ional Grid			• •		JOB NO. : 1117609				
DEPTH		S	AMPLE	REC %		SOIL CONSISTANCY		MATERIAL		MGP		MOISTURE
FEET	STRATA	NO.	BLOW COUNT	RQD %	COLOR	ROCK HARDNESS	-	ESCRIPTION	USCS	COLOR CODE	PID	HCN
	<u> </u>		COONT		ļ	HARDNE33						
					I							
-60 —		9		55	Tan		Very fine to fine S	SAND, trace silt.	SP		0.0	-
-												
-					Lt.							
-					Orange							
-												
-65 —		10		71.6							0.0	-
_												
_	\boxtimes				Lt. Grayish		CLAY, dense, pla	astic at 67.5'	CL			
-					White							
-70 —		11		20	Med. to Lt.		Very fine SAND,	some silt.	SP		0.0	-
-					Gray							
-					Med.		Very fine SAND,	trace to some silt				
_					Orange							
-												
-75 —		12		55							0.0	-
-												
-												
_												
_												
-80 —		13		60							0.0	-
-												
-												
-												
-							red, gray, and ligl	ht brown seams 84.5'				
-85 —		14		58.3	Tan		to 85'				0.0	-
-												
-	· · · · · · · · · · · ·				Orange/ Black		SILT, trace clay s	seams 	ML			
					Tan		Very fine SAND a	and SILT, trace clay	SM/MH			
-90 —		15		61.6	-		Verv fine SAND	trace silt and clay.	SP		0.0	-
-							,, into or and,					
COM	IMENTS: A	dvanced	with track-mo	ounted XL N	/lax Soni	c drill rig using	3" sampler and 5"	OD casing to 40' then 7	" casing	to 137'.		
									BORING	NO.: H	1IMW-2	6D

			UR	S co	rpora	ation		TES		RING	LOG	ì
PROJ	ECT:	Inte				Hempstead, N	Y	SHEET: 4 OF 5				
CLIEN	T:	Nati	onal Grid					JOB NO.: 11176098	3			
DEPTH	STRATA	SA	MPLE	REC %		SOIL CONSISTANCY		MATERIAL	USCS	MGP COLOR	PID	MOISTURE
FEET	SIRAIA	NO.	BLOW COUNT	RQD %	COLOR	ROCK HARDNESS	DE	SCRIPTION	0303	CODE	FID	HCN
				ļ	ļ	I MADILEOU						
4												
_												
_												
-95 —		16		60	Lt.	-					0.0	
-					Gray to Lt.							
_					Orange							
_												
_												
100 —		17		58.3	Tan						0.0	
-							Very fine SAND					
_	<mark></mark>				Lt.		0		CL/ML	-		
_	= = = =				Gray to		CLAY seems inte	rbedded with SILT				
_	_ 工:工				Orange Tan w/				SP	-		
105 —		18		66.6	Orange Swirls		Very fine SAND,	trace silt			0.0	
_											010	
_												
_												
_												
110 —		19		70							0.0	
_											0.0	
-											0.0	
-											0.0	
-											1.4	
-115 —		20		60	Tan to	-				-	0.2	
					Lt. Brown						0.3	
											0.2	
											0.5	
											1.1	
120 —		21		76	-						1.1	
					Lt.		Into the state of QLA	V and CIL T	CL/ML		1.1	
	⊥ :⊥				Gray + Dk.		Interbedded CLA	T and SILT			1.1	
-					Orange + Dk.						1.7	
					Brown							ļ
CON	COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 137'.											
										NO.: H	IIMW-24	6D

ſ				UR	S co	rnora	ation		TES BORING NO. : HIM		RING	LOG	;
┝	PROJE	CT:	Inte				lempstead, N	1	SHEET: 5 OF 5				
	CLIENT			onal Grid		, .	·····		JOB NO. : 1117609				
F	DEPTH		SA	AMPLE	REC %		SOIL CONSISTANCY		MATERIAL		MGP		MOISTURE
	FEET	STRATA	NO.	BLOW COUNT	RQD %	COLOR	ROCK			USCS	COLOR CODE	PID	HCN
													I
-1:	25 —	LL 										4.6	
	_		22		75							3.4	
	_	I :I:				Med.	-			SP	-	3.4 1.6	
	_					Orange		Very fine SAND,	trace silt.	55		1.0	
	_											0.5	
-1:	30 —		23		55							0.0	
	4		20		00							0.0	
	4											0.0	
	-											0.0	
	-											0.0	
-1:	35 —												
	-							Advanced boring sampling.	to 137' without				
								End of boring @	137' bgs				
	_												
-	40 —												
	-												
	-												
	-												
	-												
-	45 —												
	-												
	-												
	-												
ł	50 —												
													<u>I</u>
ſ	СОМ	MENTS: A	dvanced	with track-mo	ounted XL N	lax Soni	c drill rig using	3" sampler and 5"	OD casing to 40' then 7	" casing	to 137'.		
	L										NC		
L										BURING	NO.: H	1111/177-20	עפ

		I	URS	5 00	rnora	tion					RING	LOG	;
									BORING NO. :	німи			
		CT LOCAT			. Former	MGP Site, He	mpstead	, NY	SHEET:	1 OF			
CLIENT	Г:			nal Grid					JOB NO. :	111760			
BORIN	G CONTRA	CTOR:	Aquif	er Drilling	g and Tes	ting			BORING LOCATION		side of Se	ealy Ave	е.
GROUN	NDWATER:	1	25' bg	s	CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATIO				
DATE	TIME	LEVEL	TYPE	TYPE		5' Sonic			DATE STARTED:	3/21/1			
				DIA.		3"			DATE FINISHED:	3/21/1			
				WT.					DRILLER:		Moon		
				FALL					GEOLOGIST:	Mega	n Dascoli		
				*	POCKET P	ENETROMETE	R READIN	G	REVIEWED BY:	K. Mc	Govern		
		SAM	PLE	REC%		SOIL					MGP		MOISTURE
DEPTH FEET	STRATA	NO I	BLOW	BOD%	COLOR	CONSISTENCY ROCK	-		ATERIAL SCRIPTION	USCS	COLOR	PID	
			COUNT	RQD%		HARDNESS					CODE		HCN
- -5 - - -10 - - - - - - - - - - - - - -							advance Boring le Ave. ne complet from 50' 72'. Adjacen 42' with complet	ed to 20' v ocated or ar Interse ed as 2" I to 70' an t well HIM out samp ed as 2" I	red to 5' bgs, without sampling. In west side of Sealy ction St. Boring PVC well with screen id sump from 70' to AW-27S advanced to ling. Boring PVC well with screen id sump from 40' to				
-20 —							Began S	Sampling	@ 20' bgs.				_
-		1		43.3	Tan				AND, some fine -like odor, gray	SW		139 176 175 414 478	Moist
-25 —		2		43.3		·	strong p	etroleum	-like odor	SP		162 298	Wet
COM		lvanced wit	th track-mou	Inted XI N	Aax Sonic	drill ria usina	3" sample	er and 5"	OD casing to 40' then 7	" casino	to 72'		
							- Jumpic			caonig			
										BORING	NO.: H	11MW-2	/1

			UR	S co	rnora	ation		TES		RING	LOG	;
PROJE	CT:	Inte				Hempstead, N	4	SHEET: 2 OF				
CLIENT			ional Grid		, .		-	JOB NO. : 1117609				
DEPTH		S	AMPLE	REC %		SOIL CONSISTANCY		MATERIAL		MGP		MOISTURE
FEET	STRATA	NO.	BLOW	RQD %	COLOR	ROCK	-	ESCRIPTION	USCS	COLOR CODE	PID	нсм
			COUNT			HARDNESS						
		I					Very fine to fine S	SAND, trace coarse	I			
							sand, fine gravel	and silt, no staining, n petroleum coating			347	
							0 0				204	
-30 —											382	
-50		3		46.6							85	
											160	
											235	
							norformed ior obs	ake toot 24 25'			163	
-35 —					Lt. Brown		performed jar sha LNAPL (petroleur	m), no DNAPL			305	
_	•••••	4		36.7	Tan		Very fine to medi coarse sand and	um SAND, few fine gravel, trace silt,	SW		41	
_	•••••						faint petroleum o	dor			82	
_	•••••										42	
_	•••••										24	
-40 —		5		50					SP	-	0.5	Wet
_		5		50			Very fine to fine S fine gravel	SAND, trace silt and	55	-	0.5	wei
_										-	6.0	
_										-	2.0	
_					Lt.				sw	-	2.5	
-45 —	·····-	6		33.3	Brown		Very fine to medi gravel, trace silt.	um SAND, few fine		-	1.0	
-		-								-	0.5	
_									SP	-	0.8	
-							fine gravel	SAND, trace silt and		-	1.2	
-										-	2.3	
-50 —		7		41.6			Vory fing to modi	um SAND, few fine	SW	-	0.2	
							gravel				0.0	
	••••••										0.0	
											0.0	1
	•••••										0.0	
-55 —		8		3.3							0.0	
											0.0	1
											0.0	1
											0.0	1
		I		I	I	I			I	I L		1
COM	COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.											
								-				
									BORING	NO.: H	IIMW-2	71
<u></u>												

			UR	C .				TES	ST BO	RING	LOG	i
								BORING NO. : HIM	W-27I			
PROJE				Former MG	SP Site, I	Hempstead, N	Y	SHEET: 3 OF 3				
CLIENT	: 	Nati	onal Grid			SOIL	i	JOB NO. : 1117609	8			
DEPTH	STRATA	SA	AMPLE	REC %	COLOR	CONSISTANCY	rn	MATERIAL	USCS	MGP COLOR	PID	MOISTURE
FEET	Chicking	NO.	BLOW COUNT	RQD %		ROCK HARDNESS	DE	SCRIPTION		CODE		HCN
			ļ		!	ļ	•					
	•••••				ĺ				L		0.0	
-60 —		9		55	-		trace cobble	s and coarse gravel			0.2	
_											0.3	
_	••••••										0.4	
-											0.5	
_	•••••										0.3	
-65 —		10		46.6	-						0.2	
-											0.3	
_											0.7	
_											0.2	
_											0.3	
-70 —	•••••											
_							Advanced boring sampling.	to 72' without				
_							End of boring @	72' bgs				
_												
-75 —												
_												
_												
_												
_												
-80 —												
_												
_												
-												
-85 —												
_												
-												
_												
-												
-90 —							_					
		-h			1 C		0			1. 70		
COM	MENIS: A	uvanced	with track-mo	Juntea XL N	hax Soni	c ann rig using	s sampler and 5" (OD casing to 40' then 7	casing	ιο 72°.		
									BORING	NO.: H	HIMW-2	71
-												

			UR	S co	orpora	ntion			TE: BORING NO. :			LOG	ì
		OT 1 OC 4											
					t. Former	MGP Site, He	empstead	, NY	SHEET:	1 OF			
CLIEN	Г:			onal Grid					JOB NO. :	111760			
	G CONTRA		-	ifer Drillin	g and Te		1		BORING LOCATION		side of Se	ealy Ave	
GROUN	NDWATER:		25.1	8' bgs	CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATIO				
DATE	TIME	LEVEL	- TYPE	ТҮРЕ	:	5' Sonic			DATE STARTED:	3/20/1			
				DIA.		3"			DATE FINISHED:	3/20/1			
				WT.					DRILLER:	David	Moon		
				FALL	-				GEOLOGIST:	Mega	n Dascoli		
				*	POCKET I	PENETROMETE	R READIN	G	REVIEWED BY:	K. Mc	Govern		
		SAN	MPLE	REC%		SOIL				1	MGP		MOISTUR
DEPTH	STRATA		BLOW		COLOR	CONSISTENCY				USCS	COLOR	PID	
FEET		NO.	COUNT	RQD%		ROCK HARDNESS		DES	SCRIPTION		CODE		HCN
0 							advance Boring II Ave. ne HIMW-2 HIMW-2 samplin well with 40' to 42 HIMW-2	ed to 20' v pocated in ear Interse 88S. 28S advar g and cor screen 2 2'. 28I comple een from	red to 5' bgs, without sampling. grassy area on Sealy ection St. adjacent to need to 42' without npleted as 2" PVC 20' to 40' and sump eted as 2" PVC well 50' to 70' and sump				
20		2	with track me	60 65	Tan		Very find sand an gray sta sheen o odor	e to fine S d fine gra ining, me n water, 1	dium brown NAPL faint petroleum-like	SP 7" casing	to 72'	10.0 0.0 10.5 62.9 68.1 132 123	Wet
COM	IMENTS: A	lvanced w	vith track-mo	ounted XL	Max Sonio	c drill rig using	3" sample	er and 5"	OD casing to 40' then	7" casing	to 72'.		
									Г	BORING			01

			UR	S co	rn ~ r	otion				RING	LOG	ì	
PROJE	CT:	late						BORING NO. : HIN					
CLIENT			onal Grid	-ormer MG	Site, F	lempstead, N	Y	SHEET: 2 OF JOB NO. : 1117609					
				DE0 %		SOIL		JOB NO 111700	,,, 	MGP		MOISTURE	
DEPTH FEET	STRATA		MPLE BLOW	REC %	COLOR		-	MATERIAL	uscs	COLOR	PID		
FEET		NO.	COUNT	RQD %		ROCK HARDNESS	DE	SCRIPTION		CODE		HCN	
-30 -30 - - - - - - - - - - - - - - - - - -		3 4 5 6 7 8		65 68.3 46.7 25 30 48.3	Lt. Brown Tan	HARDNESS	odor, medium bro product 27' to 27. some fine t trace silt, gray sta petroleum-like od trace fine g some fine g petroleum-like od 1" seam of at 38.5', naphthal Very fine to coars gravel, faint petro Very fine to fine S sand and fine gra like odor to 45' no odor	o coarse gravel and aining, strong or gravel and silt gravel, moderate or coal tar-like product ene-like odor se SAND, some fine gleum-like odor SAND, trace coarse ivel, faint petroleum-	SW		125 169 248 51 81 224 218 236 93 27.8 7.8 10.4 6.7 2.1 2.5 5.2 4.1 2.2 0.0 0.		
									-				
	COMMENTE: Advanced with track mounted XI. May Sprid drill ris uping 2" complex and 5" OD coning to 4014hop 7" coning to 701												
	COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.												
								 	BORING	NO.: H	1IMW-29	81	
									DORING	но г		,	

				UR	S co	rpora	ation				RING	LOG	i
F	PROJE	CT:	Inte				lempstead, N	(SHEET: 3 OF 3				
C	CLIENT	Г:	Nati	onal Grid					JOB NO. : 1117609				
D	EPTH		SA	MPLE	REC %		SOIL CONSISTANCY		MATERIAL		MGP		MOISTURE
	FEET	STRATA	NO.	BLOW COUNT	RQD %	COLOR	ROCK HARDNESS		SCRIPTION	USCS	COLOR CODE	PID	HCN
┢		<u> </u>		COUNT			HARDNE33						
										I		0.0	
-60	0 –		9		45							0.0	
	-											0.0	
	-											0.0	
	-						-	Fine to coarse GF	RAVEL trace fine	GW	-	0.0	
	-							sand				0.0	
-6	5		10		31.6	Tan	-	Very fine to medi	um SAND, trace fine	SW		0.0	
	-	•••••						gravel				0.0	
	-	••••••										0.0	
	-	•••••				Med.						0.0	
	-	•••••				Orange Tan						0.0	
-70	0	••••						Boring advanced	to 72' without				
	-							sampling.					
	-							End of boring @	72' bgs				
_													
-7	• –												
-80	0												
	-												
-8	5												
-90	0 0					•	. I			я			
Ļ													
	COMMENTS: Advanced with track-mounted XL Max Sonic drill rig using 3" sampler and 5" OD casing to 40' then 7" casing to 72'.												
										BORING	NO.: H	HIMW-2	31

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	D	Elevation Elevation	amsl amsl 60.0			- 	nd Lockable Cap Bround Level BOREHOLE 6 inch dia. 87 feet length			
Depth(ft.) Description See HIMW-26D Boring Log for Lithologic Description. See HIMW-26D Boring Log for Lithologic Description.	E P T H (FT)		62.0 65.0 85.0 87.0			_	2 inch dia. 65 feet length /C SCREEN 2 2 inch dia. 20 feet length VC SUMP 2 2 inch dia. 2 feet length			
WELL DESIGN	-									
CASING MATERIAL		S	CREEN MAT	ERIAL		FILTER	MATERIAL			
Surface: Steel grade box		Туре:	2" SCH 40 F	VVC	Type: SEAL	#2 Sand	Setting: 62-87'			
Monitor: 2" SCH 40 PVC		Slot Size:	0.020"		Туре:	Bentonite	Setting: 60-62'			
COMMENTS:		1					LEGEND Cement/Bentonite Grout Bentonite Seal Silica Sandpack			
Client: National Grid		Intersectio	on St. Former	MGP Site	Projec	t No.: 1117	6098.00020			
URS Corporation			MONITORING		Well N	Well Number: HIMW-261				

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.		Elevation Elevation	amsl amsl 			<u></u> 	and Lockable of BOREHOI 6 137 VC CASIN 2 115	E inch dia. feet length		
WELL DESIGN	(FT)		<u> 135.0</u> <u> 137.0</u>			-	/C SCREE 20 //////////////////////////////////	inch dia. feet length		
					1			1		
CASING MATERIAL Surface: Steel grade box		S Type:	CREEN MATI 2" SCH 40 P		Type: SEAL	#2 Sand	MATERIA Setting:			
Monitor: 2" SCH 40 PVC		Slot Size:	0.020"		Туре:	Bentonite	Setting:	110-112'		
COMMENTS:							LEGEND Cement/Ber Bentonite S Silica Sand			
Client: National Grid		Intersectio	n St. Former	MGP Site	Projec	t No.: 1117	6098.0002	20		
URS Corporation			IONITORING		Project No.: 11176098.00020 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.	D E P T H (FT)	Elevation Elevation	amsl amsl 16.0 18.0 20.0 40.0 42.0				and Lockable Cap Ground Level BOREHOLE 6 inch dia. 42 feet lengt VC CASING 2 inch dia. 20 feet lengt VC SCREEN 2 inch dia. 20 feet lengt PVC SUMP 2 inch dia. 2 feet lengt
WELL DESIGN							
CASING MATERIAL	<u> </u>	S	CREEN MAT	ERIAL		FILTER	MATERIAL
Surface: Steel grade box		Туре:	2" SCH 40 F	VC	Type: SEAL	#2 Sand MATERIAL	Setting: 18-42'
Monitor: 2" SCH 40 PVC		Slot Size:	0.020"		Туре:	Bentonite	Setting: 16-18'
COMMENTS:		I					LEGEND
							Cement/Bentonite Grou Bentonite Seal Silica Sandpack
Client: National Grid		Intersectio	n St. Former	MGP Sito	Projec	t No · 1117	76098.00020
URS Corporation		N	MONITORING	WELL	-		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.		Elevation	amsl amsl 46.0 48.0 50.0 70.0 72.0			B	DREHOLE 6 inch dia. 72 feet length CCASING 2 inch dia. 50 feet length CSCREEN 2 inch dia. 20 feet length CSUMP 2 inch dia. 20 feet length			
WELL DESIGN										
CASING MATERIAL		S	CREEN MATI	RIAL		FILTER M	ATERIAL			
Surface: Steel grade box	г	Гуре:	2" SCH 40 P	VC	Type: SEAL	#2 Sand	Setting: 48-72'			
Monitor: 2" SCH 40 PVC	S	Slot Size:	0.020"		Туре:	Bentonite	Setting: 46-48'			
COMMENTS:							EGEND			
						в	ement/Bentonite Grout entonite Seal ilica Sandpack			
Client: National Grid	lı.	ntoreactio	n St. Former		Projec	t No · 11176	008 00020			
URS Corporation		Ν	IONITORING STRUCTION	WELL	Project No.: 11176098.00020 Well Number: HIMW-271					

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.	D E P T H (FT)	Elevation Elevation	amsl amsl 16.0 18.0 20.0			E E 	nd Lockable Cap iround Level BOREHOLE 6 inch dia. 42 feet leng 7C CASING 2 inch dia. 20 feet leng 7C SCREEN 2 inch dia. 20 feet leng
			40.0			_	
			42.0			P` 	VC SUMP <u>2</u> inch dia. <u>2</u> feet leng
WELL DESIGN							
CASING MATERIAL		S	CREEN MAT	ERIAL	Turner		MATERIAL
Surface: Steel grade box		Type: 2" SCH 40 PVC			Type: #2 Sand Setting: 18-42' SEAL MATERIAL		
Monitor: 2" SCH 40 PVC		Slot Size:	0.020"		Туре:	Bentonite	Setting: 16-18'
COMMENTS:		<u> </u>					. EGEND Cement/Bentonite Gro Bentonite Seal Silica Sandpack
Client: National Grid		n St. Former		Project No.: 11176098.00020			
URS Corporation		MONITORING		Well Nu	Imber: H	IIMW-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.	D E P T H (FT)	Elevation Elevation	amsl amsl 45.0 47.0 50.0 70.0 72.0				And Lockable Cap Ground Level BOREHOLE 6 inch dia. 72 feet length VC CASING 2 inch dia. 50 feet length VC SCREEN 2 inch dia. 20 feet length PVC SUMP 2 inch dia. 2 feet length
WELL DESIGN							
CASING MATERIAL		S	CREEN MAT	ERIAL		FILTER	MATERIAL
Surface: Steel grade box		Type: 2" SCH 40 PVC			Type: SEAL	#2 Sand	Setting: 47-72'
Monitor: 2" SCH 40 PVC		Slot Size:	0.020"		Туре:	Bentonite	Setting: 45-47'
COMMENTS:		I					LEGEND
							Cement/Bentonite Grout Bentonite Seal Silica Sandpack
Client: National Grid		Intersectio	n St. Formar		Project	ct No · 1117	76098 00020
URS Corporation	Intersection St. Former MGP Site MONITORING WELL CONSTRUCTION DETAILS				Project No.: 11176098.00020 Well Number: HIMW-28I		