

Report. 401040. 2009-12-18.

GW - NAPL - Recovery

nationalgrid

Transmitted Via Express Mail

December 18, 2009

Mr. Douglas K. MacNeal, P.E.
Environmental Engineer
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New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7017

Re: National Grid
North Albany Service Center
Albany, New York
Groundwater Monitoring and NAPL Monitoring/Recovery
Consent Order Index No. A4-0473-0000
USEPA ID No: NYD000730408
Site No. 4-01-040P

Dear Mr. MacNeal:

This letter presents the results of groundwater monitoring activities conducted during December 2008 at the National Grid North Albany Service Center located at 1125 Broadway in Albany, New York. This letter also presents the results of quarterly non-aqueous phase liquid (NAPL) monitoring and recovery activities conducted at the service center between March 2008 and December 2008. The groundwater monitoring and quarterly NAPL monitoring and recovery activities described in this letter were conducted as part of ongoing efforts to address former manufactured gas plant- (MGP-) related environmental concerns at the North Albany Service Center property. A site location map is included on Figure 1.

The groundwater monitoring activities described herein were conducted by ARCADIS to evaluate potential changes in the distribution of dissolved constituents in groundwater in the vicinity of the site. The groundwater monitoring activities were conducted in accordance with the field protocols outlined in the Quality Assurance Project Plan (QAPjP), which was included as an appendix to the New York State Department of Environmental Conservation- (NYSDEC-) approved *Manufactured Gas Plant/Resource Conservation and Recovery Act (MGP/RCRA) Investigation and Remedial Measures Evaluation Work Plan* (Blasland, Bouck, & Lee, Inc., August 1996). The groundwater monitoring activities were also conducted in accordance with the following:

- A February 12, 2004 letter from National Grid to the NYSDEC that proposed to modify the scope of future groundwater monitoring events.
- An August 4, 2004 letter from the NYSDEC to National Grid that presented comments on the modified scope of future groundwater monitoring events.
- A September 13, 2004 letter from National Grid to the NYSDEC that responded to the NYSDEC's comments.

- A March 23, 2005 letter from the NYSDEC to National Grid that provided approval of the modified scope for the groundwater monitoring program.

As described in the above-referenced documents, the scope of the groundwater and quarterly NAPL monitoring/recovery activities was modified based on the results of previous monitoring that has been conducted at the site since 1997. The modified scope included reducing the number of locations where groundwater sampling and NAPL monitoring will be performed and reducing the list of constituents to be analyzed for the groundwater samples. The modified scope was initially implemented during a June 2005 monitoring event and has been followed for each subsequent groundwater monitoring event.

A detailed discussion of the groundwater monitoring activities is presented below, followed by a discussion of the quarterly NAPL monitoring and recovery activities.

Groundwater Monitoring Activities

The groundwater monitoring activities were implemented to achieve the following objectives:

- Obtain groundwater elevation data from monitoring wells/piezometers in the vicinity of the site to evaluate groundwater flow direction and velocity, and compare the results with groundwater flow conditions encountered during previous monitoring events.
- Obtain groundwater analytical data to confirm the results of previous sampling events, and compare the results to the Class GA groundwater standards and guidance values presented in the NYSDEC document entitled, "Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2000 and June 2004.
- Assess potential changes in the concentrations of chemical constituents in groundwater samples collected from downgradient monitoring wells relative to concentrations observed during previous groundwater monitoring events.

The groundwater monitoring field activities are described below, followed by a summary of the groundwater monitoring results.

Groundwater Monitoring Field Activities

The groundwater monitoring field activities were conducted by ARCADIS during December 2008. A description of the groundwater monitoring field activities is presented below.

Fluid Level Measurement

Prior to collecting groundwater samples, ARCADIS obtained static fluid level measurements from all accessible existing onsite and offsite monitoring wells on December 15, 2008. Fluid levels were measured to the nearest 0.01 foot using an electronic oil-water interface probe to determine the depth from a surveyed mark on the top of the inner polyvinyl chloride (PVC) well casing to the groundwater and LNAPL surfaces (where applicable) within the well.

The fluid level measurements obtained from each monitoring well were converted to groundwater elevations using the surveyed well elevations. The calculated groundwater elevations for each monitoring

well are listed in Table 1. Table 1 also includes groundwater elevation measurements obtained during previous groundwater monitoring and NAPL monitoring events. A shallow groundwater potentiometric surface contour map developed based on the December 15, 2008 groundwater elevation measurements is included on Figure 2.

Groundwater Sampling

Groundwater sampling was conducted between December 15, 2008 and December 23, 2008 and included the collection of groundwater samples from 25 existing groundwater monitoring wells in the vicinity of the site. Groundwater samples were not collected from monitoring wells where NAPL was encountered (including monitoring wells MW-4, MW-5R, MW-6S, MW-13 and MW-14) or from monitoring wells which were destroyed, damaged, or covered with large snow banks (including monitoring wells MW-7, MW-17D, MW-18S, and MW-23S). A summary of groundwater samples submitted for laboratory analysis is presented in Table 2.

Low-flow sampling techniques were used to purge groundwater from each monitoring well prior to collecting groundwater samples. Field parameters (consisting of turbidity, temperature, pH, conductivity, oxidation reduction potential [ORP], and dissolved oxygen) were measured approximately every 5 to 10 minutes during well purging, and the depth to water was monitored throughout the pumping process to minimize drawdown within the well. A summary of the field parameters measured at the time of groundwater sampling is presented in Table 3. Copies of the groundwater sampling logs are included in Attachment A.

Well purging activities continued at each well until the field parameters stabilized and the turbidity of the water in the wells was reduced to less than 50 nephelometric turbidity units (NTUs). Groundwater samples were then collected from each monitoring well using low-flow sampling techniques. Groundwater samples were collected using a peristaltic pump and dedicated polyethylene tubing (with the exception that samples collected for laboratory analysis for volatile organic compounds [VOCs] were obtained using disposable bailers).

The groundwater samples were submitted to Shealy Environmental Services, Inc. located in West Columbia, South Carolina (Shealy) for laboratory analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX); polynuclear aromatic hydrocarbons (PAHs); Resource Conservation and Recovery Act (RCRA) metals (including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver); and cyanide. Groundwater samples collected from monitoring well MW-21R were also submitted to Shealy for laboratory analysis for polychlorinated biphenyls (PCBs) to evaluate the detection of PCBs in groundwater samples collected at that location as part of previous monitoring events. Analytical methods used for the laboratory analysis of the groundwater samples are summarized below.

Parameter	Analytical Method
PCBs	USEPA SW-846 Method 8082
BTEX / TCL VOCs	USEPA SW-846 Method 8260
PAHs / TCL SVOCs	USEPA SW-846 Method 8270
RCRA Metals	USEPA SW-846 Methods 6010B/7470
Total Cyanide	USEPA SW-846 Method 9012

Quality assurance/quality control (QA/QC) samples, including blind duplicate (collected from monitoring wells MW-21R and MW-28D), trip blank, matrix spike, and matrix spike duplicate samples were also submitted for laboratory analysis.

Each groundwater sample collected as part of the sampling activities was handled, labeled, packaged, and shipped in accordance with the protocols outlined in the *MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan*. Purge water generated during the sampling activities was collected in 5-gallon buckets and transferred into 55-gallon steel drums for characterization prior to offsite treatment/disposal in accordance with applicable regulations.

The laboratory analytical results for the groundwater samples were reported using NYSDEC Analytical Services Protocol (ASP) Category B data deliverable packages to facilitate data validation.

Groundwater Monitoring Results

A detailed discussion of the groundwater monitoring results (including groundwater flow conditions and groundwater analytical results) is presented below.

Groundwater Flow Conditions

Based on the December 2008 groundwater level measurements, groundwater within shallow overburden beneath the site appears to flow in a general southeast direction (which is consistent with the groundwater flow direction observed during previous groundwater monitoring events). A shallow groundwater potentiometric surface contour map developed from the December 2008 groundwater elevations is presented on Figure 2.

Based on the December 2008 groundwater level measurements from the three bedrock wells (MW-16R, MW-21R and MW-22R), groundwater within shallow bedrock beneath the site appears to flow in a general southeast direction.

Groundwater flow velocities within the shallow overburden were estimated using the calculated geometric mean horizontal hydraulic conductivity value for shallow overburden, the average horizontal hydraulic gradient (0.012 ft/ft) estimated from the shallow groundwater potentiometric surface contour map, and an estimated effective porosity (0.3, obtained from evaluating literature values of effective porosities for different types of soils). The average linear groundwater flow velocity within the shallow overburden was calculated using the following equation (Fetter, 1988):

$$V = Ki/n_e$$

Where:

V = average linear groundwater flow velocity.

K = horizontal hydraulic conductivity (44.9 feet/day).

i = horizontal hydraulic gradient (0.012 ft/ft, as discussed above).

n_e = effective porosity (assumed value of 0.3).

Using the above equation, the average horizontal groundwater flow velocity in shallow overburden was calculated to be 1.7 feet/day, which is generally consistent with the flow velocities calculated from previous monitoring events.

Groundwater Analytical Results

Analytical results obtained for the laboratory analysis of groundwater samples collected during the December 2008 monitoring event are summarized below. The discussion below includes a comparison of analytical results obtained for the laboratory analysis of the groundwater samples with the Class GA groundwater standards and guidance values presented in TOGS 1.1.1. Laboratory analytical reports generated for the analysis of the groundwater samples were submitted for data validation by ARCADIS' data validation staff. Data Usability Summary Reports (DUSRs) which present the validated analytical results for the 2008 annual groundwater monitoring event are included in Attachment B.

PCBs

Analytical results obtained for the laboratory analysis of the groundwater sample collected from monitoring well MW-21R for PCBs are presented in Table 4. PCBs were not detected in the sample collected from monitoring well MW-21R. In addition, PCBs were not detected in the duplicate groundwater sample collected at the same location.

BTEX/VOCs

Analytical results obtained for the laboratory analysis of the groundwater samples for BTEX are presented in Table 5 and shown on Figure 3. A summary of the analytical results for BTEX compounds in the groundwater samples is presented below.

Compound	NYSDEC Class GA Groundwater Standards and Guidance Values (ppb)	Number of Sample Locations where Compound was Detected *	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
Benzene	1	11	0.18 J – 1,200	MW-28S
Ethylbenzene	5	9	0.55 J – 2,000	MW-2
Toluene	5	7	0.63 J – 1,000	MW-28S
Total Xylenes	5 X	10	0.33 J – 1,800	MW-2/MW-28S

Notes:

1. Concentrations presented in micrograms per liter (ug/L) or parts per billion (ppb).
2. J – Estimated value.
3. X – Indicates that the groundwater standard applies to each individual isomer.
4. NYSDEC Class GA groundwater standards and guidance values from TOGS 1.1.1 (NYSDEC, June 1998).
5. * - Sample quantities do not include duplicate samples.

Benzene, ethylbenzene, toluene, and total xylenes were detected in groundwater samples collected from 11 of the groundwater monitoring wells sampled during the annual groundwater monitoring event at concentrations exceeding the NYSDEC groundwater quality standards/guidance values presented in TOGS 1.1.1. The highest BTEX concentrations were detected in monitoring well MW-28S. None of the groundwater samples collected from the farthest downgradient monitoring wells (including locations MW-15S, MW-21D, MW-21R, MW-21SR, MW-22S, MW-22D, MW-22R, MW-24S, and MW-25S) contained VOCs at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values.

PAHs/SVOCs

Analytical results obtained for the laboratory analysis of the groundwater samples for PAHs are presented in Table 6 and shown on Figure 3. A summary of the analytical results for PAHs in the groundwater samples is presented below.

Compound	NYSDEC Class GA Groundwater Standards and Guidance Values (ppb)	Number of Sample Locations where Compound was Detected*	Range of Detected Concentrations (ppb)	Sample(s) Exhibiting Maximum Concentration
2-Methylnaphthalene	NA	6	2.4 J – 260 D	MW-26D
Acenaphthene	20 G	10	6.6 – 220	MW-26D
Acenaphthylene	NA	8	1.3 J – 260	MW-28S
Anthracene	50 G	5	3.0 J – 14.0	MW-26D
Benzo(a)anthracene	0.002 G	1	2.2 J	MW-2
Benzo(a)pyrene	NA	1	5.6	MW-8
Benzo(b)fluoranthene	0.002 G	1	2.3 J	MW-8
Benzo(g,h,i)perylene	NA	2	1.2 J – 3.9 J	MW-8
Benzo(k)fluoranthene	0.002 G	1	1.2 J	MW-8
Chrysene	0.002 G	0	--	--
Dibenzo(a,h)anthracene	NA	0	--	--
Fluoranthene	50 G	2	1.4 J – 2.2 J	MW-8
Fluorene	50 G	9	2.6 J – 89	MW-26D
Indeno(1,2,3-cd)pyrene	0.002 G	0	--	--
Naphthalene	10 G	8	1.4 J – 9,700	MW-28S
Phenanthrene	50 G	8	1.7 J – 100	MW-26D
Pyrene	50 G	3	4.0 J – 11.0	MW-27D

Notes:

1. Concentrations presented in micrograms per liter (ug/L) or parts per billion (ppb).
2. J – Estimated value.
3. G – Guidance Value.
4. NA – Indicates that a NYSDEC Groundwater Standard/Guidance Value is not available for the indicated parameter.
5. NYSDEC Class GA groundwater standards and guidance values from TOGS 1.1.1 (NYSDEC, June 1998).
6. * – Sample quantities do not include duplicate samples.
7. D – Concentration based on a diluted sample analysis.

PAH compounds were detected in groundwater samples collected from ten of the monitoring wells sampled during the annual groundwater monitoring event at concentrations exceeding the NYSDEC groundwater quality standards/guidance values presented in TOGS 1.1.1.

PAH compounds were not detected in groundwater samples collected from offsite monitoring wells and/or the monitoring wells farthest downgradient from the site (including locations MW-15S, MW-21D, MW-21R, MW-21SR, MW-22S, MW-22D, MW-22R, MW-24S, and MW-25S) at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values.

RCRA Metals and Cyanide

Analytical results obtained for the laboratory analysis of the groundwater samples for RCRA metals (including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) and cyanide are presented in Table 7 and shown on Figure 4. Analytical results for RCRA metals and cyanide are summarized below.

Constituent	NYSDEC Groundwater Standards and Guidance Values (ppb)	Number of Sample Locations where Compound was Detected*	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
Arsenic	25	11	4.9 J – 18	MW-2
Barium	1,000	25	21 J – 11,000	MW-22R
Cadmium	5	6	1.2 – 13	MW-2
Chromium	50	3	0.71 J – 9	MW-2
Cyanide	200	20	3.7 J – 1,900	MW-28S
Lead	25	10	2.2 J – 25 J	MW-25S
Mercury	0.7	1	1.2	MW-28S
Selenium	10	1	2.8 J	MW-22S
Silver	50	1	0.68 J	MW-16D
Notes: 1. Concentrations presented in micrograms per liter (ug/L) or parts per billion (ppb). 2. J – Estimated value. 3. NYSDEC Class GA groundwater standards and guidance values from TOGS 1.1.1 (NYSDEC, June 1998). 4. * - Sample quantities do not include duplicate samples.				

Barium, cadmium, cyanide, and mercury were detected at concentrations exceeding the NYSDEC Class GA groundwater quality standards/guidance values presented in TOGS 1.1.1. RCRA metals and cyanide concentrations detected in groundwater samples collected during the December 2008 annual groundwater monitoring event were generally consistent with those detected in groundwater samples collected during previous sampling events.

Comparison of Groundwater Analytical Results with Previous Sampling Events

The analytical results for groundwater samples collected as part of the December 2008 monitoring event were compared with the results for previous sampling events to evaluate changes in the distribution of chemical constituents in groundwater in the vicinity of the site. As indicated above, inorganic constituent concentrations detected in groundwater samples collected during the December 2008 annual groundwater monitoring event were generally consistent with those detected in groundwater samples collected during previous sampling events. A comparison of BTEX and PAH results for groundwater samples collected from select onsite and offsite monitoring wells for the December 2008 sampling event and previous sampling events is presented below.

Onsite Monitoring Wells

A summary of analytical results for groundwater samples collected from specific onsite monitoring wells located in the former MGP area (including monitoring wells MW-26S, MW-26D, MW-27S, MW-27D,

MW-28S, and MW-28D) for BTEX and PAH compounds for the December 2008 monitoring event and previous sampling events is presented in Table 8. Although MW-14 was not sampled in December 2008 due to the presence of NAPL, it has been included in previous comparisons and is included on Table 8.

As shown in Table 8, the analytical results for the December 2008 groundwater monitoring event indicate a general reduction in BTEX concentrations at monitoring wells MW-26S, MW-26D, MW-27S, MW-27D and MW-28S. BTEX concentrations increased at monitoring well MW-28D. The analytical results for the December 2008 groundwater monitoring event indicate a general reduction in PAH concentrations at monitoring wells MW-26S and MW-28D as compared to previous groundwater monitoring events. In addition, PAH concentrations for groundwater samples collected at monitoring wells MW-26D, MW-27S and MW-28S during the December 2008 monitoring event were generally consistent with the results for previous groundwater monitoring events, while the analytical results for the groundwater sample collected from monitoring well MW-27D indicate a slight increase in PAH concentrations.

Offsite Monitoring Wells

A summary of analytical results for BTEX and PAH compounds detected in groundwater samples collected from offsite monitoring wells MW-16R and MW-17S for the December 2008 monitoring event and previous sampling events is presented in Table 9. In addition, a graphical comparison of the historical and current analytical results is included in Attachment C. Although offsite wells MW-17D, MW-18S, and MW-23S were included in previous comparisons, they have been destroyed and will no longer be used to evaluate offsite groundwater conditions.

As summarized in Table 9 and shown in Attachment C, analytical results for the December 2008 groundwater monitoring event indicate a general decrease in BTEX and PAH concentrations for monitoring well MW-17S as compared to previous groundwater monitoring events. Analytical results for the December 2008 groundwater monitoring event also indicate a slight increase in BTEX and PAH concentrations at monitoring well MW-16R as compared to previous groundwater monitoring events.

Quarterly NAPL Monitoring and Recovery Activities

The quarterly NAPL monitoring and recovery activities were implemented to achieve the following objectives:

- Provide data to monitor the presence, thickness, and recharge rate of NAPL within select onsite monitoring wells.
- Obtain sufficient data to evaluate requirements for continued monitoring of NAPL in the vicinity of the site.

A description of the quarterly NAPL monitoring and recovery field activities is presented below, followed by a summary of the monitoring and recovery results.

Quarterly NAPL Monitoring and Recovery Field Activities

Quarterly NAPL monitoring and recovery activities were conducted during March 2008, June 2008, September 2008, and December 2008. A summary of the NAPL monitoring and recovery activities is presented below.

NAPL Monitoring Activities

Quarterly NAPL monitoring consisted of monitoring select wells where NAPL had been previously identified to evaluate the presence/thickness of LNAPL and DNAPL within the wells. The specific wells that were monitored for LNAPL and DNAPL are listed below.

LNAPL

- Monitoring wells MW-04, MW-08, MW-10, and MW-13 where LNAPL has been observed during previous monitoring events.
- Monitoring wells MW-26S, MW-27S, and MW-28S, which are located within the estimated limits of the LNAPL distribution identified in the MGP/RCRA Investigation Report (Blasland, Bouck, & Lee, Inc., November 1997).
- Monitoring wells MW-15S, MW-17S, MW-24S, and MW-25S, which were selected to monitor for potential downgradient migration of LNAPL from areas where LNAPL was previously observed.

DNAPL

- Monitoring wells MW-02, MW-5R, MW-06S, MW-07, and MW-14 where DNAPL has been observed during previous monitoring events.
- Monitoring wells MW-06A, MW-13, MW-26D, MW-27D, and MW-28D, which are located within the estimated limits of the DNAPL distribution identified in the MGP/RCRA Investigation Report.
- Monitoring wells MW-16D, MW-16R, and MW-19D, which were selected to monitor for potential downgradient migration of DNAPL from areas where DNAPL was previously observed.

In wells where LNAPL was previously detected, an oil/water interface probe was initially used to determine the presence and thickness of LNAPL in the well. At monitoring wells where DNAPL had been previously encountered, a clear bottom-loading bailer was used after monitoring for LNAPL to confirm DNAPL measurements (in order to avoid measurement errors due to LNAPL coating the interface probe). The interface probe and/or bailers were slowly lowered into the wells to minimize disturbance of the water column. In the remaining wells where NAPL had not been previously detected, the presence/absence of NAPL was confirmed using a clear polypropylene bailer. A summary of the NAPL thicknesses measured during the March 2008 through December 2008 monitoring events (including NAPL thicknesses measured for previous monitoring events) is presented in Table 10.

NAPL Recovery Activities

NAPL recovery activities consisted of attempting to remove LNAPL and DNAPL to the extent possible for offsite disposal. The LNAPL and DNAPL recovery activities are summarized below.

LNAPL Recovery

Where encountered, LNAPL was recovered, to the extent possible, using a disposable bottom-loading polypropylene bailer and/or a peristaltic pump. Within each well where LNAPL was encountered, the bottom of the bailer and/or pump tubing was lowered to a depth just below the LNAPL/water interface in order to recover the LNAPL. Field personnel recorded the appearance and thickness of the LNAPL layer present in the well. By measuring the total thickness of the LNAPL present in each well, the volume of recovered LNAPL was calculated and recorded on field logs. The LNAPL recovered from each well was emptied into a 5-gallon bucket and transferred to a 55-gallon drum for storage for future transportation and offsite treatment/disposal in accordance with applicable regulations. The quantity of NAPL observed in each well during the monitoring events and the approximate volume of LNAPL recovered are presented in Table 11. Field logs for the LNAPL collection activities are included in Attachment D.

DNAPL Recovery

Where encountered attempts were made to recover DNAPL, to the extent possible, using a free product sampler (FPS) attached to the bottom of a disposable polypropylene bailer and a peristaltic pump. The bailer/FPS was lowered to the bottom of each well in which DNAPL was encountered in an attempt to recover the product. Attempts were also made to recover DNAPL by pumping with a peristaltic pump. The quantity of NAPL observed in each well during the monitoring events and the approximate volume of DNAPL recovered are presented in Table 12. Field logs for the DNAPL collection activities are included in Attachment D.

Quarterly NAPL Monitoring and Recovery Results

LNAPL/DNAPL thicknesses and recovery results for quarterly monitoring events conducted between March 2003 and December 2008 are presented in Tables 10, 11, and 12. The discussion below includes a summary of the LNAPL and DNAPL thicknesses observed in the monitoring wells and the volumes of LNAPL and DNAPL recovered.

Quarterly LNAPL Monitoring and Recovery Results

During the quarterly NAPL monitoring and recovery activities conducted between March 2008 and December 2008, LNAPL was detected within monitoring wells MW-04, MW-08, and MW-13. Approximately 0.01 gallons of LNAPL was removed from MW-04. Trace amounts of LNAPL were observed in wells MW-08 and MW-13. Observed LNAPL thicknesses and recovery results are summarized in Table 10 and 11.

Quarterly DNAPL Monitoring and Recovery Results

During the quarterly NAPL monitoring and recovery activities conducted between March 2007 and December 2007, DNAPL was detected within monitoring wells MW-02, MW-05R, MW-06S, MW-07, MW-13, MW-14 and MW-27D. Observed DNAPL thicknesses and recovery results are summarized in Tables 10 and 12.

Significant amounts of DNAPL were not able to be recovered using either manual bailing techniques or a peristaltic pump. At some locations, the oil-water interface probe could not be used to determine the thickness of DNAPL within the monitoring wells due to the viscosity and density of the DNAPL (and/or accumulated sediment) within the well. In these cases, the apparent DNAPL thickness (presented in

Tables 10 and 12) was determined based on the difference between the measured depth to DNAPL and the reported depth of installation for that monitoring well. The apparent DNAPL thickness may overestimate the quantity of NAPL since the material at the bottom of the well(s) may consist of a mixture of sediment and DNAPL.

Summary

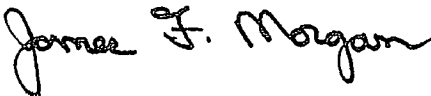
A summary of the findings of the December 2008 groundwater monitoring event and the 2008 quarterly NAPL monitoring/recovery activities is presented below.

- PCBs were not detected at concentrations exceeding the NYSDEC Class GA groundwater standard of 0.09 ppb in the groundwater sample collected from offsite monitoring well MW-21R during the December 2008 monitoring event. PCBs were not detected in the associated duplicate groundwater sample collected from the same well for the 2008 annual monitoring event.
- Select BTEX compounds were detected in groundwater samples collected from onsite monitoring wells MW-2, MW-8, MW-10, MW-27S, MW-27D, MW-28S, and MW-28D at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values. In addition, select PAH compounds were detected in groundwater samples collected from onsite monitoring wells MW-2, MW-8, MW-26D, MW-27S, MW-27D, MW-28S, and MW-28D at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values. The analytical results for the December 2008 groundwater monitoring event indicate a general reduction in BTEX concentrations at monitoring wells MW-26S, MW-26D, MW-27S, MW-27D and MW-28S. BTEX concentrations increased at monitoring well MW-28D. The analytical results for the December 2008 groundwater monitoring event indicate a general reduction in PAH concentrations at monitoring wells MW-26S and MW-28D as compared to previous groundwater monitoring events. In addition, PAH concentrations for groundwater samples collected at monitoring wells MW-26D, MW-27S and MW-28S during the December 2008 monitoring event were generally consistent with the results for previous groundwater monitoring events, while the analytical results for the groundwater sample collected from monitoring well MW-27D indicate a slight increase in PAH concentrations.
- Select BTEX and PAH compounds were detected in the groundwater sample collected from offsite monitoring well MW-16R at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values. BTEX and PAH compounds were not detected in the sample collected from offsite groundwater monitoring well MW-17S. The analytical results for the December 2008 groundwater monitoring event indicate an increase in BTEX and PAH concentrations for offsite monitoring well MW-16R compared to the December 2007 groundwater monitoring event. Analytical results for monitoring well MW-17S indicate a decrease in BTEX and PAH concentrations compared to previous groundwater monitoring events. Groundwater monitoring wells MW-18S and MW-23S were destroyed following the 2005 groundwater monitoring event and can no longer be utilized as monitoring locations.
- None of the groundwater samples collected from the farthest downgradient monitoring wells (including monitoring well locations MW-15S, MW-21D, MW-21R, MW-21SR, MW-22S, MW-22D, MW-22R, MW-24S, and MW-25S) contained VOCs or PAHs at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values.

- Concentrations of metals and cyanide detected in groundwater samples collected during the December 2008 annual groundwater monitoring event were generally consistent with the concentrations detected in groundwater samples collected during previous sampling events.
- Measurable amounts of LNAPL were detected in monitoring well MW-04 and trace amounts of LNAPL were encountered in monitoring wells MW-8 and MW-13 during the quarterly NAPL monitoring and recovery events conducted between March 2008 and December 2008. Based on a comparison of these findings to the LNAPL monitoring results for previous monitoring events, it does not appear that LNAPL has migrated farther downgradient from the site. During the quarterly NAPL monitoring and recovery events from March 2008 through December 2008, approximately 0.01 gallons of LNAPL has been recovered from onsite monitoring wells. From March 2003 through December 2008, approximately 0.13 gallons of LNAPL has been recovered from onsite monitoring wells and containerized for offsite treatment/disposal in accordance with applicable regulations.
- Trace amounts of DNAPL were detected in monitoring wells MW-02, MW-5R, MW-06S, MW-07, MW-13 and MW-14 during the quarterly NAPL monitoring/recovery events conducted between March 2008 and December 2008. The monitoring well locations where DNAPL was detected and measurable thickness of DNAPL at those locations remained generally consistent with those observed during previous monitoring events. Due to the density and viscosity of DNAPL, significant amounts of DNAPL were not recovered using manual bailing methods or by pumping. Based on a comparison to the locations and amounts of DNAPL encountered during previous monitoring events, it does not appear that DNAPL has migrated farther downgradient from the site.

Based on the results of the groundwater monitoring and quarterly NAPL monitoring and recovery activities described in this letter, National Grid continued to implement quarterly NAPL monitoring and recovery activities during 2009. In addition, field sampling for the 2009 annual groundwater monitoring event were conducted during November 2009. Please do not hesitate to contact me at (315) 428-3101 if you have any questions or require additional information.

Sincerely,



James F. Morgan
Lead Senior Environmental Engineer

/jlc
Enclosures

cc: Mr. Gardner Cross, NYSDEC (w/o attachment)
Ms. Bridget Callaghan, New York State Department of Health
Mr. Brien Sterns, P.E., National Grid (w/o attachment)
Mr. James M. Nuss, P.E., ARCADIS. (w/o attachment)
Mr. Michael C. Jones, ARCADIS

ARCADIS

Tables

Table 1
National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Groundwater Elevations (ft)

Well I.D.	Top of Casing Elevation	Groundwater Elevations																						
		09/27/96	06/2/97	7/30/98	8/31/98	10/5/98	10/30/98	12/8/98	1/6/99	2/3/99	3/2/99	3/30/99	5/6/99	6/2/99	7/13/99	11/6/00	2/21/01	10/24/01	11/2002	6/21/05	12/5/06	12/17/07	12/15/08	
MW-01	22.93	14.62	14.61	14.65	NM	NM	NM	NM	NM	14.54	NM	NM	NM	NM	14.42	14.41	NM	14.00	14.09	NM	NM	NM	NM	
MW-02	26.51	18.41	18.55	18.53	18.31	18.04	18.23	17.99	18.04	18.65	18.72	18.87	18.52	18.48	18.51	18.61	NM	18.02	17.98	18.62	18.28	18.45	18.81	
MW-03	21.77	15.06	NM	14.94	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	15.32	14.7	NM	14.28	15.08	NM	15.17	15.45	16.10	
MW-04	19.52	13.93	12.85	13.92	13.07	13.42	13.96	13.75	13.54	14.68	14.67	14.33	14.41	10.66	14.66	15.75	15.59	15.31	15.63	16.24	16.25	16.97	16.40	
MW-05	20.25	15.68	15.93	15.69	15.53	15.08	15.14	14.87	14.65	14.96	15.42	15.83	15.67	15.70	15.62	15.38	15.37	14.95	15.36	NM	15.36	NM	NM	
MW-05R	20.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NM	15.28	15.70	15.86	
MW-06A	15.99	NI	6.89	6.66	6.31	6.04	6.43	6.18	5.99	NM	NM	7.45	6.50	6.50	6.64	6.22	6.56	NM	5.95	3.99	NM	6.85	7.63	
MW-06S	16.10	NI	13.94	13.40	14.30	13.80	14.12	NM	13.58	NM	NM	14.78	14.31	14.11	14.39	13.79	14.45	13.9 ⁽¹⁾	15.20	13.96	NM	15.15	14.45	
MW-07	17.84	15.03	15.19	14.80	14.46	14.18	14.71	14.18	14.18	15.44	15.38	15.51	15.25	14.80	15.13	14.49	14.87	14.14	14.69	14.73	14.61	NM	15.33	
MW-08	19.22	10.59	11.72	10.02	13.02	9.37	11.38	9.63	10.55	14.60	14.18	13.98	13.42	10.98	11.91	10.27	11.62	10.45	14.14	12.83	13.77	13.55	14.04	
MW-09	21.24	9.09	9.02	9.03	NM	NM	NM	NM	NM	9.61	NM	NM	NM	NM	9.06	8.73	NM	8.66	8.88	8.99	NM	9.01	9.52	
MW-10	17.45	6.40	6.58	6.15	5.38	5.05	6.30	5.67	4.98	6.89	6.50	7.88	5.85	6.31	7.44	5.56	5.81	5.25	6.22	6.47	7.58	7.34	8.32	
MW-11	20.97	5.24	5.49	5.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	4.89	4.3	NM	3.82	5.07	NM	NM	NM	NM	
MW-12	20.27	6.68	6.81	6.62	NM	NM	NM	NM	NM	6.61	NM	NM	NM	NM	6.24	5.6	NM	5.19	5.83	Destroyed ⁽²⁾	Destroyed ⁽²⁾	Destroyed ⁽²⁾	Destroyed ⁽²⁾	
MW-13	21.98	16.30	17.23	16.72	16.23	15.93	16.45	16.01	15.63	16.97	16.08	17.48	16.70	16.68	17.06	16.41	16.73	15.90	16.72	16.86	16.68	17.20	17.53	
MW-14	17.63	6.59	6.70	6.48	NM	NM	NM	NM	NM	6.72	NM	NM	NM	NM	6.50	6.08	6.36	5.85	6.09	6.53	6.71	NM	7.57	
MW-15S	16.66	NI	10.94	10.76	NM	9.93	NM	10.86	NM	11.76	NM	NM	10.59	NM	11.45	10.59	11.20	9.96	11.09	10.59	11.11	11.09	11.21	
MW-16D	15.81	NI	6.41	6.21	NM	5.63	NM	5.76	NM	6.56	NM	NM	6.06	NM	6.26	5.71	6.09	5.50	5.96	6.10	6.39	6.31	7.07	
MW-16R	16.15	NI	7.87	3.75	NM	NM	NM	NM	NM	7.53	NM	NM	7.05	NM	7.27	6.7	6.95	6.34	6.71	6.78	7.12	7.07	7.86	
MW-17D	16.76	NI	5.20	5.04	4.75	4.54	4.89	4.72	4.55	5.49	5.35	5.92	4.90	4.91	5.08	4.77	5.15	4.58	4.98	4.86	5.17	5.08	Destroyed ⁽³⁾	
MW-17S	16.42	NI	5.28	5.09	NM	NM	NM	4.73	NM	5.49	NM	NM	NM	NM	5.06	4.73	5.11	4.55	4.92	4.91	5.20	5.10	6.10	
MW-18S	16.54	NI	5.57	5.42	5.07	4.85	5.20	5.00	4.90	5.75	5.93	7.04	5.39	5.32	5.39	5.06	5.95	4.83	5.30	NM	NM	NM	NM	
MW-19D	17.00	NI	8.90	8.69	NM	NM	NM	NM	NM	9.27	NM	NM	NM	NM	8.85	8.45	NM	8.05	8.98	8.89	9.09	8.99	9.83	
MW-20D	31.32	NI	24.18	24.17	NM	NM	NM	NM	NM	24.22	NM	NM	NM	NM	24.10	24.3	NM	23.88	23.97	24.27	24.40	24.49	NM	
MW-21D	15.67	NI	2.87	2.49	NM	NM	NM	NM	NM	3.13	3.12	NM	NM	NM	1.94	1.83	NM	1.42	1.97	2.73	3.15	2.25	4.42	
MW-21R	15.68	NI	2.66	-9.45	NM	NM	NM	NM	NM	3.12	3.06	NM	NM	NM	2.48	1.89	2.34	1.47	2.05	2.76	3.26	2.24	4.40	
MW-21S(R)	15.40	NI	3.14	2.64	NM	NM	NM	1.35	NM	3.78	3.85	NM	NM	NM	2.02	NM	NM	1.52	2.01	NM	NM	NM	5.62	
MW-22D	15.45	NI	3.10	2.65	NM	NM	NM	NM	NM	2.54	NM	NM	NM	NM	2.04	2.0	NM	1.52	2.14	2.88	3.49	2.41	4.95	
MW-22R	15.48	NI	3.33	3.07	NM	NM	NM	NM	NM	2.40	NM	NM	NM	NM	2.46	2.22	2.64	1.97	2.34	3.52	3.67	3.45	5.57	
MW-22S	15.83	NI	5.31	3.30	NM	NM	NM	2.12	NM	NM	1.69	NM	NM	NM	3.65	2.39	NM	1.73	2.50	3.34	4.96	3.50	6.25	
MW-23S	15.28	NI	NI	5.11	4.79	4.53	4.87	4.70	4.52	5.40	5.34	5.78	4.96	4.84	4.87	4.7	5.09	4.52	4.84	4.56	NM	NM	NM	
MW-24S	13.17	NI	NI	4.41	4.10	3.82	4.12	3.85	3.73	4.82	4.64	5.32	4.27	4.13	4.21	4.0	NM	3.80	4.18	4.55	5.03	4.62	5.77	
MW-25S	11.30	NI	NI	4.81	4.28	3.96	4.28	4.06	3.83	4.85	4.85	5.46	4.47	4.30	4.51	4.19	4.45	3.93	4.48	4.68	5.68	5.19	5.57	
MW-26D	22.27	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	16.66	17.21	16.04	16.38	16.93	16.92	16.81	16.82	
MW-26S	22.14	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	16.34	18.57	16.19	16.92	17.79	17.54	18.08	18.25	
MW-27D	20.62	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	11.21	11.44	10.60	11.37	11.84	11.96	11.83	12.65	
MW-27S	20.69	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	13.89	14.15	13.25	14.29	14.73	14.73	14.96	15.24	
MW-28D	19.2	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	10.1	10.31	9.69	9.96	14.40	10.67	10.61	11.25	
MW-28S	19.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	15.48	15.44	15.13	15.58	15.77	15.72	16.17	16.59	
PZ-01D	17.99	NI	10.65	10.32	NM	NM	NM	NM	NM	10.51	NM	NM	NM	10.01	9.94	10.28	9.66	NM	9.06	13.28	10.14	NM	9.92	Destroyed ⁽³⁾
PZ-01S	17.73	NI	13.83	13.68	NM	NM	NM	NM	NM	14.01	NM	NM	NM	13.22	13.49	14.06	12.85	NM	11.85	9.15	13.43	NM	13.94	Destroyed ⁽³⁾
PZ-02	17.83	NI	5.71	5.52	NM	NM	NM	NM	NM	5.36	NM	NM	NM	NM	NM	4.51	NM	4.13	4.84	NM	NM	NM	NM	6.47

Notes:

1. NM - Not measured.
2. NI - Not installed at the time of the monitoring event.
3. All elevations are in feet above mean sea level (AMSL) referenced to the National Geodetic Vertical Datum (NGVD) 1929.
4. Water levels for MW-16R and MW-21R measured on 7/30/98 appear to be affected by air pressure buildup in well.
5. Water levels shown in this table are not density-compensated to account for the presence of non-aqueous phase liquid (NAPL).
6. Monitoring well MW-06, which was installed during PSA activities (Foster Wheeler, 1995), was apparently paved over and has not been located.
7. Monitoring well MW-21S was decommissioned in December 2000 and replaced by MW-21S(R) due to irreparable damage.
8. Measurements for monitoring well MW-5 indicate that an obstruction is in the well preventing full measurement of the well depth. Monitoring well 5R was installed adjacent to MW-5 during June 2006.
9. (1) - Groundwater elevation for monitoring well MW-6S was measured on October 22, 2001.
10. (2) - MW-12 was partially destroyed prior to the June 2005 monitoring event. Monitoring well was not gauged.
11. Monitoring Wells MW-18S & MW-23S were destroyed between the 2005 and 2006 sampling events.
12. Monitoring well MW-17D was destroyed prior to the 2006 sampling event.
13. (3) - MW-17D, PZ-01D and PZ-01S were destroyed prior to the December 2008 monitoring event. Monitoring wells were not gauged.

Table 2
National Grid
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Analytical Sample Summary

Matrix	Sample Location	Sample ID	Date Sampled	SDG#	Parameters				
					BTEX	PAHs	Total Cyanide	RCRA Metals	PCBs
2008 Groundwater Sampling Event									
Groundwater	MW-2	MW-2	12/19/2008		X	X	X	X	
	MW-3	MW-3	12/17/2008		X	X	X	X	
	MW-4			Presence of NAPL - Not Sampled					
	MW-5R			Presence of NAPL - Not Sampled					
	MW-6A	MW-6D	12/16/2008		X	X	X	X	
	MW- 6S			Presence of NAPL - Not Sampled					
	MW-7			Well Damaged/Partially Caved In/Covered with Snowbank - Not Sampled					
	MW-8	MW-8	12/15/2008		X	X	X	X	
	MW-10	MW-10	12/16/2008		X	X	X	X	
	MW-13			Presence of NAPL - Not Sampled					
	MW-14			Presence of NAPL - Not Sampled					
	MW-15S	MW-15S	12/17/2008		X	X	X	X	
	MW-16R	MW-16R	12/23/2008		X	X	X	X	
	MW-16D	MW-16D	12/23/2008		X	X	X	X	
	MW-17S	MW-17S	12/17/2008		X	X	X	X	
	MW-17D			Well Destroyed - Not Sampled					
	MW-18S			Well Destroyed - Not Sampled					
	MW-19D	MW-19D	12/17/2008		X	X	X	X	
	MW-20D	MW-20D	12/15/2008		X	X	X	X	
	MW-21SR	MW-21SR	12/18/2008		X	X	X	X	
	MW-21R	MW-21R (MS/MSD)	12/18/2008		X	X	X	X	X
		DUP-121808	12/18/2008		X	X	X	X	X
	MW-21D	MW-21D	12/18/2008		X	X	X	X	
	MW-22S	MW-22S	12/18/2008		X	X	X	X	
	MW-22R	MW-22R	12/18/2008		X	X	X	X	
	MW-22D	MW-22D	12/18/2008		X	X	X	X	
	MW-23S			Well Destroyed - Not Sampled					
	MW-24S	MW-24S	12/17/2008		X	X	X	X	
	MW-25S	MW-25S	12/17/2008		X	X	X	X	
	MW-26S	MW-26S	12/17/2008		X	X	X	X	
	MW-26D	MW-26D	12/16/2008		X	X	X	X	
	MW-27S	MW-27S	12/16/2008		X	X	X	X	
	MW-27D	MW-27D	12/16/2008		X	X	X	X	
	MW-28S	MW-28S	12/22/2008		X	X	X	X	
	MW-28D	MW-28D (MS/MSD)	12/22/2008		X	X	X	X	
		DUP-122208	12/22/2008		X	X	X	X	

National Grid
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Analytical Sample Summary

Notes:

1. SDG - Sample delivery group.
2. Sample designations indicate the following:
 - MW - Monitoring Well.
 - Dup - Field duplicate sample. Sample ID shown in brackets indicates location where duplicate sample was collected.
3. Samples were analyzed using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Service Protocol (ASP):
 - TCL VOCs - Target Compound List volatile organic compounds using United States Environmental Protection Agency (USEPA) SW-846 Method 8260.
 - TCL SVOCs - Target Compound List semi-volatile organic compounds using USEPA SW-846 Method 8270.
 - BTEX - Benzene, toluene, ethylbenzene, and xylenes (total) using USEPA SW-846 Method 8260.
 - PAHs - Polynuclear aromatic hydrocarbons using USEPA Method 8270.
 - Total Cyanide - Using USEPA Method 9012.
 - RCRA Metals - Resource Conservation and Recovery Act Metals using USEPA Methods 6010B and 7470.

Table 3
National Grid
North Albany Service Center
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Groundwater Field Parameters

Sample ID	MW-2	MW-3	MW-6A	MW-8	MW-10	MW-13	MW-15S	MW-16D	MW-16R
Sample Date	12/17/2008	12/17/2008	12/16/2008	12/15/2008	12/16/2008	12/19/2008	12/17/2008	12/23/2008	12/23/2008
Temperature (°C)	12.50	12.60	13.70	11.00	13.40	NM	10.50	12.50	10.40
pH (S.U.)	6.48	6.48	6.53	6.43	6.61	NM	6.74	6.48	9.23
Conductivity (mS/cm)	5.14	5.09	2.9	0.907	1.190	NM	0.768	2.65	1.700
DO (mg/L)	1.23	1.24	1.70	0.10	5.34	NM	5.29	0.00	3.68
Turbidity (NTU)	0.00	0.00	183.00	2.65	33.00	NM	13.10	1.61	422.0
ORP (mV)	92	93	-130	-85	-117	NM	-41	-172	-162

Sample ID	MW-17S	MW-17D	MW-19D	MW-20D	MW-21D	MW-21R	MW-21SR	MW-22 D	MW-22 R
Sample Date	12/17/2008	12/17/2008	12/17/2008	12/15/2008	12/15/2008	12/18/2008	12/18/2008	12/17/2008	12/18/2008
Temperature (°C)	13.50	NM	13.20	12.30	11.70	10.60	11.20	10.90	12.20
pH (S.U.)	6.22	NM	6.19	6.77	6.61	6.38	6.25	10.48	7.64
Conductivity (mS/cm)	0.650	NM	1.50	3.14	2.91	0.115	1.07	1.42	1.56
DO (mg/L)	0.00	NM	4.60	0.00	0.00	0.51	0.00	6.31	7.57
Turbidity (NTU)	1.85	NM	1.30	0.88	6.21	37.50	1.00	15.20	1.40
ORP (mV)	26.0	NM	54	115	-108	79.0	50	-20	-41

Sample ID	MW-22S	MW-24S	MW-25S	MW-26S	MW-26D	MW-27S	MW-27D	MW-28S	MW-28D
Sample Date	12/18/2008	12/17/2008	12/17/2008	12/16/2008	12/16/2008	12/16/2008	12/16/2008	12/22/2008	12/22/2008
Temperature (°C)	12.30	14.50	13.40	10.30	15.10	11.10	15.40	11.60	13.70
pH (S.U.)	6.43	6.70	6.87	7.17	7.01	6.20	6.64	-	7.02
Conductivity (mS/cm)	1.53	3.61	2.70	2.18	2.20	2.29	2.74	5.27	3.39
DO (mg/L)	0.03	6.54	5.98	10.69	4.40	0.06	2.59	2.98	0.00
Turbidity (NTU)	0.00	14.20	36.80	3.28	2.27	2.75	5.07	6.63	2.48
ORP (mV)	129	-82.0	-89.0	-57.0	-117.0	-109.0	-151.0	-414.0	-297.0

Notes:

1. Field parameters measured by ARCADIS.
2. Field parameters measured using a Horriba U-22 monitor equipped with a flow through cell.
3. indicated field parameters were collected at the beginning of groundwater sampling.
4. DO = Dissolved Oxygen.
5. ORP = Oxidation Reduction Potential.
6. °C = degrees Celsius
7. S.U. = Standard Units
8. mS/cm = millisiemens per centimeter
9. mg/L = milligrams per liter
10. NTU = Nephelometric turbidity units
11. mV = millivolts
12. NM- Not measured.
13. MW-26S was purged on 12/16/2008 and sampled on 12/17/2008, well ran dry during purging at a rate of 150 ml/min.
14. Screened zone of MW-17D is filled with sediment, therefore sample was not analyzed.

Table 4

National Grid
North Albany Service Center
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Groundwater Analytical Results for PCBs (ppb)

Compound	NYSDEC Class GA Standard	Sample ID	
		MW-21R 12/18/08	DUP-121808 12/18/08
Aroclor-1016	0.09 b	<0.052	<0.052
Aroclor-1221	0.09 b	<0.14	<0.14
Aroclor-1232	0.09 b	<0.21	<0.21
Aroclor-1242	0.09 b	<0.14	<0.14
Aroclor-1248	0.09 b	<0.15	<0.16
Aroclor-1254	0.09 b	<0.11	<0.11
Aroclor-1260	0.09 b	<0.062	<0.062

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Shealy Environmental Services, Inc. located in West Columbia, South Carolina .
3. New York State Department of Environmental Conservation (NYSDEC) Class GA Standards from NYSDCE document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2000.
4. Samples were analyzed for polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082.
5. Concentrations reported in micrograms per liter (ug/l) or parts per billion (ppb).
6. < - Indicates that the constituent was not detected; the associated value is the laboratory limit.
7. J - Estimated value. Value is below practical quantitation limit.
8. Sample designations indicate the following:
MW - Monitoring well groundwater sample.
9. Bold and shaded values indicate that the constituent was detected at a concentration greater than the NYSDCE Class GA Standards or Guidance Values.
10. b - Value listed applies to the sum of these substances.

Table 5

National Grid
North Albany Service Center
Albany, New York
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Groundwater Analytical Results for BTEX (ppb)

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-2 12/19/08	MW-3 12/17/08	MW-6D 12/16/08	MW-8 12/15/08	MW-10 12/16/08	MW-15S 12/17/08	MW-16D 12/23/08	MW-16R 12/23/08	MW-17S 12/17/08	MW-19D 12/17/08	MW-20D 12/15/08
Benzene	1	1,100	<0.13	<0.13	3.7	7.3	<0.13	0.18 J	18	<0.13	<0.13	<0.13
Ethylbenzene	5	2,000	<0.33	<0.33	<0.33	1.4	<0.33	<0.33	3.7	<0.33	<0.33	<0.33
Toluene	5	660	<0.33	<0.33	<0.33	3.1	<0.33	<0.33	0.63 J	<0.33	<0.33	<0.33
Total Xylenes	5 d	1,800	<0.33	<0.33	1.1	5.8	<0.33	0.39 J	2.7	<0.33	<0.33	<0.33

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-21D 12/18/08	MW-21R 12/18/08	MW-21SR 12/18/08	MW-22D 12/18/08	MW-22R 12/18/08	MW-22S 12/18/08	MW-24S 12/17/08	MW-25S 12/17/08	MW-26D 12/16/08	MW-26S 12/17/08	MW-27D 12/16/08
Benzene	1	<0.13	0.21 J	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	0.5 J	<0.13	1.9
Ethylbenzene	5	<0.33	0.55 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	3.6	<0.33	1.3
Toluene	5	<0.33	1.7	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total Xylenes	5 d	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	1.5	<0.33	0.33 J

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-27S 12/16/08	MW-28D 12/22/08	MW-28S 12/22/08
Benzene	1	160	190	1,200
Ethylbenzene	5	48	310	1,900
Toluene	5	2.2	41 J	1,000
Total Xylenes	5 d	20	100 J	1,800

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Shealy Environmental Services, Inc. located in West Columbia, South Carolina.
3. New York State Department of Environmental Conservation (NYSDEC) Class GA Standards from NYSDEC document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998, addended April 2000.
4. Samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using United States Environmental Protection Agency (USEPA) SW-846 Method 8260.
5. Concentrations reported in micrograms per liter (ug/l) or parts per billion (ppb).
6. < - Indicates that the constituent was not detected; the associated value is the laboratory limit.
7. J = Indicates an estimated concentration.
8. Bold and shaded values indicate that the constituent was detected at a concentration greater than the NYSDEC Class GA Standards or Guidance Values.
9. d = Value listed applies to each isomer individually.

Table 6

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Groundwater Analytical Results for PAHs (ppb)

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-2 12/19/08	MW-3 12/17/08	MW-6D 12/16/08	MW-8 12/15/08	MW-10 12/16/08	MW-15S 12/17/08	MW-16D 12/23/08	MW-16R 12/23/08	MW-17S 12/17/08	MW-19D 12/17/08	MW-20D 12/15/08	MW-21D 12/18/08	MW-21R 12/18/08	MW-21SR 12/18/08	MW-22D 12/18/08
2-Methylnaphthalene	NA	220	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	70	<1.5	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5
Acenaphthene	20 G	64	<1.2	<1.2	17	8	<1.2	<1.2	24	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Acenaphthylene	NA	61	<1.2	<1.2	4 J	<1.2	<1.2	<1.2	1.3 J	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Anthracene	50 G	5.3 J	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Benzo(a)anthracene	0.002 G	2.2 J	<0.61	<0.61	<0.61	<0.62	<0.6	<0.6	<0.6	<0.6	<0.61	<0.61	<0.6	<0.62	<0.61	<0.61
Benzo(a)pyrene	NA	<1.1	<0.51	<0.51	5.6	<0.52	<0.5	<0.5	<0.5	<0.5	<0.51	<0.5	<0.5	<0.52	<0.5	<0.5
Benzo(b)fluoranthene	0.002 G	<1.3	<0.61	<0.61	2.3 J	<0.62	<0.6	<0.6	<0.6	<0.6	<0.61	<0.61	<0.6	<0.62	<0.61	<0.61
Benzo(g,h,i)perylene	NA	<1.8	<0.82	<0.82	3.9 J	<0.83	<0.8	<0.8	<0.8	<0.8	<0.82	<0.81	<0.8	<0.83	<0.81	<0.81
Benzo(k)fluoranthene	0.002 G	<2.2	<1	<1	1.2 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	0.002 G	<1.6	<0.71	<0.71	<0.71	<0.73	<0.7	<0.7	<0.7	<0.7	<0.71	<0.71	<0.7	<0.73	<0.71	<0.71
Dibenzo(a,h)anthracene	NA	<2.9	<1.3	<1.3	<1.3	<1.4	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.4	<1.3	<1.3
Fluoranthene	50 G	<3.1	<1.4	<1.4	2.2 J	1.4 J	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Fluorene	50 G	24	<1.4	<1.4	2.6 J	7.6	<1.4	<1.4	4.7 J	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Indeno(1,2,3-cd)pyrene	0.002 G	<5.1	<2.3	<2.3	<2.3	<2.4	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.4	<2.3	<2.3
Naphthalene	10 G	3,400 J	<1.3	<1.3	1.4 J	<1.4	<1.3	<1.3	560	<1.3	<1.3	<1.3	<1.3	<1.4	<1.3	<1.3
Phenanthrene	50 G	27	<1.2	<1.2	<1.2	4.8 J	<1.2	<1.2	2.2 J	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Pyrene	50 G	<6.9	<3.2	<3.2	4 J	<3.2	<3.1	<3.1	<3.1	<3.1	<3.2	<3.1	<3.1	<3.2	<3.1	<3.1

Table 6

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Groundwater Analytical Results for PAHs (ppb)

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-22R 12/18/08	MW-22S 12/18/08	MW-24S 12/17/08	MW-25S 12/17/08	MW-26D 12/16/08	MW-26S 12/17/08	MW-27D 12/16/08	MW-27S 12/16/08	MW-28D 12/22/08	MW-28S 12/22/08
2-Methylnaphthalene	NA	<1.6	<1.5	<1.5	<1.5	260 D	<1.5	100	<1.5	2.4 J	230
Acenaphthene	20 G	<1.2	<1.2	6.6	<1.2	220	<1.2	190	37	15	25
Acenaphthylene	NA	<1.2	<1.2	<1.2	<1.2	4.9 J	<1.2	6.7	4.7 J	10	260
Anthracene	50 G	<1.1	<1.1	<1.1	<1.1	14	<1.1	10	3 J	<1.2	5.6
Benzo(a)anthracene	0.002 G	<0.62	<0.61	<0.61	<0.6	<0.61	<0.6	<0.6	<0.6	<0.63	<0.6
Benzo(a)pyrene	NA	<0.52	<0.5	<0.51	<0.5	<0.51	<0.5	<0.5	<0.5	<0.53	<0.5
Benzo(b)fluoranthene	0.002 G	<0.62	<0.61	<0.61	<0.6	<0.61	<0.6	<0.6	<0.6	<0.63	<0.6
Benzo(g,h,i)perylene	NA	<0.83	<0.81	<0.82	<0.8	<0.82	<0.8	<0.8	<0.8	1.2 J	<0.8
Benzo(k)fluoranthene	0.002 G	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	0.002 G	<0.73	<0.71	<0.71	<0.7	<0.71	<0.7	<0.7	<0.7	<0.74	<0.7
Dibenzo(a,h)anthracene	NA	<1.4	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.4	<1.3
Fluoranthene	50 G	<1.4	<1.4	<1.4	<1.4	8.5	<1.4	9.6	2.6 J	<1.5	2.8 J
Fluorene	50 G	<1.4	<1.4	<1.4	<1.4	89	<1.4	49	6.2	3.2 J	46
Indeno(1,2,3-cd)pyrene	0.002 G	<2.4	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.4	<2.3
Naphthalene	10 G	<1.4	<1.3	<1.3	<1.3	2,400 D	<1.3	950 D	15	2.2 J	9,700
Phenanthrene	50 G	<1.2	<1.2	<1.2	<1.2	100	<1.2	60	2.6 J	1.7 J	62
Pyrene	50 G	<3.2	<3.1	<3.2	<3.1	10	<3.1	11	<3.1	<3.3	<3.1

Table 6

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Groundwater Analytical Results for PAHs (ppb)

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Shealy Environmental Services, Inc. located in West Columbia, South Carolina .
3. New York State Department of Environmental Conservation (NYSDEC) Class GA Standards from NYSDEC document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2000.
4. Samples were analyzed for polynuclear aromatic hydrocarbons (PAHs) and semi-volatile organic compounds (SVOCs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8270.
5. Concentrations reported in micrograms per liter (ug/l) or parts per billion (ppb).
6. < = Indicates that the constituent was not detected; the associated value is the laboratory limit.
7. J = Indicates an estimated concentration.
8. NA = Indicates that a NYSDEC Class GA groundwater Standard or Guidance Value is not available for the indicated parameter.
9. Bold and shaded values indicate that the constituent was detected at or above NYSDEC Class GA Standard or Guidance Value.
10. G = Guidance value.
11. D = Indicates that the concentration is based on a diluted sample analysis.

Table 7

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Groundwater Analytical Results for Detected RCRA Metals and Cyanide (ppb)

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-2 12/19/08	MW-3 12/17/08	MW-6D 12/16/08	MW-8 12/15/08	MW-10 12/16/08	MW-15S 12/17/08	MW-16D 12/23/08	MW-16R 12/23/08	MW-17S 12/17/08	MW-19D 12/17/08
Arsenic	25	18	<4 J	<4	<4	14	<4 J	13	<4	6.6 J	5.5 J
Barium	1,000	1,600	320	410	81	200	160	380	2,000	50	51
Cadmium	5	9	0.72 J	<0.6	<0.6	<0.6	<0.6	<0.6	1.2 J	<0.6	<0.6
Chromium	50	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	6.5	<2.1	<2.1
Cyanide	200	26 J	8.1 J	88	32	4.5 J	14	100 J	180 J	12	50
Lead	25	4 J	<1.9 J	<1.9	<1.9	<1.9	2.5 J	4.6 J	17	<1.9 J	2.8 J
Mercury	0.7	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053
Selenium	10	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6
Silver	50	<5 B	<5 B	<0.4	<0.4	<0.4	<5 B	0.68 J	<0.4	<5 B	<5 B

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-20D 12/15/08	MW-21D 12/18/08	MW-21R 12/18/08	MW-21SR 12/18/08	MW-22D 12/18/08	MW-22R 12/18/08	MW-22S 12/18/08	MW-24S 12/17/08	MW-25S 12/17/08	MW-26D 12/16/08
Arsenic	25	<4	<4	<4	<4	<4	<4	<4	9.4 J	12 J	12
Barium	1,000	93	940	200	160	21 J	11,000	170	1,600	210	190
Cadmium	5	<0.6	0.71 J	<0.6	<0.6	<0.6	<0.6	0.73 J	<0.6	<0.6	<0.6
Chromium	50	<2.1	<2.1	4.5 J	<2.1	<2.1	<2.1	<2.1	<2.1	19	<2.1
Cyanide	200	<2.8	50 J	3.7 J	<2.8 J	<2.8 J	11 J	<2.8 J	85	34	14
Lead	25	<1.9	2.2 J	4.3 J	<1.9	4.5 J	<1.9	<1.9	<1.9 J	25 J	<1.9
Mercury	0.7	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053
Selenium	10	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	2.8 J	<2.6	<2.6	<2.6
Silver	50	<0.4	<5 B	<5 B	<5 B	<5 B	<5 B	<5 B	<5 B	<5 B	<0.4

Compound	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-26S 12/17/08	MW-27D 12/16/08	MW-27S 12/16/08	MW-28D 12/22/08	MW-28S 12/22/08
Arsenic	25	4.9 J	12	<4	<10 B	6.4 BJ
Barium	1,000	140	560	120	5,100	58
Cadmium	5	<0.6	<0.6	<0.6	0.8 J	<0.6
Chromium	50	<2.1	<2.1	<2.1	<2.1	<2.1
Cyanide	200	<2.8	48	250	630 J	1,900
Lead	25	2.4 J	<1.9	<1.9	<10 B	<1.9
Mercury	0.7	<0.053	<0.053	<0.053	<0.053	1.2
Selenium	10	<2.6	<2.6	<2.6	<2.6	<2.6
Silver	50	<5 B	<0.4	<0.4	<0.4	<0.4

Table 7

**National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities**

Groundwater Analytical Results for Detected RCRA Metals and Cyanide (ppb)

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Shealy Environmental Services, Inc. located in West Columbia, South Carolina .
3. New York State Department of Environmental Conservation (NYSDEC) Class GA Standards from the NYSDEC document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2000.
4. Samples (except cyanide) were analyzed for inorganic constituents using USEPA SW-846 Method 6010B/7470. Cyanide was analyzed using USEPA SW-846 Method 9010.
5. Concentrations reported in micrograms per liter (ug/l) or parts per billion (ppb).
6. J - Estimated value. Value is below practical quantitation limit.
7. B - Indicates that the constituent was detected at a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
8. < - Indicates that the constituent was not detected; the associated value is the laboratory limit.
9. Bold and shaded values indicate that the constituent was detected at or above NYSDEC Class GA Standard or Guidance Value.

Table 8

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Comparison of Groundwater Analytical Results for Selected Onsite Monitoring Wells (ppb)

Compound	NYSDEC GW Criteria	MW-14										MW-26S						MW-26D						MW-27S									
		Jun-97	Jul-99	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08			
BTEX Compounds																																	
Benzene	1	120	50	210 D	52 J	26	NS	NS	NS	18 J	34	ND	ND	ND	ND	310	20 J	NS	58	45 J	57	0.5 J	1300 D	2400 D	350 DJ	1,400	750 J	330	160				
Ethylbenzene	5	16	5	10	5 J	ND	NS	NS	NS	680	190	ND	ND	3 J	1.6	ND	760	320 DJ	NS	460	320 J	440 J	3.6	620	710	320 DJ	320	210 J	69	48			
Toluene	5	4 J	1 J	28	2 J	0.52 J	NS	NS	NS	ND	7	ND	ND	ND	ND	ND	42	18 J	NS	20 J	12 J	14	ND	17 J	22	16 J	14 J	6.2 J	3.3	2.2			
Xylene	5	10	9	20	6 J	3.7 J	NS	NS	NS	ND	120	ND	ND	1 J	0.77	ND	700	36 J	NS	250	150 J	190	1.5	180	200	82 J	84 J	43 J	26	20			
Select PAH Compounds																																	
Acenaphthene	20 G	51	67	61	2 J	52	NS	NS	NS	97 D	30	ND	ND	15	5	ND	190	220 D	NS	190 J	140 J	186	220	340 EJ	260 D	17 J	90	67	38	37			
Fluorene	50 G	9 J	11	10	13 J	4 J	NS	NS	NS	29	7 J	ND	ND	7 J	2.3	ND	74 J	100	NS	ND	61 J	191	89	66	66	62 J	25 J	18	7.5	6.2			
Naphthalene	10 G	79	65	68	34 J	3 J	NS	NS	NS	340 D	0.8 J	1 J	ND	110	8.4	ND	5,300 D	3 J	NS	3,200	2,000	2,500	2,400 D	2,400 D	750 D	430 DJ	190	21	4.3	15			
Phenanthrene	50 G	16	15	12	12 J	7 J	NS	NS	NS	34	0.6 J	ND	ND	12 J	3.8	ND	62 J	120	NS	69 J	70 J	111	100	120 EU	72	53 J	36 J	15	5.5	2.6 J			

Compound	NYSDEC GW Criteria	MW-27D										MW-28S										MW-28D									
		Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08									
BTEX Compounds																															
Benzene	1	110 J	18	400 DJ	480	14	170	119	500	890	200 J	750	2,000	3,100	1,200	390	43 J	110	55	160	180										
Ethylbenzene	5	78 J	21	300 DJ	320	12	130	1.3	560	1,800	1,100 J	1,500	2,100	2,700	1,000	1,200 D	78 J	250	60	160	310										
Toluene	5	1 J	ND	5 J	5.4 J	0.36 J	1.8	ND	240	650	310 J	660	1,400	2,000	1,000	220	16 J	34	7.7	20	41 J										
Xylene	5	30 J	10 J	110 J	85	9.6	0.33 J	610	2,500	970 J	2,000	2,100	2,600	1,800	600	33 J	110	19	57	100 J											
Select PAH Compounds																															
Acenaphthene	20 G	270 EJ	140	320 DJ	150 J	170	140	180	164 EJ	49	70 J	ND	ND	ND	25	11	4 J	23 J	7 J	20	15										
Fluorene	50 G	46	54	60 J	39 J	54	43 J	49	22	50	47 J	ND	ND	ND	46	3 J	0.9 J	ND	ND	4.4	3.2 J										
Naphthalene	10 G	1,800 D	640 D	2,200 DJ	1,200	110	83	950 D	3,900 D	6,700 D	5,400 DJ	6,100	13,000	11,000 J	9,700	460 D	0.4 J	1,000	130	330	2.2 J										
Phenanthrene	50 G	81 EJ	79	62 J	63 J	65	56	80	34	72	51 J	ND	ND	78 J	62	2 J	0.3 J	ND	ND	3.9	1.7 J										

Notes:

1. NYSDEC GW Criteria are the NYSDEC Class GA Standards from New York State Department of Environmental Conservation (NYSDEC) document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2009.
2. Concentrations reported in parts per billion (ppb).
3. J - Indicates an estimated concentration.
4. D - Indicates that the detected concentration is based on a diluted sample analysis.
5. E - Indicates that the concentration exceeds the range for the analyte in this instrument.
6. ND - Indicates that the compound was not detected at concentrations exceeding the laboratory detection limit.
7. G - The value listed is a Guidance Value in NYSDEC TOGS 1.1.1.
8. Bold and shaded values indicate that the constituent was detected at or above the NYSDEC Class GA Standards or Guidance Values.
9. NS - Not sampled. MW-26D was not sampled as part of the November 2002 sampling event due to the presence of dense non-aqueous phase liquid (DNAPL). MW-14 was not sampled as part of the December 2006 sampling event due to presence of NAPL. MW-14 was not sampled as part of the December 2007 sampling event due to a snowbank covering the well.

Table 9

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Monitoring Activities

Comparison of Groundwater Analytical Results for Select Offsite Monitoring Wells (ppb)

	NYSDEC	MW-16R										MW-17S									
Constituent	GW Criteria	Jun-97	Jul-99	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Jun-97	Jul-99	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08		
BTEX Compounds																					
Benzene	1	840	720	780 JD	15	10 J	350	130	14	18	850	530	48 J	3.7 J	ND	22	12	ND	ND		
Ethylbenzene	5	230	270	240 JD	5	3 J	79	23	1.1 J	3.7	21 J	17 J	ND	ND	ND	ND	ND	ND	ND		
Toluene	5	200	130	74 J	2.4 J	1 J	15 J	4.5 J	0.39 J	0.63 J	ND	ND	ND	ND	ND	ND	ND	0.21 J	ND		
Xylene	5	230	250	180 J	4.4 J	1 J	57	16	0.95 J	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Select PAH Compounds																					
Acenaphthene	20 G	53	78	54	58	1 J	2 J	ND	ND	24	110	130	ND	6 J	11	ND	ND	0.44 J	ND		
Fluorene	50 G	14	21	13	19	16 J	ND	ND	ND	4.7 J	11	12	ND	ND	0.4 J	ND	ND	ND	ND		
Naphthalene	10 G	1,300 D	1,700 D	27	800 D	950 D	190	24	ND	560	7 J	7 J	ND	0.8 J	1 J	ND	ND	ND	ND		
Phenanthrene	50 G	12	19	4 J	14	9 J	ND	ND	ND	2.2 J	6 J	4 J	ND	ND	ND	ND	ND	ND	ND		

Notes:

1. NYSDEC GW Criteria are the NYSDEC Class GA Standards from New York State Department of Environmental Conservation (NYSDEC) document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), reissued June 1998 and addended April 2000.
2. Concentrations reported in parts per billion (ppb).
3. J - Indicates an estimated concentration.
4. D - Indicates that the detected concentration is based on a diluted sample analysis.
5. ND - Indicates that the compound was not detected at concentrations exceeding the laboratory detection limit.
6. G - The value listed is a Guidance Value in NYSDEC TOGS 1.1.1.
7. Bold and shaded values indicate that the constituent was detected at or above the NYSDEC Class GA Standards or Guidance Values.
8. NS - Not sampled. MW-17D was damaged prior to the December 2006 sampling event. MW-23S and MW-18S were destroyed prior to the December 2006 sampling event.

Table 10

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring

NAPL Thickness Measurements (ft)

Well Number	Thickness 9/27/1996	Type	Thickness 6/2/1997	Type	Thickness 7/30/1998	Type	Thickness 8/31/1998	Type	Thickness 10/5/1998	Type	Thickness 10/30/1998	Type	Thickness 12/8/1998	Type	Thickness 1/6/1999	Type	Thickness 2/3/1999	Type	Thickness 3/2/1999	Type	Thickness 3/30/1999	Type	Thickness 5/6/1999	Type
MW-01	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-02	0.07	D	0.05	D	ND		ND		ND		ND		ND		ND		ND		ND		Trace	D	Trace	D
MW-03	ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-04	ND		2.07	L	1.05*	L	1.34*	L	0.64*	L	0.24*	L	0.30 *	L	0.24*	L	0.01*	L	0.02*	L	1.29*	L	0.70*	L
MW-05	0.15	D	ND		ND		Trace	D	Trace	D	ND		ND		ND		ND		Trace	D	Trace	D	Trace	D
MW-05R	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-06A	NI		ND		ND		ND		ND		ND		ND		ND		NM		NM		ND		ND	
MW-06S	NI		ND		4.80	D	4.80	D	4.88	D	4.88	D	NM		4.94	D	NM		NM		4.87	D	4.84	D
MW-07	0.02	D	ND		ND		Trace	D	ND		ND		ND		0.01	L	ND		Trace	D	Trace	D	Trace	D
MW-08	1.20	L	0.10	L	0.50*	L	0.64*	L	0.61*	L	0.30*	L	0.34 *	L	0.04*	L	0.01*	L	0.03*	L	0.07*	L	Trace*	L
MW-09	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-10	0.87	L	0.61	L	0.50*	L	0.42*	L	0.35*	L	0.17*	L	0.07 *	L	0.32*	L	0.22*	L	0.25*	L	0.11*	L	0.28*	L
MW-11	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-12	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-13	0.11	L	0.05	L	0.01	L	ND		ND		ND		ND		0.01	L	ND		ND		ND		Trace*	L
MW-14	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-15S	NI		ND		ND		NM		ND		NM		ND		NM		ND		NM		NM		ND	
MW-16D	NI		ND		ND		NM		ND		NM		ND		NM		ND		NM		NM		ND	
MW-16R	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		ND	
MW-17D	NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-17S	NI		ND		NM		NM		NM		NM		ND		NM		NM		NM		NM		NM	
MW-18S	NI		ND		NM		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-19D	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-20D	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21D	NI		ND		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM	
MW-21R	NI		ND		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM	
MW-21SR	NI		ND		NM		NM		NM		NM		ND		NM		NM		ND		NM		NM	
MW-22D	NI		ND		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM	
MW-22R	NI		ND		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM	
MW-22S	NI		ND		NM		NM		NM		NM		ND		NM		NM		ND		NM		NM	
MW-23S	NI		NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-24S	NI		NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-25S	NI		NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-26D	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-26S	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-27D	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-27S	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-28D	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-28S	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
PZ-01D	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		ND	
PZ-01S	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		ND	
PZ-02	NI		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	

Table 10

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring

NAPL Thickness Measurements (ft)

Well Number	Thickness 6/2/1999	Type	Thickness 7/13/1999	Type	Thickness 10/30/2000	Type	Thickness 2/21/2001	Type	Thickness 6/2/2001	Type	Thickness 8/23/2001	Type	Thickness 10/22/2001	Type	Thickness 2/19/2002	Type	Thickness 5/22/2002	Type	Thickness 9/20/2002	Type	Thickness 11/12/2002	Type	Thickness 3/6/2003	Type
MW-01	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-02	Trace	D	Trace	D	ND		ND		Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D
MW-03	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-04	0.36*	L	0.77*	L	ND		0.08*	L	0.37*	L	0.28*	L	Trace	L	Trace	L	0.05*	L	0.03*	L	Trace	L	0.02*	L
MW-05	Trace	D	Trace	D	Trace ^{1P}	D	0.03 ^P	D	Trace	D	Trace	D	0.20	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D
MW-05R	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI	
MW-06A	ND		ND		Trace ^P	D	ND		ND		ND		ND		ND		ND ¹		ND		ND		ND	
MW-06S	4.61	D	4.65	D	3.1 ¹	D	3.66 ^{P,1}	D	3.55**	D	3.58**	D	3.5**	D	3.66**	D	3.63** ¹	D	3.76**	D	4.06**	D	3.75**	D
MW-07	0.01**	D	**	D	0.6 ^P /3.3 ¹	D	0.18 ^P	D	2.45**	D	2.49**	D	2.0**	D	2.16**	D	2.19**	D	2.11**	D	2.11**	D	2.15**	D
MW-08	0.01*	L	0.01*	L	0.15*	L	0.14*	L	0.03*	L	0.04*	L	0.07	L	0.15	L	Trace	L	0.07*	L	0.05*	L	0.02*	L
MW-09	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-10	0.08*	L	0.01*	L	0.37*	L	0.29*	L	0.16*	L	0.36*	L	0.29*	L	0.19*	L	0.1*	L	0.14*	L	0.22*	L	Trace	L
MW-11	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-12	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-13	Trace	L	Trace	L	1.1 ¹	D	0.005*	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L
							Trace ^P /0.16 ¹	D	Trace	D	Trace	D	Trace	D	ND	D	ND	D	ND	D	ND	D	ND	D
MW-14	NM		ND		3.4 ^P /Trace ¹	D	0.01*	L	ND		ND		ND		ND		ND		ND		ND		ND	
							0.13 ^P	D																
MW-15S	NM		ND		NM		ND		ND		ND		ND		ND		ND		ND		ND		NM	
MW-16D	NM		ND		NM		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-16R	NM		ND		NM		NM		ND		ND		NM		ND		ND		ND		ND		ND	
MW-17D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-17S	NM		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-18S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NM	
MW-19D	NM		ND		NM		NM		ND		ND		NM		ND		ND		ND		ND		ND	
MW-20D	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21D	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21R	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21SR	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22D	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22R	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22S	NM		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-23S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-24S	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-25S	ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		ND		ND	
MW-26D	NI		NI		ND		ND		ND		ND		Trace	D	ND		Trace	D	Trace	D	Trace	D	Trace	D
MW-26S	NI		NI		ND		<0.01	L	Trace	L	Trace	L	ND		Trace	L	ND		ND		ND		ND	
MW-27D	NI		NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-27S	NI		NI		ND		<0.01	L	Trace	L	ND		ND		ND		ND		ND		ND		ND	
MW-28D	NI		NI		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-28S	NI		NI		ND		<0.01		ND		ND		ND		ND		ND		ND		ND		ND	
PZ-01D	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
PZ-01S	ND		ND		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
PZ-02	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	

Table 10

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring

NAPL Thickness Measurements (ft)

Well Number	Thickness 6/10/2003	Type	Thickness 9/17/2003	Type	Thickness 12/22/2003	Type	Thickness 3/23/2004	Type	Thickness 6/23/2004	Type	Thickness 9/22/2004	Type	Thickness 12/28/2004	Type	Thickness 3/22/2005	Type	Thickness 6/21/2005	Type	Thickness 9/21/2005	Type	Thickness 12/7/2005	Type	Thickness 3/14/2006	Type
MW-01	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-02	Trace	D	Trace	D	NM		Trace	D	NM		Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D
MW-03	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-04	0.01*	L	Trace	L	ND		Trace	L	Trace	L	ND		ND		ND		ND		ND		0.20*	L	Trace	L
MW-05	Trace	D	Trace	D	***		***		***		***		***		***		***		***		***		NM	
MW-05R	NI		NI		NI		NI		NI		NI		NI		NI		NI		Trace	L	ND		Trace	D/L
																			0.37	D	Trace	D		
MW-06A	NM		ND		NM		ND		ND		ND		NM		ND		ND		ND		ND		NM	
MW-06S	NM		3.74**	D	NM		3.60**	D	3.55**	D	3.60**	D	3.56**	D	3.56**	D	3.55**	D	3.53**	D	4.55**	D	ND	
MW-07	2.15**	D	2.13**	D	NM		2.15**	D	2.13**	D	2.25**	D	2.20**	D	2.20**	D	2.22**	D	2.25**	D	2.30**	D	2.25**	D
MW-08	Trace	L	0.02*	L	NM		0.06*	L	0.01*	L	Trace	L	Trace	L	0.01*	L	0.05*	L	0.04*	L	0.05*	L	Trace	L
MW-09	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-10	ND		Trace	L	NM		Trace	L	Trace	L	Trace	L	Trace	L	NM		ND		0.12*	L	Trace	L	Trace	L
MW-11	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-12	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		Trace****	
MW-13	Trace	L	Trace	L	NM		Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	Trace	L	NM	
	ND	D	ND	D			ND	D	ND	D	ND	D	ND	D	ND	D	ND	D	ND	D	ND	D		
MW-14	ND		ND		NM		ND		ND		ND		ND		ND		ND		ND		Trace	D	Trace	D
MW-15S	ND		ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		ND	
MW-16D	ND		ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		ND	
MW-16R	ND		ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		ND	
MW-17D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-17S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-18S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-19D	ND		ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		ND	
MW-20D	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-21D	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-21R	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-21SR	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22D	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-22R	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-22S	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
MW-23S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-24S	NM		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-25S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-26D	ND		ND		NM		ND		ND		Trace	D	Trace	D	ND		Trace	D	ND		ND		ND	
MW-26S	ND		ND		NM		ND		ND		NM		ND		ND		ND		ND		ND		ND	
MW-27D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-27S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-28D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-28S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
PZ-01D	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
PZ-01S	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		NM		NM	
PZ-02	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
SVE - 101	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		0.01*	D
SVE-102	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		ND	
SVE-103	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		ND	
SVE-104	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		ND	
SVE-105	NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		NI		ND	

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Table 10

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring

NAPL Thickness Measurements (ft)

Well Number	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type	Thickness	Type
	6/13/2006		9/19/2006		12/20/2006		3/28/2007		6/14/2007		9/27/2007		12/17/2007		3/12/2008		6/10/2008		9/17/2008		12/15/2008	
MW-01	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-02	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	NM		ND		ND	
MW-03	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-04	Trace	L	0.02*	L	0.03*	L	Trace	L	0.06*	L	0.02*	L	0.01*	L	0.01	L	0.03*	L	Trace	L	Trace	L
MW-05	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-05R	Trace	L/D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D, L	Trace	D	Trace	D	0.01	D	Trace	D	Trace	D
MW-06A(D)	NM		NM ¹		Trace	D	NM		NM		ND		ND		NM		ND		ND		ND	
MW-06S (06)	ND		NM ¹		ND		NM		NM		NM		3.40*	D	NM		ND		ND		Trace	D
MW-07	2.24**	D	ND***		ND		ND		ND		2.20**	D	NM		NM		ND		ND		NM	
MW-08	Trace	L	0.01*	L	0.01*	L	Trace	L	Trace	L	Trace	L	ND		Trace	L	NM		NM		ND	
MW-09	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-10	Trace	L	ND		Trace	L	ND		ND		Trace	L	ND		ND		NM		ND		ND	
MW-11	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-12	Trace****		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-13	NM		Trace****		Trace****		Trace****		Trace****		Trace****		ND		ND		Trace****	D, L	ND		ND	
MW-14	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D	Trace	D
MW-15S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-16D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-16R	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-17D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NM	
MW-17S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-18S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-19D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-20D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21R	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21SR	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22R	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-23S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-24S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-25S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-26D	ND		ND		ND		NM		ND		ND		ND		NM		ND		ND		ND	
MW-26S	ND		ND		ND		NM		ND		ND		ND		NM		ND		ND		ND	
MW-27D	ND		ND		ND		ND		ND		ND		ND		ND		Trace	D	ND		ND	
MW-27S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-28D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-28S	ND		ND		ND		ND		ND		ND		ND		NM		ND		ND		ND	
PZ-01D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
PZ-01S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
PZ-02	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	

Table 10

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring

NAPL Thickness Measurements (ft)

Notes:

1. NM - Not measured.
2. NI - Not installed at the time of the monitoring event.
3. ND - NAPL was checked for but not observed.
4. D - Indicates Dense, Non-Aqueous Phase Liquid (DNAPL) was observed.
5. L - Indicates Light, Non-Aqueous Phase Liquid (LNAPL) was observed.
6. * Indicates NAPL was removed by bailing to the extent practicable.
7. ** - Indicates DNAPL was too viscous to recover and/or determine the total depth of the well.
8. *** - Indicates that field measurements indicate that monitoring well MW-05 and MW-7 have filled with sediment or other material or has been otherwise damaged and that the well appears to be no longer usable. During June 2005, monitoring well MW-05R was installed as a replacement well for MW-05.
9. ****-Indicates trace amounts of grease was observed on the probe.
10. ¹ - Per discussions with the NYSDEC, due to the presence of standing water over the wells at the time of monitoring, DNAPL measurements for MW-6S and MW-6A summer 2002 were collected on July 1, 2002.
11. For MW-7, the depth of well at installation is approximately 16.8 feet. Probing this well with a tremie pipe on 10/30/00 indicated a DNAPL thickness consistent with the installation depth. Prior to 9/19/06 the screen of the well collapsed.
12. p - Depth as measured using a water level probe and/or an oil/water interface probe.
13. t - Depth as measured using a polyvinyl chloride (PVC) tremie pipe.

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring Activities

Measured LNAPL Thickness (ft)

Monitoring Well ID	Measured LNAPL Thickness (feet)																								Total LNAPL Removed (gal)
	March 2003	June 2003	September 2003	December 2003	March 2004	June 2004	September 2004	December 2004	March 2005	June 2005	September 2005	December 2005	March 2006	June 2006	September 2006	December 2006	March 2007	June 2007	September 2007	December 2007	March 2008	June 2008	September 2008	December 2008	
MW-04	0.02	0.01	Trace	ND	Trace	Trace	ND	ND	ND	ND	ND	0.20	Trace	Trace	0.02	0.03	Trace	0.06	0.02	0.01	0.01	0.03	Trace	Trace	0.07
MW-05	ND	ND	ND	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	NA
MW-5R	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	Trace	ND	Trace	Trace	ND	ND	ND	ND	Trace	ND	NM	NM	NM	NM	NA
MW-08	0.02	Trace	0.02	NM	0.06	0.01	Trace	Trace	0.01	0.05	0.04	0.05	Trace	Trace	0.01	0.01	Trace	Trace	Trace	Trace	Trace	NM	NM	ND	0.05
MW-10	Trace	ND	Trace	NM	Trace	Trace	Trace	Trace	NM	ND	0.12	Trace	Trace	Trace	ND	Trace	ND	ND	Trace	ND	ND	NM	ND	ND	0.02
MW-13	Trace	Trace	Trace	NM	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	NM	NM	ND	ND	Trace	Trace	Trace	Trace	NM	Trace	NM	ND	NA
MW-14	ND	ND	ND	NM	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	NM	NM	NA
MW-15S	NM	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-17S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-23S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	NM	ND	NM	NM	NM	NM	NM	NM	NM	NA
MW-24S	NM	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-25S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-26S	ND	ND	ND	NM	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-27S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-28S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	NA
Estimated Total Volume of LNAPL Removed (gal)																									0.13

- Notes:**
1. Wells monitored on a quarterly basis (approximately every three months) from March 2003 through December 2006.
 2. ND - LNAPL was checked for, but not detected.
 3. NI - Well not installed at the time of the monitoring event.
 4. Trace - LNAPL was detected, however, measurable thicknesses were not encountered.
 5. NM - Well was not measured because it was not found or it was inaccessible.
 6. NA - Not applicable.
 7. ** - Indicates that field measurements indicate that monitoring well MW-05 have has filled with sediment or other material or has been otherwise damaged and that the well appears to be no longer usable. During June 2005, monitoring well MW-05R was installed as a replacement well for MW-05.

National Grid
North Albany Service Center
Albany, New York
Quarterly NAPL Monitoring Activities

Apparent DNAPL Thickness (ft)

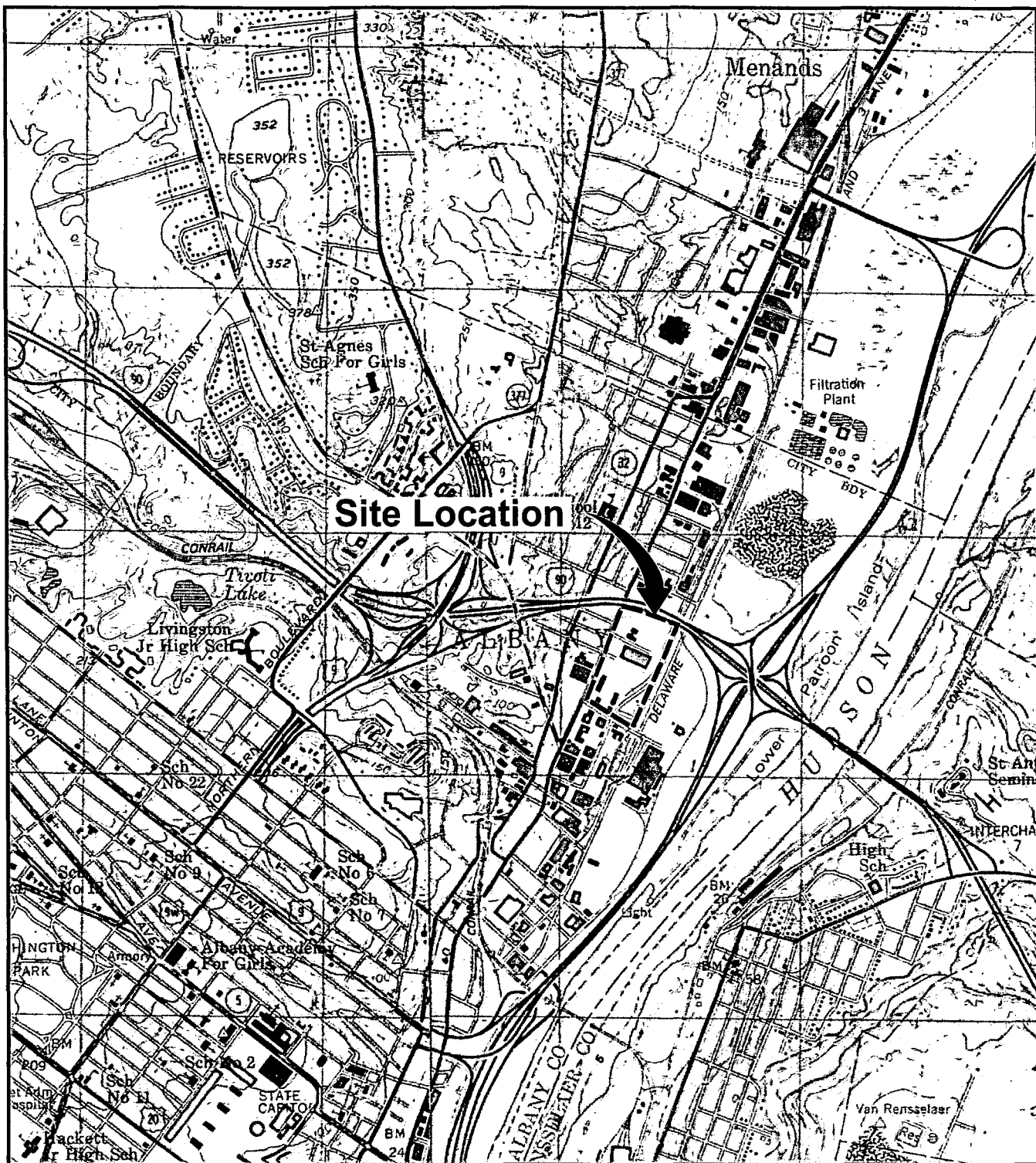
Monitoring Well ID	Apparent DNAPL Thickness (feet)																								Total DNAPL Removed (gal)
	March 2003	June 2003	September 2003	December 2003	March 2004	June 2004	September 2004	December 2004	March 2005	June 2005	September 2005	December 2005	March 2006	June 2006	September 2006	December 2006	March 2007	June 2007	September 2007	December 2007	March 2008	June 2008	September 2008	December 2008	
MW-02	Trace	Trace	Trace	NM	Trace	NM	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	NM	ND	ND	NA
MW-05	Trace	Trace	Trace	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	NA
MW-5R	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.37	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0.01	Trace	Trace	0.06
MW-06A	ND	NM	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	NM	Trace	NM	NM	ND	ND	NM	ND	ND	ND	NA
MW-06S	3.75 *	NM	3.74 *	NM	3.60 *	3.55 *	3.60 *	3.56 *	3.56 *	3.55 *	3.53 *	4.55 *	ND	ND	NM	ND	NM	NM	3.40 *	NM	ND	ND	Trace	Trace	NA
MW-07	2.15 *	2.15 *	2.13 *	NM	2.15 *	2.13 *	2.25 *	2.20 *	2.20 *	2.22 *	2.25 *	2.30 *	2.25 *	2.24 *	ND	ND	ND	ND	2.20 *	NM	***	***	***	***	NA
MW-13	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	ND	ND	Trace	Trace	Trace	Trace	ND	ND	Trace	ND	NA
MW-14	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	NA
MW-16D	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-16R	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-17D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	NA
MW-19D	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-26D	Trace	ND	ND	NM	ND	ND	Trace	Trace	ND	Trace	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	NA
MW-27D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Trace	ND	ND	NA
MW-28D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Estimated Total Volume of DNAPL Removed (gal)																									0.06

Notes:

1. Wells monitored on a quarterly basis (approximately every three months) from 2003 through 2005.
2. ND - DNAPL was checked for, but not detected.
3. NM - Well was not measured because it was not found or it was inaccessible.
4. NI - Well not installed at the time of the monitoring event.
5. Trace - DNAPL was detected, however, measurable thicknesses were not encountered.
6. * - DNAPL thicknesses calculated based on differences between the measured depth to DNAPL and monitoring well installation depth reported at the time of installation. The apparent DNAPL thickness obtained based on the difference between measured depth to DNAPL and the reported depth of well installation may overestimate the NAPL thickness, since the material at the bottom of the wells may consist of a mixture of sediment and DNAPL.
7. ** - Indicates that field measurements indicate that monitoring well MW-05 have has filled with sediment or other material or has been otherwise damaged and that the well appears to be no longer usable. During June 2005, monitoring well MW-05R was installed as a replacement well for MW-05.
8. *** - Field measurements indicate that monitoring well MW-07 has been damaged and that the well appears to be no longer usable.

ARCADIS

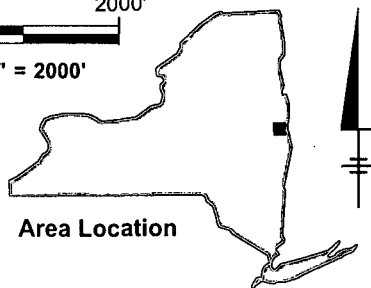
Figures



REFERENCE: Base Map USGS Quads., Albany, New York, 1980 and Troy South, New York, 1980.

2000' 0 2000'

Approximate Scale: 1" = 2000'



Area Location

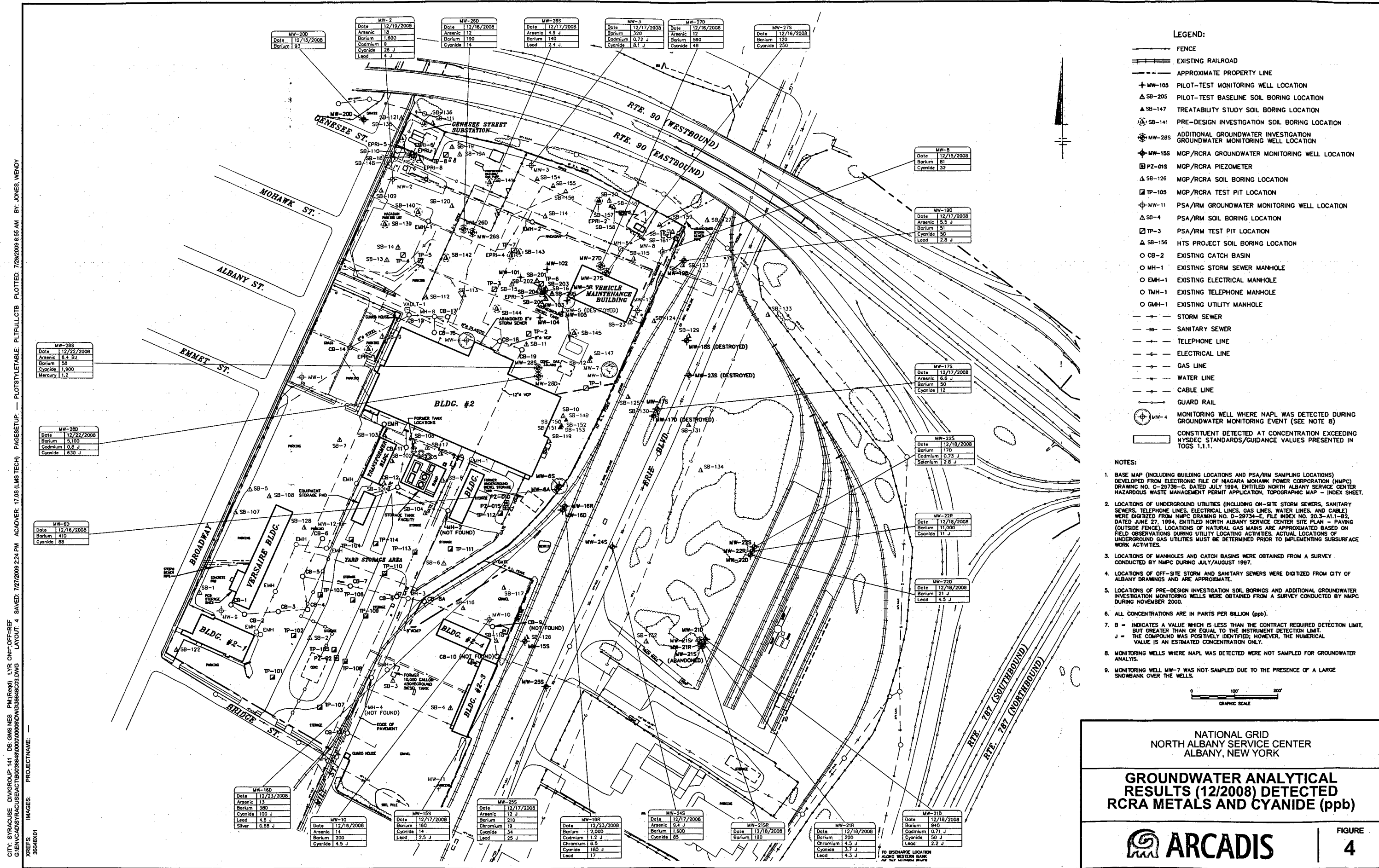
NATIONAL GRID
NORTH ALBANY SERVICE CENTER

SITE LOCATION MAP

 **ARCADIS**

FIGURE

1



ARCADIS

Attachment A

Groundwater Sampling Logs

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Katie Arnold Well ID: MW-2
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/14/08
 Weather: Cloudy 25° Time In: 0900 Time Out: 10

Well Information

Depth to Water: (feet) 7.75 (from MP)
 Total Depth: (feet) 23.25 (from MP)
 Length of Water Column: (feet) 15.50
 Volume of Water in Well: (gal) 2.52
 Intake depth for tubing: (feet) 18.5'

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☐ 2" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☐ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.489
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0935
 Pump Stop Time: 1043 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: (gal) 2.5 Did well go dry: Yes ☐ No ☐

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0940	0945	0950	0955	1000	1005	1010	1015	1020
Volume Purged (L)	—	—	—	—	—	—	—	—	—
Rate (mL/min)	150	150	100	100	100	100	100	100	100
Depth to Water (ft.)	7.93	7.91	7.85	7.85	7.84	7.84	7.84	7.84	7.84
pH	6.92	6.77	6.80	6.79	6.79	6.79	6.81	6.80	6.80
Temp. (C)	13.6	13.7	12.8	12.9	12.5	13.0	13.1	12.9	13.0
Conductivity (mS/cm)	1.00	1.01	1.03	1.03	1.02	1.03	1.03	1.04	1.03
Dissolved Oxygen (mg/L)	1.95	1.76	1.52	1.30	1.16	1.05	0.85	0.80	0.78
ORP (mV)	-39	-118	-128	-132	-133	-135	-137	-139	-140
Turbidity (NTU)	45	45	38	34	32	28	26	23	22
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MW-2</u>	Sample Time: <u>1030</u>	
MS/MSD: Yes ☐ No ☒		
Duplicate: Yes ☐ No ☒		
Duplicate ID: <u>—</u>	Dup. Time: <u>—</u>	
Chain of Custody Signed By:		

Problems / Observations

Turbidity @ Start 40
 Very strong odors
 + small black particles

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO

Well ID: MW-3

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/17/08

Weather: 32°, Snow/sleet

Time In: 0848

Time Out: 1032

Well Information

Depth to Water:	(feet)	5.77'	(from MP)
Total Depth:	(feet)	10.54'	(from MP)
Length of Water Column:	(feet)	4.77'	
Volume of Water in Well:	(gal)	.78 gal	
Intake depth for tubing:	(feet)	7'	

Well Type:	Flushmount	p	Slick-Up	p
Well Material:	Stainless Steel	p	PVC	p
Well Locked:	Yes	p	No	p
Measuring Point Marked:	Yes	p	No	p
Well Diameter:	1"	0	Other:	

Purging Information

Purging Method:	Bailer	p	Peristaltic	p	Whale Pump	p	Other:	
Tubing/Bailer Material:	Steel	p	Polyethylene	p	Teflon	p	Other:	
Sampling Method:	Bailer	p	Peristaltic	p	Whale Pump	p	Other:	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.341	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0906

Pump Stop Time: 1011

Water-Quality Meter Type: Horiba U-22 w/flow cell

Total Volume Removed: 3.35 (gal)

Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
Δ 0.1	Δ 10%	Δ 3.0%	Δ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0906	0911	0916	0921	0926	0931	0936	0941	0946
Volume Purged (L)		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)		5.81	5.81	5.81	5.81	5.82	5.82	5.82	5.83
pH		6.33	6.39	6.41	6.44	6.45	6.46	6.47	6.48
Temp. (C)		12.2	12.2	12.4	12.4	12.5	12.4	12.5	12.5
Conductivity (mS/cm)		6.09	5.65	5.51	5.41	5.34	5.29	5.19	5.14
Dissolved Oxygen (mg/L)		0.35	.37	.41	.44	.44	.46	1.03	1.23
ORP (mV)		141	119	105	100	96	94	93	92
Turbidity (NTU)		1.64	1.25	1.12	.78	.50	.25	.47	0.00
Notes:	Started Pumping								

Sampling Information

Analyses	#	Laboratory
BTEX	1	Test America
PAHs	1	Test America
Cyanide	1	Test America
RCRA 8 Metals	1	Test America
	p	
Sample ID: MW-3	Sample Time: 1000	
MS/MSD: Yes	No	p
Duplicate: Yes	No	p
Duplicate ID	Dup. Time	
Chain of Custody Signed By:		

Problems / Observations

clear, unless @ beginning of pumping
 " " " end of pumping

GROUNDWATER SAMPLING LOG

Sampling Personnel: SRUWell ID: MW-3

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/17/08Weather: 32°, snow / sleetTime In: 0848 Time Out: 1032

Well Information

Depth to Water: (feet) 5.97' (from MP)
 Total Depth: (feet) 10.54' (from MP)
 Length of Water Column: (feet) 4.77'
 Volume of Water in Well: (gal) .78
 Intake depth for lubing: (feet) 7'

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☐ Other ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other ☐
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other ☐

Conversion Factors				
gal / ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0906
 Pump Stop Time: 1011 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 3.35 (gal) Did well go dry: Yes ☐ No ☐

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0951</u>	<u>0956</u>	<u>1000</u>						
Volume Purged (L)	<u>9.0</u>	<u>10.0</u>							
Rate (mL/min)	<u>200</u>	<u>200</u>							
Depth to Water (ft.)	<u>5.83</u>	<u>5.83</u>							
pH	<u>6.48</u>	<u>6.48</u>							
Temp. (C)	<u>12.6</u>	<u>12.6</u>							
Conductivity (mS/cm)	<u>5.10</u>	<u>5.09</u>							
Dissolved Oxygen (mg/L)	<u>1.25</u>	<u>1.24</u>							
ORP (mV)	<u>92</u>	<u>93</u>							
Turbidity (NTU)	<u>0.00</u>	<u>0.00</u>							
Notes:			<u>SAMPLE TAKEN</u>						

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-3	Sample Time: 1000	
MS/MSD: Yes ☐ No ☒		
Duplicate: Yes ☐ No ☒		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

see page 2

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: J Re Well ID: MW-6D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/16/08
 Weather: 25° cloudy Time In: 12:05 Time Out:

Well Information

Depth to Water: (feet) 7.13' (from MP)
 Total Depth: (feet) 16.13' (from MP)
 Length of Water Column: (feet) 9'
 Volume of Water in Well: (gal) 1.47 gal
 Intake depth for tubing: (feet) 14'

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☒ PVC ☐
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 10:20
 Pump Stop Time: 12:10 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 1.5 (gal) 3.03 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	1020	1035	1030	1035	1040	1045	1050	1055	1100
Volume Purged (L)		1.25	2.25	3.37	4.49	5.0	5.5	6.0	6.5
Rate (mL/min)	250	250	200	225	225	100	100	100	100
Depth to Water (ft.)		9.66	11.07	12.17	13.15	13.13	13.14	13.14	13.14
pH		6.07	6.10	6.16	6.31	6.44	6.48	6.50	6.53
Temp. (C)		13.7	13.9	13.6	14.4	13.5	13.9	14.1	14.3
Conductivity (mS/cm)		1.54	1.56	1.61	1.94	2.30	2.52	2.65	2.70
Dissolved Oxygen (mg/L)		.98	1.04	1.04	1.53	2.57	2.26	2.32	1.93
ORP (mV)		-55	-64	-50	-115	-124	-134	-137	-140
Turbidity (NTU)		245	234	232	276	232	162	174	205
Notes:	Time of Pumping started				Reduced rate at 1041		air bubbles coming up		

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: 41W-CD	Sample Time: 1200	
MS/MSD: Yes ☒	No ☐	
Duplicate: Yes ☒	No ☐	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

cloudy coloring @ beginning of pumping
 - had to change to this on pp. 6-1047

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JSK Well ID: MW-6D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/10/08
 Weather: 25, cloudy Time In: 10:05 Time Out:

Well Information

Depth to Water: (feet) 7.13' (from MP)
 Total Depth: (feet) 16.13' (from MP)
 Length of Water Column: (feet) 9'
 Volume of Water in Well: (gal) 1.47 gal
 Intake depth for tubing: (feet) 14'

Well Type: Flushmount p Stick-Up p
 Well Material: Stainless Steel p PVC p
 Well Locked: Yes p No p
 Measuring Point Marked: Yes p No p
 Well Diameter: 1" p Other:

Purging information

Purging Method: Bailer p Peristaltic p Whale Pump p Other:
 Tubing/Bailer Material: Steel p Polyethylene p Teflon p Other:
 Sampling Method: Bailer p Peristaltic p Whale Pump p Other:

Pump Start Time: 10:00
 Pump Stop Time: Water-Quality Meter Type: Horiba U-22 w/flow cell

Total Volume Removed: (gal) Did well go dry: Yes p No p

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	<u>1125</u>	<u>1130</u>	<u>1135</u>	<u>1140</u>	<u>1145</u>
Volume Purged (L)	<u>2.0</u>	<u>7.5</u>	<u>3.0</u>	<u>8.5</u>	<u>7.0</u>	<u>9.5</u>	<u>10</u>	<u>10.5</u>	<u>11</u>
Rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Depth to Water (ft.)	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>	<u>13.14</u>
pH	<u>6.56</u>	<u>6.55</u>	<u>6.56</u>	<u>6.56</u>	<u>6.55</u>	<u>6.56</u>	<u>6.55</u>	<u>6.55</u>	<u>6.54</u>
Temp. (C)	<u>13.9</u>	<u>14.2</u>	<u>13.9</u>	<u>13.8</u>	<u>13.7</u>	<u>14.0</u>	<u>13.8</u>	<u>13.7</u>	<u>13.6</u>
Conductivity (mS/cm)	<u>2.82</u>	<u>2.81</u>	<u>2.84</u>	<u>2.82</u>	<u>2.85</u>	<u>2.85</u>	<u>2.86</u>	<u>2.86</u>	<u>2.87</u>
Dissolved Oxygen (mg/L)	<u>1.57</u>	<u>1.71</u>	<u>2.05</u>	<u>2.02</u>	<u>1.90</u>	<u>1.83</u>	<u>1.89</u>	<u>1.84</u>	<u>1.70</u>
ORP (mV)	<u>-134</u>	<u>-137</u>	<u>-135</u>	<u>-134</u>	<u>-133</u>	<u>-133</u>	<u>-132</u>	<u>-132</u>	<u>-131</u>
Turbidity (NTU)	<u>231</u>	<u>223</u>	<u>117</u>	<u>83.5</u>	<u>67.8</u>	<u>64.0</u>	<u>94.7</u>	<u>190</u>	<u>198</u>
Notes:									

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Sampling Information

Sampling Information		
Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
		p
Sample ID: MW-6D		Sample Time:
MS/MSD:	Yes p	No p
Duplicate:	Yes p	No p
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

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Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Well ID: MW-60
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/16/08
 Weather: Time In: Time Out:

Well Information

Depth to Water: (feet)	(from MP)	Well Type:	Flushmount ☐	Stick-Up ☐	
Total Depth: (feet)	(from MP)	Well Material:	Stainless Steel ☐	PVC ☐	
Length of Water Column: (feet)		Well Locked:	Yes ☐	No ☐	
Volume of Water in Well: (gal)		Measuring Point Marked:	Yes ☐	No ☐	
Intake depth for tubing: (feet)		Well Diameter:	1" ☐	2" ☐	Other: ☐

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☐	Whale Pump ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☐	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☐	Peristaltic ☐	Whale Pump ☐	Other: ☐
Pump Start Time:				
Pump Stop Time:	Water-Quality Meter Type: Horiba U-22 w/flow cell			
Total Volume Removed: (gal)	Did well go dry: Yes ☐ No ☐			

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
▽ 0.1	▽ 10%	▽ 3.0%	▽ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1150	1200							
Volume Purged (L)	11.5								
Rate (mL/min)	100								
Depth to Water (ft.)	13.14								
pH	6.53								
Temp (C)	13.7								
Conductivity (mS/cm)	2.84								
Dissolved Oxygen (mg/L)	1.70								
ORP (mV)	-130								
Turbidity (NTU)	183								
Notes:		SAMPLE TAKEN							

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID:		Sample Time: 1200
MS/MSD: Yes ☐	No ☐	
Duplicate: Yes ☐	No ☐	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

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Event

Sampling Personnel: JRO
Client / Job Number: National Grid B0036648.0000 Task 006
Weather: 40° cloudy, windy

Well ID: MW-8
Date: 12/15/08
Time In: 1404 Time Out: 1603

Depth to Water:	(feet)	5.3'	(from MP)
Total Depth:	(feet)	16.67'	(from MP)
Length of Water Column:	(feet)	11.37'	
Volume of Water in Well:	(gal)	1.85 gal	
Intake depth for tubing:	(feet)	9'	

Well Type:	Flushmount ☒	Stick-Up ☐
Well Material:	Stainless Steel ☐	PVC ☒
Well Locked:	Yes ☐	No ☒
Measuring Point Marked:	Yes ☐	No ☒
Well Diameter:	1" ☐	2" ☒ Other ☐

Purging Method:	Bailer	☐	Peristaltic	☒	Whale Pump	☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon	☐	Other:	
Sampling Method:	Bailer	☐	Peristaltic	☐	Whale Pump	☐	Other:	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:	1413	
Pump Stop Time:	1523	Water-Quality Meter Type: Horiba U-22 w/flow cell
Total Volume Removed:	207 (gal)	Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1413	1418	1423	1428	1433	1438	1443	1448	1453
Volume Purged (L)									
Rate (mL/min)	150	150	150	150	150	150	150	150	150
Depth to Water (ft.)		5.77	5.98	6.02	6.02	6.05	6.07	6.05	6.06
pH		6.29	6.24	6.27	6.31	6.36	6.38	6.39	6.41
Temp. (C)		11.7	11.3	11.3	11.2	11.2	11.1	11.0	11.0
Conductivity (mS/cm)		.832	.842	.851	.873	.887	.892	.900	.904
Dissolved Oxygen (mg/L)		0.00	0.00	0.00	0.03	0.09	0.12	0.14	0.12
ORP (mV)		-36	-45	-55	-64	-72	-76	-78	-80
Turbidity (NTU)		28.7	25.7	16.7	13.2	8.15	5.58	5.60	3.87
Notes:	Started Pumping					Slight H ₂ S odor			

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MW-8</u>		Sample Time: <u>1513</u>
MS/MSD: Yes <u>p</u>		<u>No</u> <u>p</u>
Duplicate: Yes <u>p</u>		<u>No</u> <u>p</u>
Duplicate ID		<u>Det.</u> Time:
Chain of Custody Signed By:		

clear, odorless at beginning of pumping
clear, slight petroleum odor at end of pumping

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: SR0 Well ID: MW-8
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/15/08
 Weather: 40° windy / cloudy Time In: 1404 Time Out: 1603

Well Information

Depth to Water: (feet) 5.3' (from MP)
 Total Depth: (feet) 16.67' (from MP)
 Length of Water Column: (feet) 11.37'
 Volume of Water in Well: (gal) 1.85 gal
 Intake depth for tubing: (feet) 9'

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☒ PVC ☐
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	5" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1413
 Pump Stop Time: 1523 Water-Quality Meier Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 2.7 (gal) Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1458</u>	<u>1503</u>	<u>1508</u>	<u>1513</u>					
Volume Purged (L)									
Rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>					
Depth to Water (ft.)	<u>6.06</u>	<u>6.06</u>	<u>6.06</u>						
pH	<u>6.42</u>	<u>6.42</u>	<u>6.43</u>						
Temp. (C)	<u>11.0</u>	<u>11.0</u>	<u>11.0</u>						
Conductivity (mS/cm)	<u>.907</u>	<u>.906</u>	<u>.907</u>						
Dissolved Oxygen (mg/L)	<u>0.11</u>	<u>0.13</u>	<u>0.18</u>						
ORP (mV)	<u>-82</u>	<u>-83</u>	<u>-85</u>						
Turbidity (NTU)	<u>2.95</u>	<u>2.79</u>	<u>2.65</u>						
Notes:				<u>SAMPLE TAKEN</u>					

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	<u>p</u>	
Sample ID: <u>MW-8</u>	Sample Time: <u>1513</u>	
MS/MSD: <u>Yes</u> ☒ <u>No</u> ☐		
Duplicate: <u>Yes</u> ☒ <u>No</u> ☐		
Duplicate ID: <u></u>	Dup Time: <u></u>	
Chain of Custody Signed By: <u></u>		

Problems / Observations

See page 1

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MU-16Client / Job Number: National Grid B0036648.0000 Task 006Date: 12-16-08Weather: Cloudy, 20sTime In: 10:30

Time Out:

Well Information

Depth to Water: (feet) 9.35 (from MP)
 Total Depth: (feet) 20.67 (from MP)
 Length of Water Column: (feet) 11.42
 Volume of Water in Well: (gal) 1.86 gal
 Intake depth for tubing: (feet) 14

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Pump Start Time: 1039
 Pump Stop Time: 1145 Water-Quality Meter Type: Horiba U-22 w/flow cell

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 2.25 (gal) 3.24 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	1039	1044	1044	1054	1059	1104	1109	1114	1119
Volume Purged (L)		1.25	1	1	1	1	.875	.875	.875
Rate (mL/min)		250	200	200	200	200	175	175	175
Depth to Water (ft.)		9.77	10.48	10.80	11.21	11.54	11.76	11.84	12.10
pH		6.61	6.63	6.64	6.63	6.63	6.63	6.63	6.62
Temp. (C)		12.7	12.8	12.8	13.0	13.0	13.0	13.1	13.2
Conductivity (mS/cm)		1.28	1.29	1.28	1.27	1.27	1.24	1.24	1.22
Dissolved Oxygen (mg/L)		4.73	4.65	4.75	4.88	4.89	5.20	5.14	5.20
ORP (mV)		-70	-87	-97	-102	-106	-109	-111	-113
Turbidity (NTU)		15.6	17.8	18.8	22.9	23.7	31.8	23.3	38.3
Notes:	Pump Start								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	p	
Sample ID: MU-16		Sample Time: 11:45
MS/MSD:	Yes p	No p
Duplicate:	Yes p	No p
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: EJBWell ID: MU-10Client / Job Number: National Grid B0036648.0000 Task 006Date: 12-16-08

Weather:

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)
 Total Depth: (feet) (from MP)
 Length of Water Column: (feet)
 Volume of Water in Well: (gal)
 Intake depth for tubing: (feet)

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" 2" Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 10:39

Pump Stop Time:

Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal)

Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	11:24	11:29	11:34	11:39	11:44				
Volume Purged (L)	.875	.875	.875	.875	.875				
Rate (mL/min)	175	175	175	175	175				
Depth to Water (ft.)	12.16	12.25	12.40	12.50	12.55				
pH	6.62	6.62	6.62	6.61	6.61				
Temp. (C)	13.3	13.3	13.4	13.4	13.4				
Conductivity (mS/cm)	1.22	1.21	1.20	1.20	1.19				
Dissolved Oxygen (mg/L)	5.30	5.36	5.30	5.36	5.34				
ORP (mV)	-115	-116	-116	-117	-117				
Turbidity (NTU)	36.8	38.3	33.2	33.3	33.0				
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
		p
Sample ID: MW-10		Sample Time: 11:45
MS/MSD:	Yes p	No p
Duplicate:	Yes p	No p
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

GROUNDWATER SAMPLING LOG

Sampling Personnel: EJBWell ID: MW-15SClient / Job Number: National Grid B0036648.0000 Task 006Date: 12/17/08Weather: Rain / Snow 30'sTime In: 10:30Time Out: 12:15

Well Information

Depth to Water:	(feet)	<u>5.15</u>	(from MP)
Total Depth:	(feet)	<u>13.55</u>	(from MP)
Length of Water Column:	(feet)	<u>8.4</u>	
Volume of Water in Well:	(gal)	<u>1.369</u>	
Intake depth for tubing:	(feet)	<u>10</u>	

Well Type:	Flushmount	☐	Stick-Up	☐
Well Material:	Stainless Steel	☐	PVC	☐
Well Locked:	Yes	☐	No	☐
Measuring Point Marked:	Yes	☐	No	☐
Well Diameter:	1"	☐	2"	☐
	Other:			

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☐	Whale Pump	☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☐	Teflon	☐	Other:	
Sampling Method:	Bailer	☐	Peristaltic	☐	Whale Pump	☐	Other:	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1045
 Pump Stop Time: 1150 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 4.5 (gal) 3.30 Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1050</u>	<u>1055</u>	<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	<u>1125</u>	<u>1130</u>
Volume Purged (L)	<u>1.25</u>	<u>1.25</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.25</u>	<u>1.25</u>
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>250</u>	<u>250</u>
Depth to Water (ft.)	<u>5.19</u>	<u>5.17</u>	<u>5.19</u>	<u>5.19</u>	<u>5.19</u>	<u>5.18</u>	<u>5.19</u>	<u>5.16</u>	<u>5.18</u>
pH	<u>6.67</u>	<u>6.72</u>	<u>6.72</u>	<u>6.74</u>	<u>6.73</u>	<u>6.74</u>	<u>6.75</u>	<u>6.74</u>	<u>6.74</u>
Temp. (C)	<u>10.9</u>	<u>11.3</u>	<u>11.3</u>	<u>11.3</u>	<u>11.3</u>	<u>11.0</u>	<u>10.8</u>	<u>10.6</u>	<u>10.6</u>
Conductivity (mS/cm)	<u>0.787</u>	<u>0.788</u>	<u>0.90</u>	<u>0.99</u>	<u>0.90</u>	<u>0.778</u>	<u>0.772</u>	<u>0.768</u>	<u>0.768</u>
Dissolved Oxygen (mg/L)	<u>5.10</u>	<u>4.79</u>	<u>5.65</u>	<u>4.50</u>	<u>4.71</u>	<u>5.00</u>	<u>5.46</u>	<u>5.24</u>	<u>5.29</u>
ORP (mV)	<u>34</u>	<u>4</u>	<u>-12</u>	<u>-24</u>	<u>-33</u>	<u>-36</u>	<u>-38</u>	<u>-40</u>	<u>-41</u>
Turbidity (NTU)	<u>40.3</u>	<u>38.6</u>	<u>24.7</u>	<u>20.4</u>	<u>17.5</u>	<u>17.6</u>	<u>15.1</u>	<u>13.3</u>	<u>13.1</u>
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-15S	Sample Time: 1133	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MW-16-DClient / Job Number: National Grid B0036648.0000 Task 006Date: 12/23/08Weather: Sunny 20sTime In: 930Time Out: 1120

Well Information

Depth to Water:	(feet)	<u>9.15</u>	(from MP)
Total Depth:	(feet)	<u>19.86</u>	(from MP)
Length of Water Column:	(feet)	<u>10.71</u>	
Volume of Water in Well:	(gal)	<u>1.75</u>	
Intake depth for tubing:	(feet)	<u>14.00</u>	

Well Type:	<u>Flushmount</u>	<u>p</u>	Stick-Up	<u>p</u>
Well Material:	<u>Stainless Steel</u>	<u>p</u>	PVC	<u>p</u>
Well Locked:	<u>Yes</u>	<u>p</u>	No	<u>p</u>
Measuring Point Marked:	<u>Yes</u>	<u>p</u>	No	<u>p</u>
Well Diameter:	<u>1"</u>	<u>2"</u>	Other	

Purging Information

Purging Method:	<u>Bailer</u>	<u>p</u>	<u>Peristaltic</u>	<u>p</u>	Whale Pump	<u>p</u>	Other:
Tubing/Bailer Material:	<u>Steel</u>	<u>p</u>	<u>Polyethylene</u>	<u>p</u>	Teflon	<u>p</u>	Other:
Sampling Method:	<u>Bailer</u>	<u>p</u>	<u>Peristaltic</u>	<u>p</u>	Whale Pump	<u>p</u>	Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:	<u>10:16</u>	Water-Quality Meter Type:	<u>Horiba U-22 w/flow cell</u>
Pump Stop Time:			

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 9.5 (gal) 2.51 Did well go dry: Yes p No p

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>10:21</u>	<u>10:26</u>	<u>10:31</u>	<u>10:36</u>	<u>10:41</u>	<u>10:46</u>	<u>10:51</u>		
Volume Purged (L)	<u>1.25</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>		
Rate (mL/min)	<u>250</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>		
Depth to Water (ft.)	<u>9.20</u>	<u>9.20</u>	<u>9.26</u>	<u>9.20</u>	<u>9.20</u>	<u>9.19</u>	<u>9.20</u>		
pH	<u>6.72</u>	<u>6.57</u>	<u>6.52</u>	<u>6.49</u>	<u>6.49</u>	<u>6.48</u>	<u>6.48</u>		
Temp. (C)	<u>10.8</u>	<u>11.4</u>	<u>12.3</u>	<u>12.4</u>	<u>12.4</u>	<u>12.5</u>	<u>12.5</u>		
Conductivity (mS/cm)	<u>2.33</u>	<u>2.46</u>	<u>2.55</u>	<u>2.57</u>	<u>2.62</u>	<u>2.62</u>	<u>2.63</u>		
Dissolved Oxygen (mg/L)	<u>0.75</u>	<u>0.21</u>	<u>0.02</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>		
ORP (mV)	<u>-168</u>	<u>-169</u>	<u>-171</u>	<u>-171</u>	<u>-172</u>	<u>-172</u>	<u>-172</u>		
Turbidity (NTU)	<u>2.81</u>	<u>2.00</u>	<u>6.31</u>	<u>2.19</u>	<u>1.39</u>	<u>1.71</u>	<u>1.61</u>		
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	<u>1</u>	<u>TestAmerica</u>
PAHs	<u>1</u>	<u>TestAmerica</u>
Cyanide	<u>1</u>	<u>TestAmerica</u>
RCRA 8 Metals	<u>1</u>	<u>TestAmerica</u>
	<u>p</u>	
Sample ID:	<u>MW-16-D</u>	Sample Time: <u>11:00</u>
MS/MSD:	<u>Yes</u>	<u>No</u>
Duplicate:	<u>Yes</u>	<u>No</u>
Duplicate ID		Dup. Time:
Chain of Custody Signed By:	<u>ESB</u>	

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRC Well ID: MW-16R
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/23/08
 Weather: 25° Sunny Time In: 940 Time Out: 1250 1305

Well Information

Depth to Water: (feet) 3.8' (from MP)
 Total Depth: (feet) 37.36' (from MP)
 Length of Water Column: (feet) 28.56'
 Volume of Water in Well: (gal) 4.66 gal
 Intake depth for tubing: (feet) 33'

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☒ 2" ☐ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1010
 Pump Stop Time: 1230 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 27 (gal) Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1010</u>	<u>1015</u>	<u>1020</u>	<u>1025</u>	<u>1030</u>	<u>1035</u>	<u>1040</u>	<u>1045</u>	<u>1050</u>
Volume Purged (L)		<u>1.0</u>	<u>2.0</u>	<u>3.0</u>	<u>4.0</u>	<u>5.0</u>	<u>6.0</u>	<u>7.0</u>	<u>8.0</u>
Rate (mL/min)		<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Depth to Water (ft.)		<u>10.79</u>	<u>14.14</u>	<u>15.37</u>	<u>17.25</u>	<u>19.2</u>	<u>20.92</u>	<u>22.09</u>	<u>23.85</u>
pH		<u>10.56</u>	<u>9.97</u>	<u>9.88</u>	<u>9.70</u>	<u>9.45</u>	<u>9.19</u>	<u>8.99</u>	<u>8.94</u>
Temp. (C)		<u>12.5</u>	<u>13.0</u>	<u>13.0</u>	<u>13.2</u>	<u>13.2</u>	<u>13.2</u>	<u>13.2</u>	<u>13.1</u>
Conductivity (mS/cm)		<u>.261</u>	<u>.245</u>	<u>.242</u>	<u>.279</u>	<u>.299</u>	<u>.533</u>	<u>.730</u>	<u>.759</u>
Dissolved Oxygen (mg/L)		<u>4.41</u>	<u>3.98</u>	<u>4.03</u>	<u>4.77</u>	<u>5.39</u>	<u>5.61</u>	<u>5.63</u>	<u>5.58</u>
ORP (mV)		<u>-12</u>	<u>-56</u>	<u>-59</u>	<u>-59</u>	<u>-61</u>	<u>-74</u>	<u>-80</u>	<u>-82</u>
Turbidity (NTU)		<u>23.7</u>	<u>23.7</u>	<u>23.4</u>	<u>31.4</u>	<u>43.7</u>	<u>36.9</u>	<u>39.6</u>	<u>46.3</u>
Notes:	<u>Pump started</u>								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-16R	Sample Time: 1210	
MS/MSD: Yes ☐ No ☒		
Duplicate: Yes ☐ No ☒		
Duplicate ID: 10	Duplicate Time: 1210	
Chain of Custody Signed By: _____		

Problems / Observations

clear, colorless & start
cloudy, colorless end

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRWWell ID: MW-162Client / Job Number: National Grid B0036648.0000 Task 006Date: 12/23/08Weather: 20° SunnyTime In: 940Time Out: 1305

Well Information

Depth to Water:	(feet)	<u>8.8'</u>	(from MP)
Total Depth:	(feet)	<u>37.36</u>	(from MP)
Length of Water Column:	(feet)	<u>28.56'</u>	
Volume of Water in Well:	(gal)	<u>4.66 gal</u>	
Intake depth for tubing:	(feet)	<u>33'</u>	

Well Type:	<u>Flushpoint</u>	<u>p</u>	Slick-Up	<u>p</u>
Well Material:	<u>Stainless Steel</u>	<u>p</u>	<u>PVC</u>	<u>p</u>
Well Locked:	<u>Yes</u>	<u>p</u>	<u>No</u>	<u>p</u>
Measuring Point Marked:	<u>Yes</u>	<u>p</u>	<u>No</u>	<u>p</u>
Well Diameter:	<u>1"</u>	<u>p</u>	Other	

Purging Information

Purging Method:	<u>Bailer</u>	<u>p</u>	<u>Peristaltic</u>	<u>p</u>	Whale Pump	<u>p</u>	Other:	
Tubing/Bailer Material:	<u>Steel</u>	<u>p</u>	<u>Polyethylene</u>	<u>p</u>	<u>Teflon</u>	<u>p</u>	Other:	
Sampling Method:	<u>Bailer</u>	<u>p</u>	<u>Peristaltic</u>	<u>p</u>	Whale Pump	<u>p</u>	Other:	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	5" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1010
 Pump Stop Time: 1230 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: ~7 (gal) Did well go dry: Yes p No p

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1055</u>	<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	<u>1125</u>	<u>1130</u>	<u>1135</u>
Volume Purged (L)	<u>9.0</u>	<u>10.0</u>	<u>11.0</u>	<u>12.0</u>	<u>13.0</u>				
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u><200</u>	<u><150</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
Depth to Water (ft.)	<u>24.54</u>	<u>25.04</u>	<u>24.92</u>	<u>24.69</u>	<u>24.57</u>	<u>23.77</u>	<u>23.9</u>	<u>23.88</u>	<u>23.82</u>
pH	<u>8.86</u>	<u>8.75</u>	<u>8.73</u>	<u>8.75</u>	<u>8.77</u>	<u>8.75</u>	<u>8.78</u>	<u>8.92</u>	<u>9.04</u>
Temp. (C)	<u>13.1</u>	<u>12.6</u>	<u>12.0</u>	<u>11.8</u>	<u>10.4</u>	<u>12.1</u>	<u>12.6</u>	<u>12.5</u>	<u>11.9</u>
Conductivity (mS/cm)	<u>900</u>	<u>1.13</u>	<u>1.56</u>	<u>1.60</u>	<u>1.67</u>	<u>1.63</u>	<u>1.67</u>	<u>1.71</u>	<u>1.70</u>
Dissolved Oxygen (mg/L)	<u>5.65</u>	<u>5.77</u>	<u>5.07</u>	<u>4.93</u>	<u>3.7</u>	<u>3.46</u>	<u>3.37</u>	<u>3.40</u>	<u>3.61</u>
ORP (mV)	<u>-86</u>	<u>-90</u>	<u>-101</u>	<u>-103</u>	<u>-119</u>	<u>-122</u>	<u>-128</u>	<u>-140</u>	<u>-147</u>
Turbidity (NTU)	<u>49.8</u>	<u>93.9</u>	<u>117</u>	<u>114</u>	<u>115</u>	<u>202</u>	<u>256</u>	<u>550</u>	<u>606</u>
Notes:					<u>Butterfly disk for P.P.</u>				<u>Reduced to 100.26/min @ 1140</u>

Sampling Information

Analyses	#	Laboratory
BTEX	<u>1</u>	<u>TestAmerica</u>
PAHs	<u>1</u>	<u>TestAmerica</u>
Cyanide	<u>1</u>	<u>TestAmerica</u>
RCRA 8 Metals	<u>1</u>	<u>TestAmerica</u>
	<u>p</u>	
Sample ID: <u>MW-162</u>	Sample Time: <u>1210</u>	
MS/MSD: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Duplicate: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Duplicate ID: _____	Dup. Time: _____	
Chain of Custody Signed By: _____		

Problems / Observations

See page 2

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JROWell ID: MW-162

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/13/08Weather: 20° sunnyTime In: 940Time Out: 1305

Well Information

Depth to Water:	(feet) <u>3.8'</u>	(from MP)
Total Depth:	(feet) <u>37.36'</u>	(from MP)
Length of Water Column:	(feet) <u>28.56'</u>	
Volume of Water in Well:	(gal) <u>4.66 gal</u>	
Intake depth for tubing:	(feet) <u>33'</u>	

Well Type:	Flushmount ☒	Stick-Up ☐
Well Material:	Stainless Steel ☐	PVC ☒
Well Locked:	Yes ☐	No ☒
Measuring Point Marked:	Yes ☐	No ☒
Well Diameter:	1" ☒	Other ☐

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1010Pump Stop Time: 1330

Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Total Volume Removed: ~17 (gal) Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1140</u>	<u>1145</u>	<u>1150</u>	<u>1155</u>	<u>1200</u>	<u>1205</u>	<u>1210</u>		
Volume Purged (L)									
Rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>			
Depth to Water: (ft.)	<u>23.13</u>	<u>22.88</u>	<u>22.52</u>	<u>22.11</u>	<u>21.59</u>	<u>21.21</u>			
pH	<u>9.16</u>	<u>9.13</u>	<u>9.17</u>	<u>9.20</u>	<u>9.22</u>	<u>9.23</u>			
Temp. (C)	<u>10.6</u>	<u>10.4</u>	<u>10.5</u>	<u>10.3</u>	<u>10.5</u>	<u>10.4</u>			
Conductivity (mS/cm)	<u>1.75</u>	<u>1.67</u>	<u>1.72</u>	<u>1.69</u>	<u>1.69</u>	<u>1.70</u>			
Dissolved Oxygen (mg/L)	<u>3.91</u>	<u>3.73</u>	<u>3.85</u>	<u>3.76</u>	<u>3.65</u>	<u>3.68</u>			
ORP (mV)	<u>-155</u>	<u>-154</u>	<u>-157</u>	<u>-158</u>	<u>-160</u>	<u>-162</u>			
Turbidity (NTU)	<u>672</u>	<u>539</u>	<u>508</u>	<u>443</u>	<u>402</u>	<u>422</u>			
Notes:							<u>SAMPLE TAKEN</u>		

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	☐	
	☐	
Sample ID: <u>MW-162</u>	Sample Time: <u>1210</u>	
MS/MSD: Yes ☐ No ☒		
Duplicate: Yes ☐ No ☒		
Duplicate ID	Duplicate Time:	
Chain of Custody Signed By:		

Problems / Observations

see page 1

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

SRO

Well ID:

MW-175

Client / Job Number:

National Grid B0036648.0000 Task 006

Date:

12/17/08

Weather:

35° cloudy

Time In:

1040

Time Out:

Well Information

Depth to Water: (feet) 10.38 (from MP)
 Total Depth: (feet) 16.69 (from MP)
 Length of Water Column: (feet) 6.31
 Volume of Water in Well: (gal) 1.03 gal
 Intake depth for tubing: (feet) 13'

Well Type: Flushmount ☒ p Stick-Up ☐ p
 Well Material: Stainless Steel ☐ p PVC ☒ p
 Well Locked: Yes ☐ p No ☒ p
 Measuring Point Marked: Yes ☐ p No ☒ p
 Well Diameter: 1" ☐ 2" ☒ Other:

Purging Information

Purging Method: Bailer ☐ p Peristaltic ☒ p Whale Pump ☐ p Other:
 Tubing/Bailer Material: Steel ☐ p Polyethylene ☒ p Teflon ☐ p Other:
 Sampling Method: Bailer ☐ p Peristaltic ☒ p Whale Pump ☐ p Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	5" ID
	0.041	0.163	0.653	1.459
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:

1050

Pump Stop Time:

1145

Water-Quality Meter Type:

Horiba U-22 w/flow cell

Total Volume Removed: 3.2 (gal)

Did well go dry:

Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1050	1055	1100	1105	1110	1115	1120	1125	1130
Volume Purged (L)		1.13	2.25	3.38	4.5	5.63	6.75	7.88	9.0
Rate (mL/min)	225	225	225	225	225	225	225	225	225
Depth to Water (ft.)		10.69	10.71	10.71	10.72	10.72	10.73	10.73	10.73
pH		6.26	6.17	6.18	6.19	6.20	6.21	6.22	6.22
Temp. (C)		13.2	13.3	13.4	13.4	13.5	13.5	13.5	13.5
Conductivity (mS/cm)		.628	.624	.620	.622	.623	.626	.633	.650
Dissolved Oxygen (mg/L)		.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)		153	133	103	58	41	33	30	26
Turbidity (NTU)		15.1	7.47	5.96	4.59	4.28	1.98	1.74	1.85
Notes:	Pump started								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	p	
Sample ID: MW-175	Sample Time: 11375	
MS/MSD: Yes ☐ p No ☒ p		
Duplicate: Yes ☐ p No ☒ p		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By		

Problems / Observations

clear bubbles at beginning of pumping
 " " " end of pumping

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO Well ID: MW-175
 Client / Job Number: National Grid.B0036648.0000 Task 006 Date: 12/18/08
 Weather: 35° cloudy Time In: 10:40 Time Out:

Well Information

Depth to Water: (feet) 10.38 (from MP)
 Total Depth: (feet) 16.65 (from MP)
 Length of Water Column: (feet) 6.31
 Volume of Water in Well: (gal) 1.03 gal
 Intake depth for tubing: (feet) 13'

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.489
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 10:50
 Pump Stop Time: 11:45 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 3.2 (gal) Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>11:35</u>								
Volume Purged (L)									
Rate (mL/min)									
Depth to Water (ft.)									
pH									
Temp. (C)									
Conductivity (mS/cm)									
Dissolved Oxygen (mg/L)									
ORP (mV)									
Turbidity (NTU)									
Notes:	<u>SAMPLE TAKEN</u>								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

See page 2

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESB Well ID: MW-19D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/17/08
 Weather: Rain/Sunny 30's Time In: 0800 Time Out: 1615

Well Information

Depth to Water: (feet) 7.17 (from MP)
 Total Depth: (feet) (from MP)
 Length of Water Column: (feet)
 Volume of Water in Well: (gal)
 Intake depth for tubing: (feet) 19

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ 2" ☐ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0853Pump Stop Time: 0955Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: 3.07 (gal)Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0858</u>	<u>0903</u>	<u>0908</u>	<u>0913</u>	<u>0918</u>	<u>0923</u>	<u>0928</u>	<u>0933</u>	<u>0938</u>
Volume Purged (L)	<u>1.125</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>
Rate (mL/min)	<u>225</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>256</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>
Depth to Water (ft.)	<u>7.65</u>	<u>7.71</u>	<u>7.73</u>	<u>7.73</u>	<u>7.71</u>	<u>7.74</u>	<u>7.74</u>	<u>7.73</u>	<u>7.74</u>
pH	<u>6.64</u>	<u>6.35</u>	<u>6.29</u>	<u>6.25</u>	<u>6.23</u>	<u>6.21</u>	<u>6.20</u>	<u>6.19</u>	<u>6.19</u>
Temp. (C)	<u>11.7</u>	<u>12.7</u>	<u>12.8</u>	<u>12.9</u>	<u>13.0</u>	<u>13.2</u>	<u>13.1</u>	<u>13.2</u>	<u>13.2</u>
Conductivity (mS/cm)	<u>1.29</u>	<u>1.41</u>	<u>1.70</u>	<u>1.54</u>	<u>1.47</u>	<u>1.46</u>	<u>1.47</u>	<u>1.49</u>	<u>1.50</u>
Dissolved Oxygen (mg/L)	<u>6.73</u>	<u>4.71</u>	<u>4.66</u>	<u>4.93</u>	<u>4.95</u>	<u>4.97</u>	<u>5.23</u>	<u>4.90</u>	<u>4.60</u>
ORP (mV)	<u>102</u>	<u>81</u>	<u>71</u>	<u>65</u>	<u>62</u>	<u>58</u>	<u>57</u>	<u>55</u>	<u>54</u>
Turbidity (NTU)	<u>4.81</u>	<u>2.26</u>	<u>2.07</u>	<u>1.72</u>	<u>1.48</u>	<u>1.45</u>	<u>2.40</u>	<u>1.39</u>	<u>1.30</u>
Notes:									

11.62'

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: TRU
 Client / Job Number: National Grid B0036648.0000 Task 006
 Weather: windy, 45° PL

Well ID: MW-20D
 Date: 12/15/08
 Time In: 1115 Time Out: 1306

Well Information

Depth to Water: (feet) 6.46' (from MP)
 Total Depth: (feet) 21.49' (from MP)
 Length of Water Column: (feet) 15.03'
 Volume of Water in Well: (gal) 2.45 gal
 Intake depth for tubing: (feet) 16'

Well Type: Flushmount (p) Stick-Up (p)
 Well Material: Stainless Steel (p) PVC (p)
 Well Locked: Yes (p) No (p)
 Measuring Point Marked: Yes (p) No (p)
 Well Diameter: 1" (p) Other

Purging Information

Purging Method: Bailer (p) Peristaltic (p) Whale Pump (p) Other:
 Tubing/Bailer Material: Steel (p) Polyethylene (p) Teflon Other:
 Sampling Method: Bailer (p) Peristaltic (p) Whale Pump (p) Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1147
 Pump Stop Time: 1247 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 2.3 (gal) Did well go dry: Yes (p) No (p)

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1147</u>	<u>1152</u>	<u>1157</u>	<u>1202</u>	<u>1207</u>	<u>1212</u>	<u>1217</u>	<u>1222</u>	<u>1227</u>
Volume Purged (L)									
Rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>
Depth to Water (ft.)	<u>6.46'</u>	<u>6.77'</u>	<u>6.77'</u>	<u>6.77'</u>	<u>6.76'</u>	<u>6.74'</u>	<u>6.74'</u>	<u>6.74'</u>	<u>6.74'</u>
pH		<u>6.52</u>	<u>6.61</u>	<u>6.66</u>	<u>6.70</u>	<u>6.73</u>	<u>6.76</u>	<u>6.76</u>	<u>6.76</u>
Temp. (C)		<u>12.3</u>	<u>12.4</u>	<u>12.4</u>	<u>12.4</u>	<u>12.4</u>	<u>12.3</u>	<u>12.3</u>	<u>12.3</u>
Conductivity (mS/cm)		<u>3.14</u>	<u>3.15</u>	<u>3.15</u>	<u>3.15</u>	<u>3.15</u>	<u>3.15</u>	<u>3.15</u>	<u>3.14</u>
Dissolved Oxygen (mg/L)		<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
ORP (mV)		<u>252</u>	<u>226</u>	<u>198</u>	<u>175</u>	<u>152</u>	<u>135</u>	<u>128</u>	<u>121</u>
Turbidity (NTU)		<u>6.06</u>	<u>2.98</u>	<u>3.42</u>	<u>1.72</u>	<u>.87</u>	<u>.98</u>	<u>.98</u>	<u>.84</u>
Notes:	<u>Start Pump</u>								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
		p
Sample ID: MW-20D		Sample Time: 1237
MS/MSD:	Yes p	No (p)
Duplicate:	Yes p	No (p)
~~Duplicate ID~~		~~Dup. Time~~
Chain of Custody Signed By:		

Problems / Observations

water: clear, odorless at start of pumping
clear, odorless at end of pumping

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO Well ID: MW-20-D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/15/08
 Weather: windy, 45° F Time In: 1115 Time Out: 1306

Well Information

Depth to Water: (feet) 6.46' (from MP)
 Total Depth: (feet) 21.49' (from MP)
 Length of Water Column: (feet) 15.03'
 Volume of Water in Well: (gal) 2.45 gal
 Intake depth for lubing: (feet) 16'

Well Type: Flushmount p Stick-Up p
 Well Material: Stainless Steel p PVC p
 Well Locked: Yes p No p
 Measuring Point Marked: Yes p No p
 Well Diameter: 1" 2" Other _____

Purging Information

Purging Method: Bailer p Peristaltic p Whale Pump p Other: _____
 Tubing/Bailer Material: Steel p Polyethylene p Teflon p Other: _____
 Sampling Method: Bailer p Peristaltic p Whale Pump p Other: _____

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.169
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1147
 Pump Stop Time: 1247 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
▽ 0.1	▽ 10%	▽ 3.0%	▽ 10 mV

Total Volume Removed: 23 (gal) Did well go dry: Yes p No p

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1232</u>	<u>1237</u>							
Volume Purged (L)									
Rate (mL/min)	<u>150</u>	<u>150</u>							
Depth to Water (ft.)	<u>6.73</u>								
pH	<u>6.77</u>								
Temp. (C)	<u>12.3</u>								
Conductivity (mS/cm)	<u>3.14</u>								
Dissolved Oxygen (mg/L)	<u>0.00</u>								
ORP (mV)	<u>115</u>								
Turbidity (NTU)	<u>.88</u>								
Notes:	<u>SAMPLING TIME</u>								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-20-D	Sample Time: 1237	
MS/MSD: Yes <u>p</u> No <u>(No)</u> <u>p</u>		
Duplicate: Yes <u>p</u> No <u>(No)</u> <u>p</u>		
Duplicate ID: _____	Dup. Time: _____	
Chain of Custody Signed By: _____		

Problems / Observations

See page 1

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: SRO Well ID: MW-21D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/13/08
 Weather: 40° cloudy Time In: 0700 Time Out: 1030

Well Information

Depth to Water: (feet) 11.25' (from MP)
 Total Depth: (feet) 33.35' (from MP)
 Length of Water Column: (feet) 22.13'
 Volume of Water in Well: (gal) 3.6 gal
 Intake depth for tubing: (feet) 28'

Well Type: Flushmount ☐ p Stick-Up ☐ p
 Well Material: Stainless Steel ☐ p PVC ☐ p
 Well Locked: Yes ☐ p No ☐ p
 Measuring Point Marked: Yes ☐ p No ☐ p
 Well Diameter: 1" ☐ 2" ☐ Other:

Purging Information

Purging Method: Bailer ☐ p Peristaltic ☐ p Whale Pump ☐ p Other:
 Tubing/Bailer Material: Steel ☐ p Polyethylene ☐ p Teflon ☐ p Other:
 Sampling Method: Bailer ☐ p Peristaltic ☐ p Whale Pump ☐ p Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0916
 Pump Stop Time: 1016 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
▽ 0.1	▽ 10%	▽ 3.0%	▽ 10 mV

Total Volume Removed: 3.1 (gal) Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	0916	0921	0926	0931	0936	0941	0946	0951	0956
Volume Purged (L)		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)		11.47	11.47	11.47	11.47	11.47	11.47	11.47	11.47
pH		6.44	6.50	6.56	6.58	6.59	6.60	6.61	6.61
Temp (C)		11.7	11.8	11.8	11.8	11.8	11.8	11.7	11.8
Conductivity (mS/cm)		2.43	2.68	2.81	2.84	2.85	2.86	2.90	2.89
Dissolved Oxygen (mg/L)		0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)		-74	-87	-96	-99	-101	-104	-106	-108
Turbidity (NTU)		41.4	30.2	16.4	13.3	9.09	7.94	5.83	5.96
Notes:	Start Pumping								

Sampling Information

Sampling Information		
Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

clear, colorless at beginning of pumping
 " " at end of pumping

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: TRDWell ID: MW-21DClient / Job Number: National Grid B0036648.0000 Task 006Date: 12/18/08Weather: 40° CloudyTime In: 0900Time Out: 1030

Well Information

Depth to Water: (feet) 11.25' (from MP)

Total Depth: (feet) 33.38' (from MP)

Length of Water Column: (feet) 22.13'

Volume of Water in Well: (gal) 3.6 gal

Intake Depth for tubing: (feet) 28'

Well Type: Flushmount ☐ Stick-Up ☐

Well Material: Stainless Steel ☐ PVC ☐

Well Locked: Yes ☐ No ☐

Measuring Point Marked: Yes ☐ No ☐

Well Diameter: 1" ☐ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐

Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: ☐

Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.183	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0916

Pump Stop Time: 1016 Water-Quality Meter Type: Horiba U-22 w/flow cell

Total Volume Removed 3.1 (gal) Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1001</u>	<u>1006</u>							
Volume Purged (L)	<u>9.0</u>								
Rate (mL/min)	<u>900</u>								
Depth to Water (ft.)	<u>11.47</u>								
pH	<u>6.61</u>								
Temp. (C)	<u>11.7</u>								
Conductivity (mS/cm)	<u>291</u>								
Dissolved Oxygen (mg/L)	<u>0.00</u>								
ORP (mV)	<u>-108</u>								
Turbidity (NTU)	<u>6.21</u>								
Notes:		<u>SAMPLE TAKEN</u>							

Sampling Information

Analyses	#	Laboratory
BTEX	<u>1</u>	<u>TestAmerica</u>
PAHs	<u>1</u>	<u>TestAmerica</u>
Cyanide	<u>1</u>	<u>TestAmerica</u>
RCRA 8 Metals	<u>1</u>	<u>TestAmerica</u>
	<u>1</u>	
Sample ID: <u>MW-21D</u>	Sample Time: <u>1006</u>	
MS/MSD: <u>Yes</u> ☐ <u>No</u> ☐		
Duplicate: <u>Yes</u> ☐ <u>No</u> ☐		
Duplicate ID: <u>1</u>	Duplicate Time: <u>1006</u>	
Chain of Custody Signed By: <u>ESB</u>		

Problems / Observations

See page 4

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: KA
 Client / Job Number: National Grid B0036648.0000 Task 006
 Weather: Cloudy 35°

Well ID: mw-21R
 Date: 12/18/08
 Time In: 0800 Time Out:

Well Information

Depth to Water: (feet) 11.28 TC (from MP)
 Total Depth: (feet) 49.80 TC (from MP)
 Length of Water Column: (feet) 38.52
 Volume of Water in Well: (gal) 6.16
 Intake depth for tubing: (feet) 45.0

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0835
 Pump Stop Time: 1220 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) 3.57 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	0840	0845	0850	0855	0900	0905	0910	0915	0920
Volume Purged (L)	3.0	4.0	5.00	6.00	7.5	8.25	9.0	9.75	10.10
Rate (mL/min)	250	200	200	200	150	150	150	150	100
Depth to Water (ft.)	16.62	17.59	18.61	19.45	20.11	20.47	20.62	20.80	20.95
pH	5.70	5.88	6.03	6.09	6.12	6.18	6.21	6.24	6.25
Temp. (C)	11.1	11.1	11.1	11.2	10.9	10.6	10.6	10.4	10.3
Conductivity (mS/cm)	0.094	0.089	0.087	0.087	0.087	0.086	0.086	0.089	0.090
Dissolved Oxygen (mg/L)	2.35	1.95	1.78	1.58	1.47	1.30	1.15	1.03	0.93
ORP (mV)	161	142	122	116	112	108	106	102	96
Turbidity (NTU)	36.5	48.6	51.6	61.6	68.2	51.4	46.6	35.5	30.2
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: mw-21R	Sample Time: 0955	
MS/MSD: Yes ☒ No ☐		
Duplicate: Yes ☒ No ☐		
Duplicate ID: Dup-121808	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

no 5-plug
 cloudy
 no odor

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

Well ID:

mw-21R

Client / Job Number: National Grid B0036648.0000 Task 006

Date:

12/18/08

Weather:

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	11.28	(from MP)
Total Depth:	(feet)	49.80	(from MP)
Length of Water Column:	(feet)	38.52	
Volume of Water in Well:	(gal)	6.16	
Intake depth for tubing:	(feet)	45.0	

Well Type:	Flushmount	☒	Stick-Up	☐
Well Material:	Stainless Steel	☐	PVC	☒
Well Locked:	Yes	☐	No	☒
Measuring Point Marked:	Yes	☐	No	☐
Well Diameter	1"	☒	Other	

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☒	Peristaltic ☒	Whale Pump ☐	Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Pump Start Time: 0835

Pump Stop Time: Water-Quality Meter Type: Horiba IL22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Total Volume Removed: (gal) 4.0 Did well go dry: Yes ☐ No ☒

[illegible]

Sampling Information

Analyses		#	Laboratory
BTEX		1	TestAmerica
PAHs		1	TestAmerica
Cyanide		1	TestAmerica
RCRA 8 Metals		1	TestAmerica
		p	
Sample ID: MW-21R		Sample Time: 0955	
MS/MSD:	Yes ☒	No ☐	p
Duplicate:	Yes ☒	No ☐	p
Duplicate ID: Dup121808		Dup. Time:	
Chain of Custody Signed By:			

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JCO

Well ID: MW-215R

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/13/08

Weather: 40° cloudy

Time In: 1045 Time Out:

Well Information

Depth to Water: (feet) 9.73' (from MP)
 Total Depth: (feet) 17.90' (from MP)
 Length of Water Column: (feet) 8.14'
 Volume of Water in Well: (gal) 1.33 gal
 Intake depth for tubing: (feet) 13'

Well Type: Flushmount ☒ p Stick-Up ☐ p
 Well Material: Stainless Steel ☐ p PVC ☒ p
 Well Locked: Yes ☐ p No ☒ p
 Measuring Point Marked: Yes ☒ p No ☐ p
 Well Diameter: 1" ☒ 2" ☐ Other:

Purging Information

Purging Method: Bailer ☐ p Peristaltic ☒ p Whale Pump ☐ p Other: ☐ p
 Tubing/Bailer Material: Steel ☐ p Polyethylene ☒ p Teflon ☐ p Other: ☐ p
 Sampling Method: Bailer ☐ p Peristaltic ☒ p Whale Pump ☐ p Other: ☐ p

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1100

Pump Stop Time: 1207

Water-Quality Meter Type: Horiba U-22 w/flow cell

Total Volume Removed: 3.46 (gal)

Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1100	1105	1110	1115	1120	1125	1130	1135	1140
Volume Purged (L)		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)		10.04	10.15	10.17	10.23	10.25	10.26	10.27	10.27
pH		6.23	6.24	6.25	6.25	6.25	6.25	6.26	6.25
Temp. (C)		10.5	11.0	10.9	11.0	11.0	11.1	11.1	11.2
Conductivity (mS/cm)		1.09	1.08	1.09	1.08	1.07	1.07	1.07	1.07
Dissolved Oxygen (mg/L)		.34	.10	.06	0.00	0.00	0.00	0.00	0.00
ORP (mV)		47	45	46	47	49	50	50	50
Turbidity (NTU)		6.44	3.81	3.20	2.9	2.5	2.0	2.1	1.2
Notes:	Pump started								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-215R	Sample Time: 1155	
MS/MSD: Yes ☐ p No ☒ p		
Duplicate: Yes ☐ p No ☒ p		
Duplicate ID: _____	Dup. Time: _____	
Chain of Custody Signed By: _____		

Problems / Observations

characteristics at beginning of pumping
 " " " " " "

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: SPD Well ID: MW-2152
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/18/08
 Weather: 40° RC Time In: 1045 Time Out:

Well Information

Depth to Water: (feet) 9.78 (from MP)
 Total Depth: (feet) 17.92 (from MP)
 Length of Water Column: (feet) 8.14
 Volume of Water in Well: (gal) 1.33 gal
 Intake depth for tubing: (feet) 13'

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ RVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☐ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet.				

Pump Start Time: 1100
 Pump Stop Time: 1107 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond /Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 3.46 (gal) Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1145</u>	<u>1150</u>	<u>1155</u>						
Volume Purged (L)	<u>9.0</u>	<u>10.0</u>	<u>8</u>						
Rate (mL/min)	<u>200</u>	<u>200</u>							
Depth to Water (ft.)	<u>10.28</u>	<u>10.28</u>							
pH	<u>6.25</u>	<u>6.25</u>							
Temp. (C)	<u>11.0</u>	<u>11.2</u>							
Conductivity (mS/cm)	<u>1.07</u>	<u>1.07</u>							
Dissolved Oxygen (mg/L)	<u>0.00</u>	<u>0.00</u>							
ORP (mV)	<u>50</u>	<u>50</u>							
Turbidity (NTU)	<u>1.1</u>	<u>1.0</u>							
Notes:			<u>SAMPLE TAKEN</u>						

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MW-2152</u>	Sample Time: <u>1155</u>	
MS/MSD: <u>Yes</u> ☐ <u>No</u> ☐		
Duplicate: <u>Yes</u> ☐ <u>No</u> ☐		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

see page 1

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESB Well ID: MW-22D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/18/08
 Weather: Cloudy 35S Time In: 0900 Time Out: 1125

Well Information

Depth to Water: (feet) 10.50 (from MP)
 Total Depth: (feet) 33.38 (from MP)
 Length of Water Column: (feet) 22.88
 Volume of Water in Well: (gal) 3.729
 Intake depth for tubing: (feet) 28.0

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ 2" ☐ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0936
 Pump Stop Time: 1055 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
▽ 0.1	▽ 10%	▽ 3.0%	▽ 10 mV

Total Volume Removed: (gal) 4.59 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0941</u>	<u>0946</u>	<u>0951</u>	<u>0956</u>	<u>1001</u>	<u>1006</u>	<u>1011</u>	<u>1016</u>	<u>1021</u>
Volume Purged (L)	<u>1.25</u>	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>
Rate (mL/min)	<u>250</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
Depth to Water (ft.)	<u>11.75</u>	<u>11.71</u>	<u>11.70</u>	<u>11.73</u>	<u>11.71</u>	<u>11.70</u>	<u>11.69</u>	<u>11.69</u>	<u>11.52</u>
pH	<u>10.27</u>	<u>10.51</u>	<u>10.58</u>	<u>10.58</u>	<u>10.57</u>	<u>10.56</u>	<u>10.52</u>	<u>10.49</u>	<u>10.48</u>
Temp. (C)	<u>9.8</u>	<u>10.2</u>	<u>10.5</u>	<u>10.6</u>	<u>10.7</u>	<u>10.7</u>	<u>10.7</u>	<u>10.8</u>	<u>10.5</u>
Conductivity (mS/cm)	<u>1.53</u>	<u>1.53</u>	<u>1.51</u>	<u>1.50</u>	<u>1.48</u>	<u>1.47</u>	<u>1.46</u>	<u>1.45</u>	<u>1.44</u>
Dissolved Oxygen (mg/L)	<u>10.08</u>	<u>9.55</u>	<u>8.13</u>	<u>7.89</u>	<u>6.96</u>	<u>6.72</u>	<u>6.75</u>	<u>6.51</u>	<u>6.54</u>
ORP (mV)	<u>93</u>	<u>75</u>	<u>60</u>	<u>52</u>	<u>39</u>	<u>29</u>	<u>26</u>	<u>10</u>	<u>0</u>
Turbidity (NTU)	<u>33.2</u>	<u>25.4</u>	<u>28.5</u>	<u>24.6</u>	<u>25.8</u>	<u>22.3</u>	<u>20.0</u>	<u>26.3</u>	<u>16.4</u>
Notes:									

Sampling Information

Sampling Information:		
Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
		P
Sample ID: MW-22D		Sample Time: 1037
MS/MSD:	Yes P	No P
Duplicate:	Yes P	No P
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

No Cap on PVC

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESS Well ID: MV-22D
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/17/08
 Weather: _____ Time In: _____ Time Out: _____

Well Information

Depth to Water: (feet) (from MP)
 Total Depth: (feet) (from MP)
 Length of Water Column: (feet)
 Volume of Water in Well: (gal)
 Intake depth for tubing: (feet)

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☐ 2" ☐ Other: _____

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: _____
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: _____
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: _____

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: _____
 Pump Stop Time: _____ Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) _____ Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	10:26	10:31	10:36						
Volume Purged (L)	1.5	1.5	1.5						
Rate (mL/min)	300	300	300						
Depth to Water (ft.)	11.64	11.69	11.70						
pH	10.46	10.47	10.48						
Temp. (C)	10.9	10.9	10.9						
Conductivity (mS/cm)	1.42	1.42	1.42						
Dissolved Oxygen (mg/L)	6.13	6.29	6.31						
ORP (mV)	-10	-15	-20						
Turbidity (NTU)	14.9	14.8	15.2						
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MV-22D</u>	Sample Time: <u>10:37</u>	
MS/MSD: Yes <u>ρ</u>	No <u>ρ</u>	
Duplicate: Yes <u>ρ</u>	No <u>ρ</u>	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MW-22RClient / Job Number: National Grid B0036648.0000 Task 006Date: 12/18/08Weather: Partly Cloudy 30'sTime In: 11:30 Time Out: 15:00

Well Information

Depth to Water:	(feet)	<u>9.91</u>	(from MP)
Total Depth:	(feet)	<u>48.40</u>	(from MP)
Length of Water Column:	(feet)	<u>38.49</u>	
Volume of Water in Well:	(gal)	<u>6.27</u>	
Intake depth for tubing:	(feet)	<u>44.0</u>	

Well Type:	Flushmount ☒	Stick-Up ☐
Well Material:	Stainless Steel ☐	PVC ☒
Well Locked:	Yes ☐	No ☒
Measuring Point Marked:	Yes ☐	No ☒
Well Diameter	1" ☒	Other ☐

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☒	Peristaltic ☐	Whale Pump ☐	Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:	<u>13:06</u>	Water-Quality Meter Type:	<u>Horiba U-22 w/flow cell</u>
Pump Stop Time:	<u>14:58</u>	Did well go dry:	Yes ☐ No ☒
Total Volume Removed:	<u>5.0</u> (gal)		

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>13:05</u>	<u>13:25</u>	<u>13:30</u>	<u>13:35</u>	<u>13:40</u>	<u>13:45</u>	<u>13:50</u>	<u>13:55</u>	<u>14:00</u>
Volume Purged (L)	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>
Depth to Water (ft.)	<u>12.37</u>	<u>12.51</u>	<u>12.97</u>	<u>13.28</u>	<u>13.40</u>	<u>13.54</u>	<u>13.60</u>	<u>13.64</u>	<u>13.34</u>
pH	<u>14.50</u>	<u>14.48</u>	<u>14.62</u>	<u>13.82</u>	<u>10.96</u>	<u>9.90</u>	<u>9.04</u>	<u>8.56</u>	<u>8.09</u>
Temp. (C)	<u>11.9</u>	<u>12.2</u>	<u>12.2</u>	<u>12.4</u>	<u>12.2</u>	<u>12.2</u>	<u>12.1</u>	<u>12.0</u>	<u>11.9</u>
Conductivity (mS/cm)	<u>2.71</u>	<u>2.67</u>	<u>2.59</u>	<u>1.36</u>	<u>1.56</u>	<u>1.57</u>	<u>1.58</u>	<u>1.57</u>	<u>1.58</u>
Dissolved Oxygen (mg/L)	<u>6.67</u>	<u>7.22</u>	<u>7.23</u>	<u>7.95</u>	<u>9.35</u>	<u>9.03</u>	<u>8.43</u>	<u>8.38</u>	<u>8.72</u>
ORP (mV)	<u>-44</u>	<u>-63</u>	<u>-85</u>	<u>-68</u>	<u>-37</u>	<u>-43</u>	<u>-38</u>	<u>-36</u>	<u>-35</u>
Turbidity (NTU)	<u>13.5</u>	<u>10.68</u>	<u>11.1</u>	<u>9.58</u>	<u>14.7</u>	<u>3.85</u>	<u>1.46</u>	<u>1.40</u>	<u>2.12</u>
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	☒	
Sample ID: <u>MW-22R</u>	Sample Time: <u>1425</u>	
MS/MSD: Yes ☐ No ☒		
Duplicate: Yes ☐ No ☒		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

- Horiba Recalibrated at 13:07
- Pump Stopped as well
- Pump Restarted at 13:20
- Tested pH on different Horiba, still High

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

Well ID: NW-22R

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/18/08

Weather:

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)
 Total Depth: (feet) (from MP)
 Length of Water Column: (feet)
 Volume of Water in Well: (gal)
 Intake depth for tubing: (feet)

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:
 Pump Stop Time: Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
▽ 0.1	▽ 10%	▽ 3.0%	▽ 10 mV

Total Volume Removed: (gal) Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	1405	1410	1415	1420					
Volume Purged (L)	1.25	1.25	1.25	1.25					
Rate (mL/min)	250	250	250	250					
Depth to Water (ft.)	13.48	13.60	13.64	13.70					
pH	7.85	7.75	7.70	7.64					
Temp. (C)	11.9	12.2	12.2	12.2					
Conductivity (mS/cm)	1.58	1.58	1.57	1.56					
Dissolved Oxygen (mg/L)	8.17	7.47	7.50	7.57					
ORP (mV)	-37	-38	-39	-41					
Turbidity (NTU)	1.02	1.57	1.28	1.40					
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

Clear
med odor

Sample ID: <u>NW-22R</u>	Sample Time: <u>14:25</u>
MS/MSD: Yes ☐ No ☐	
Duplicate: Yes ☐ No ☐	
Duplicate ID	Dup. Time:
Chain of Custody Signed By:	

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO & KEA
 Client / Job Number: National Grid B0036648.0000 Task 006
 Weather: 3P°, sunny

Well ID: MW-225
 Date: 12/18/08
 Time In: 1300 Time Out: 1500

Well Information

Depth to Water: (feet) 9.58 (from MP)
 Total Depth: (feet) 16.21 (from MP)
 Length of Water Column: (feet) 6.63
 Volume of Water in Well: (gal) 1.08
 Intake depth for tubing: (feet) 11.0'

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☐ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Pump Start Time: 1310
 Pump Stop Time: 1435 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: ~3 (gal) Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1317</u>	<u>1322</u>	<u>1327</u>	<u>1332</u>	<u>1337</u>	<u>1342</u>	<u>1347</u>	<u>1352</u>	<u>1357</u>
Volume Purged (L)	<u>1.57</u>	<u>1.2</u>	<u>1.7</u>	<u>2.2</u>	<u>2.8</u>	<u>3.55</u>	<u>4.3</u>	<u>5.05</u>	<u>5.8</u>
Rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>
Depth to Water (ft.)	<u>9.70</u>	<u>9.63</u>	<u>9.64</u>	<u>9.62</u>	<u>9.65</u>	<u>9.64</u>	<u>9.64</u>	<u>9.64</u>	<u>9.64</u>
pH	<u>8.14</u>	<u>6.70</u>	<u>6.53</u>	<u>6.47</u>	<u>6.44</u>	<u>6.43</u>	<u>6.43</u>	<u>6.43</u>	<u>6.43</u>
Temp. (C)	<u>12.3</u>	<u>12.7</u>	<u>12.6</u>	<u>12.4</u>	<u>12.2</u>	<u>12.4</u>	<u>12.6</u>	<u>12.2</u>	<u>12.2</u>
Conductivity (mS/cm)	<u>1.39</u>	<u>1.44</u>	<u>1.49</u>	<u>1.55</u>	<u>1.48</u>	<u>1.48</u>	<u>1.51</u>	<u>1.52</u>	<u>1.51</u>
Dissolved Oxygen (mg/L)	<u>2.21</u>	<u>0.36</u>	<u>0.32</u>	<u>0.16</u>	<u>0.22</u>	<u>0.19</u>	<u>0.15</u>	<u>0.03</u>	<u>0.03</u>
ORP (mV)	<u>134</u>	<u>133</u>	<u>131</u>	<u>131</u>	<u>130</u>	<u>129</u>	<u>129</u>	<u>129</u>	<u>129</u>
Turbidity (NTU)	<u>0.41</u>	<u>0.62</u>	<u>0.75</u>	<u>0.20</u>	<u>0.01</u>	<u>0.00</u>	<u>0.01</u>	<u>0.00</u>	<u>0.00</u>
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	P	

Sample ID: MW-225	Sample Time: 1420
MS/MSD: Yes P No (circled)	P
Duplicate: Yes P No (circled)	P
Duplicate ID: (scribble)	Dup. Time: (scribble)
Chain of Custody Signed By:	

Problems / Observations

Turbidity Start 0.68
 - Battery died @ 1335, switched to rate meter 150 mL/min

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: TROF KA Well ID: MW-225
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/18/08
 Weather: 37°, sunny Time In: 1300 Time Out: 1500

Well Information

Depth to Water: (feet) 9.58' (from MP)
 Total Depth: (feet) 16.21' (from MP)
 Length of Water Column: (feet) 6.63'
 Volume of Water in Well: (gal) 1.04 gal
 Intake depth for tubing: (feet) 11.0'

Well Type: Flushpoint ☒ p Stick-Up ☐ p
 Well Material: Stainless Steel ☐ p PVC ☒ p
 Well Locked: Yes ☐ p No ☒ p
 Measuring Point Marked: Yes ☒ p No ☐ p
 Well Diameter: 1" ☒ p Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1310
 Pump Stop Time: 1435 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: ~3 (gal) Did well go dry: Yes ☐ No ☒ p

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1402</u>	<u>1420</u>							
Volume Purged (L)	<u>6.55</u>								
Rate (mL/min)	<u>150</u>								
Depth to Water (ft.)	<u>9.64</u>								
pH	<u>6.43</u>								
Temp. (C)	<u>12.3</u>								
Conductivity (mS/cm)	<u>1.53</u>								
Dissolved Oxygen (mg/L)	<u>0.03</u>								
ORP (mV)	<u>129</u>								
Turbidity (NTU)	<u>0.00</u>								
Notes:		<u>SAMPLE TAKEN</u>							

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MW-225</u>	Sample Time: <u>1420</u>	
MS/MSD: <u>Yes</u> ☐ <u>No</u> ☒ <u>p</u>		
Duplicate: <u>Yes</u> ☐ <u>No</u> ☒ <u>p</u>		
Duplicate ID: <u></u>	Dup. Time: <u></u>	
Chain of Custody Signed By: <u></u>		

Problems / Observations

see page 1

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MW-245Client / Job Number: National Grid B0036648.0000 Task 006

Date:

Weather: Cloudy 38sTime In: 13:15Time Out: 14:45

Well Information

Depth to Water: (feet) 7.45 (from MP)
 Total Depth: (feet) 17.91 (from MP)
 Length of Water Column: (feet) 10.46
 Volume of Water in Well: (gal) 1.70
 Intake depth for tubing: (feet) 14

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☒ PVC ☐
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ 2" ☐ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 13:27
 Pump Stop Time: 14:30 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) 3.57 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	13:32	13:37	13:42	13:47	13:52	13:57	14:02	14:07	14:07
Volume Purged (L)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rate (mL/min)	300	300	300	300	300	300	300	300	300
Depth to Water (ft.)	7.64	7.65	7.66	7.66	7.66	7.68	7.68	7.67	7.68
pH	6.64	6.74	6.74	6.73	6.72	6.71	6.70	6.70	6.70
Temp. (C)	12.6	14.3	14.5	14.5	14.6	14.6	14.6	14.6	14.5
Conductivity (mS/cm)	3.59	4.37	4.90	4.45	4.08	3.84	3.66	3.70	3.61
Dissolved Oxygen (mg/L)	6.61	6.25	5.90	5.73	6.01	6.13	6.47	6.69	6.54
ORP (mV)	-14	-55	-69	-73	-75	-78	-79	-81	-82
Turbidity (NTU)	24.8	30.3	13.6	12.8	20.9	18.1	17.6	17.8	14.2
Notes:									

Sampling Information

Analyses		#	Laboratory
BTEX		1	TestAmerica
PAHs		1	TestAmerica
Cyanide		1	TestAmerica
RCRA 8 Metals		1	TestAmerica
		P	

Sample ID: MW-245	Sample Time: 14:15
MS/MSD: Yes ☐ No ☒	
Duplicate: Yes ☐ No ☒	
Duplicate ID	Dup. Time:
Chain of Custody Signed By:	

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRD EJB

Well ID: MW - 255

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/17/08

Weather:

Time In: 14:50

Time Out: 16:20

Well Information

Depth to Water:	(feet) 5.72	(from MP)
Total Depth:	(feet) 17.91	(from MP)
Length of Water Column:	(feet) 12.19	
Volume of Water in Well:	(gal) 1.986	
Intake depth for tubing:	(feet) 14.0	

Well Type:	Flushmount ☒	Stick-Up ☐
Well Material:	Stainless Steel ☒	PVC ☐
Well Locked:	Yes ☐	No ☒
Measuring Point Marked:	Yes ☐	No ☒
Well Diameter:	1" ☒	Other ☐

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☐	Peristaltic ☒	Whale Pump ☐	Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 15:00

Pump Stop Time:

Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) 4.13

Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	15:05	15:10	15:15	15:20	15:25	15:30	15:35	15:40	15:45
Volume Purged (L)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.375	1.375
Rate (mL/min)	250	250	250	250	250	250	250	275	275
Depth to Water (ft.)	6.80	9.20	10.06	10.39	10.22	10.11	9.94	9.77	9.65
pH	6.78	6.77	6.78	6.79	6.80	6.85	6.89	6.89	6.89
Temp. (C)	12.5	13.1	13.0	13.2	13.2	13.3	13.3	13.4	13.4
Conductivity (mS/cm)	11.6	11.9	10.9	8.27	6.11	4.67	3.98	3.51	3.11
Dissolved Oxygen (mg/L)	9.66	5.90	5.94	5.96	6.27	6.22	6.68	6.14	6.01
ORP (mV)	-22	-28	-38	-52	-65	-74	-77	-80	-84
Turbidity (NTU)	94.9	151	170	365	124	84.4	73.9	62.9	54.4
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW - 255	Sample Time: 16:03	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: EJBWell ID: NW-255Client / Job Number: National Grid B0036648.0000 Task 006

Date:

Weather:

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)
 Total Depth: (feet) (from MP)
 Length of Water Column: (feet)
 Volume of Water in Well: (gal)
 Intake depth for tubing: (feet)

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☐ 2" ☐ Other ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:
 Pump Stop Time:
 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: (gal) Did well go dry: Yes ☐ No ☐

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1556</u>	<u>1603</u>	<u>1606</u>						
Volume Purged (L)	<u>1.375</u>	<u>1.375</u>	<u>1.375</u>						
Rate (mL/min)	<u>275</u>	<u>275</u>	<u>275</u>						
Depth to Water (ft.)	<u>9.53</u>	<u>9.46</u>	<u>9.45</u>						
pH	<u>6.88</u>	<u>6.88</u>	<u>6.87</u>						
Temp. (C)	<u>13.5</u>	<u>13.5</u>	<u>13.4</u>						
Conductivity (mS/cm)	<u>2.84</u>	<u>2.77</u>	<u>2.76</u>						
Dissolved Oxygen (mg/L)	<u>6.16</u>	<u>6.16</u>	<u>5.98</u>						
ORP (mV)	<u>-86</u>	<u>-87</u>	<u>-89</u>						
Turbidity (NTU)	<u>39.5</u>	<u>37.6</u>	<u>36.8</u>						
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>NW-255</u>	Sample Time: <u>1603</u>	
MS/MSD: Yes ☐ No ☐		
Duplicate: Yes ☐ No ☐		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: SRUWell ID: MW-265Client / Job Number: National Grid B0036648.0000 Task 006Date: 12/16/08 - 12/17/08Weather: 27° cloudyTime In: 1315 Time Out: 0830

Well Information

Depth to Water: (feet) 3.95' (from MP)
 Total Depth: (feet) 3.9' (from MP)
 Length of Water Column: (feet) 4.34'
 Volume of Water in Well: (gal) .69
 Intake depth for tubing: (feet) 5.5'

Well Type: Flushmount ☒ p Stick-Up ☐
 Well Material: Stainless Steel ☐ RVC ☒
 Well Locked: Yes ☐ No ☒
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1335Pump Stop Time: 1449Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: 11.1 (gal)Did well go dry: Yes ☒ No ☐

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
Δ 0.1	Δ 10%	Δ 3.0%	Δ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1335</u>	<u>1340</u>	<u>1345</u>	<u>1350</u>	<u>1355</u>	<u>1400</u>	<u>1405</u>	<u>1410</u>	<u>1415</u>
Volume Purged (L)		<u>.75</u>	<u>1.5</u>	<u>2.25</u>	<u>3.0</u>	<u>3.75</u>	<u>4.5</u>	<u>5.25</u>	<u>6.0</u>
Rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>
Depth to Water (ft.)		<u>4.17</u>	<u>4.41</u>	<u>4.63</u>	<u>4.82</u>	<u>5.05</u>	<u>5.28</u>	<u>5.45</u>	<u>5.46</u>
pH		<u>6.85</u>	<u>6.77</u>	<u>6.82</u>	<u>6.84</u>	<u>6.83</u>	<u>6.84</u>	<u>6.92</u>	<u>6.99</u>
Temp. (C)		<u>8.4</u>	<u>7.6</u>	<u>7.8</u>	<u>10.0</u>	<u>10.1</u>	<u>10.1</u>	<u>10.7</u>	<u>10.5</u>
Conductivity (mS/cm)		<u>1.37</u>	<u>1.65</u>	<u>1.85</u>	<u>1.85</u>	<u>1.83</u>	<u>1.94</u>	<u>2.10</u>	<u>2.16</u>
Dissolved Oxygen (mg/L)		<u>7.79</u>	<u>6.45</u>	<u>5.46</u>	<u>4.50</u>	<u>3.73</u>	<u>2.81</u>	<u>3.01</u>	<u>3.17</u>
ORP (mV)		<u>13</u>	<u>18</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>20</u>	<u>12</u>	<u>-9</u>
Turbidity (NTU)	<u>0</u>	<u>25</u>	<u>10.91</u>	<u>7.99</u>	<u>5.49</u>	<u>4.77</u>	<u>4.32</u>	<u>9.2</u>	<u>9.75</u>
Notes:	<u>Start pumping</u>							<u>Air bubbles appear</u>	

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	<u>p</u>	
Sample ID: <u>MW-265</u>	Sample Time: <u>0800</u>	<u>12/17/08</u>
MS/MSD: <u>Yes</u> ☐ <u>No</u> ☒		
Duplicate: <u>Yes</u> ☐ <u>No</u> ☒		
Duplicate ID: <u>Dup</u>	Time	
Chain of Custody Signed By:		

Problems / Observations

clear, colorless at start of pumping
- well went dry @ 1449, ~~and~~ came back 10/17/08 to sample @ 0800

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO Well ID: MW-265
 Client / Job Number: National Grid 80036648.0000 Task 006 Date: 12/16/08
 Weather: 27° cloudy Time In: 1315 Time Out: 1505

Well Information

Depth to Water: (feet) 3.95' (from MP)
 Total Depth: (feet) 8.19' (from MP)
 Length of Water Column: (feet) 4.24'
 Volume of Water in Well: (gal) 69 gal
 Intake depth for tubing: (feet) 5.5'

Well Type: Flushmount ☒ p Stick-Up ☐ p
 Well Material: Stainless Steel ☒ p PVC ☐ p
 Well Locked: Yes ☒ p No ☐ p
 Measuring Point Marked: Yes ☒ p No ☐ p
 Well Diameter: 1" ☒ p Other: ☐ p

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐ p
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: ☐ p
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐ p

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1335
 Pump Stop Time: 1449 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
Δ 0.1	Δ 10%	Δ 3.0%	Δ 10 mV

Total Volume Removed: 11.1 (gal) Did well go dry: Yes ☒ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1420</u>	<u>1425</u>	<u>1430</u>	<u>1435</u>	<u>1440</u>	<u>1445</u>	<u>1449</u>	<u>12/17/08</u>	
Volume Purged (L.)	<u>6.75</u>	<u>7.5</u>	<u>8.25</u>	<u>9.0</u>	<u>9.75</u>			<u>0800</u>	
Rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>				
Depth to Water (ft.)	<u>5.46</u>	<u>5.46</u>	<u>5.46</u>	<u>5.46</u>	<u>5.46</u>				
pH	<u>7.62</u>	<u>7.11</u>	<u>7.13</u>	<u>7.15</u>	<u>7.17</u>				
Temp. (C)	<u>10.3</u>	<u>10.2</u>	<u>10.2</u>	<u>10.2</u>	<u>10.3</u>				
Conductivity (mS/cm)	<u>2.16</u>	<u>2.15</u>	<u>2.17</u>	<u>2.16</u>	<u>2.15</u>				
Dissolved Oxygen (mg/L)	<u>5.53</u>	<u>10.13</u>	<u>10.58</u>	<u>10.62</u>	<u>10.69</u>				
ORP (mV)	<u>-19</u>	<u>-40</u>	<u>-47</u>	<u>-56</u>	<u>-57</u>				
Turbidity (NTU)	<u>7.4</u>	<u>4.55</u>	<u>4.71</u>	<u>3.95</u>	<u>3.28</u>				
Notes:						<u>SAMPLE TAKEN</u>	<u>well was dry</u>	<u>took sample</u>	

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

Sample ID: MW-265 Sample Time: 0800 12/17/08
 MS/MSD: Yes ☐ No ☒ p
 Duplicate: Yes ☐ No ☒ p
 Duplicate ID: Dup Time: Time
 Chain of Custody Signed By: _____

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MW-26-DClient / Job Number: National Grid B0036648.0000 Task 006Date: 12/16/08Weather: Cloudy 20'sTime In: 1320

Time Out:

Well Information

Depth to Water: (feet) 5.22 (from MP)
 Total Depth: (feet) 19.00 (from MP)
 Length of Water Column: (feet) 13.78
 Volume of Water in Well: (gal) 2.246
 Intake depth for tubing: (feet) 15.0

Well Type: Flushmount ☒ p Stick-Up ☐
 Well Material: Stainless Steel ☒ p PVC ☐
 Well Locked: Yes ☒ p No ☐
 Measuring Point Marked: Yes ☒ p No ☐
 Well Diameter: 1" ☒ 2" ☐ Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 13:32Pump Stop Time: 14:24Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 2.71 Did well go dry: Yes ☐ No ☐

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	13:37	13:42	13:47	13:52	13:57	14:02	14:07	14:12	
Volume Purged (L)	1.5	1.25	1.25	1.25	1.25	1.25	1.25	1.25	
Rate (mL/min)	300	250	250	250	250	250	250	250	
Depth to Water (ft.)	5.65	5.70	5.74	5.77	5.80	5.83	5.85	5.86	
pH	6.83	6.99	7.00	7.01	7.02	7.01	7.01	7.01	
Temp. (C)	14.9	14.9	15.0	15.0	15.0	15.0	15.1	15.1	
Conductivity (mS/cm)	2.33	2.23	2.20	2.21	2.21	2.21	2.22	2.20	
Dissolved Oxygen (mg/L)	4.42	4.54	4.52	4.46	4.41	4.83	4.29	4.40	
ORP (mV)	-62	-89	-101	-107	-112	-113	-115	-117	
Turbidity (NTU)	8.75	5.63	3.75	4.07	3.28	3.02	2.16	2.27	
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: <u>MW-26D</u>	Sample Time: <u>14:13</u>	
MS/MSD: <u>Yes</u> ☐ <u>No</u> ☒		
Duplicate: <u>Yes</u> ☐ <u>No</u> ☒		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JFC

Well ID: MW-275

Client / Job Number: National Grid B0036648.0000 Task 006

Date: 12/16/03

Weather: 25° cloudy

Time In: 0745

Time Out: 0955

Well Information

Depth to Water: (feet) 5.56' (from MP)
 Total Depth: (feet) 7.39' (from MP)
 Length of Water Column: (feet) 3.53'
 Volume of Water in Well: (gal) 6.2 gal
 Intake depth for tubing: (feet) 7'

Well Type: Flushmount ☐ p Stick-Up ☐ p
 Well Material: Stainless Steel ☐ p PVC ☒ p
 Well Locked: Yes ☐ p No ☒ p
 Measuring Point Marked: Yes ☐ p No ☒ p
 Well Diameter: 1" ☒ 2" ☐ Other

Purging Information

Purging Method: Bailer ☐ p Peristaltic ☒ p Whale Pump ☐ p Other: ☐
 Tubing/Bailer Material: Steel ☐ p Polyethylene ☒ p Teflon ☐ p Other: ☐
 Sampling Method: Bailer ☒ p Peristaltic ☐ p Whale Pump ☐ p Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0816
 Pump Stop Time: 0929
 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 3.2 (gal) Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0816	0821	0826	0831	0836	0841	0846	0851	0856
Volume Purged (L)		1.75	1.50	2.25	3.0	4.053.75	4.5	5.25	6.0
Rate (mL/min)		150	150	150	150	150	150	150	150
Depth to Water (ft.)		5.58	5.57	5.58	5.58	5.59	5.59	5.58	5.59
pH		6.02	6.00	6.03	6.06	6.09	6.13	6.13	6.15
Temp. (C)		10.8	11.1	11.2	11.1	11.0	11.4	11.3	11.1
Conductivity (mS/cm)		2.47	2.73	2.60	2.44	2.42	2.78	2.50	2.43
Dissolved Oxygen (mg/L)		0.00	0.00	0.00	0.00	0.02	0.02	0.04	0.02
ORP (mV)		-90	-80	-88	-95	-93	-103	-102	-104
Turbidity (NTU)		7.73	6.01	6.67	4.52	2.60	1.83	2.61	3.48
Notes:	Slow Pump								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-275	Sample Time: 0916	
MS/MSD: Yes ☐ p No ☒ p		
Duplicate: Yes ☐ p No ☒ p		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

clear, clean & legible of pump
 clear, clean & legible of pump

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: TRC Well ID: MW-273
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/16/08
 Weather: 25°, cloudy Time In: 07:45 Time Out:

Well Information

Depth to Water: (feet) 5.56' (from MP)
 Total Depth: (feet) 9.34' (from MP)
 Length of Water Column: (feet) 3.83
 Volume of Water in Well: (gal) 0.62 gal
 Intake depth for tubing: (feet) 7'

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" ☒ Other: ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.162	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0816
 Pump Stop Time: 0929 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond / Temp	ORP
∇ 0.1	∇ 10%	∇ 3.0%	∇ 10 mV

Total Volume Removed: 3.2 (gal) Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0901</u>	<u>0906</u>	<u>0911</u>	<u>0916</u>					
Volume Purged (L)	<u>6.75</u>	<u>4.5</u>	<u>8.25</u>						
Rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>						
Depth to Water (ft.)	<u>5.54</u>	<u>5.54</u>	<u>5.54</u>						
pH	<u>6.16</u>	<u>6.18</u>	<u>6.20</u>						
Temp (C)	<u>11.0</u>	<u>11.0</u>	<u>11.1</u>						
Conductivity (mS/cm)	<u>2.34</u>	<u>2.32</u>	<u>2.29</u>						
Dissolved Oxygen (mg/L)	<u>6.06</u>	<u>0.06</u>	<u>0.06</u>						
ORP (mV)	<u>-106</u>	<u>-107</u>	<u>-109</u>						
Turbidity (NTU)	<u>2.7</u>	<u>2.84</u>	<u>2.95</u>						
Notes:				<u>SAMPLE TAKEN</u>					

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica

Problems / Observations

See page 1

GROUNDWATER SAMPLING LOG

Sampling Personnel: EJBWell ID: MW-27DClient / Job Number: National Grid 80036648.0000 Task 006Date: 12-16-08Weather: Cloudy 20°Time In: 0834Time Out: 0955

Well Information

Depth to Water: 8.31 (feet) 8.21 (from MP)
 Total Depth: 24.45 (feet) 24.45 (from MP)
 Length of Water Column: (feet) 16.24
 Volume of Water in Well: (gal) 2.647
 Intake depth for tubing: (feet) 17.0

Well Type: Flushmount ☐ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☐
 Well Locked: Yes ☐ No ☐
 Measuring Point Marked: Yes ☐ No ☐
 Well Diameter: 1" 2" Other

Purging Information

Purging Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☐ Teflon ☐ Other: ☐
 Sampling Method: Bailer ☐ Peristaltic ☐ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.663	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0839Pump Stop Time: 0945Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) 3.96 Did well go dry: Yes ☐ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0839</u>	<u>0844</u>	<u>0849</u>	<u>0854</u>	<u>0859</u>	<u>0904</u>	<u>0909</u>	<u>0914</u>	<u>0919</u>
Volume Purged (L)		<u>3.15</u>	<u>3.0</u>	<u>4.5</u>	<u>6.0</u>	<u>7.5</u>	<u>9.0</u>	<u>10.5</u>	<u>12.0</u>
Rate (mL/min)		<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
Depth to Water (ft.)		<u>8.55</u>	<u>8.60</u>	<u>8.62</u>	<u>8.62</u>	<u>8.64</u>	<u>8.65</u>	<u>8.65</u>	<u>8.65</u>
pH		<u>6.54</u>	<u>6.62</u>	<u>6.65</u>	<u>6.66</u>	<u>6.66</u>	<u>6.65</u>	<u>6.65</u>	<u>6.65</u>
Temp. (C)		<u>15.0</u>	<u>15.3</u>	<u>15.3</u>	<u>15.3</u>	<u>15.3</u>	<u>15.3</u>	<u>15.3</u>	<u>15.3</u>
Conductivity (mS/cm)		<u>2.69</u>	<u>2.70</u>	<u>2.71</u>	<u>2.67</u>	<u>2.67</u>	<u>2.68</u>	<u>2.70</u>	<u>2.73</u>
Dissolved Oxygen (mg/L)		<u>2.81</u>	<u>2.50</u>	<u>2.40</u>	<u>2.51</u>	<u>2.50</u>	<u>2.55</u>	<u>2.56</u>	<u>2.57</u>
ORP (mV)		<u>-140</u>	<u>-147</u>	<u>-152</u>	<u>-152</u>	<u>-153</u>	<u>-153</u>	<u>-153</u>	<u>-152</u>
Turbidity (NTU)		<u>2.28</u>	<u>2.55</u>	<u>4.28</u>	<u>6.31</u>	<u>6.50</u>	<u>5.87</u>	<u>4.26</u>	<u>5.04</u>
Notes:	<u>Pump Started</u>								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	p	
Sample ID: MW-27D		Sample Time: 0930
MS/MSD: Yes	p	No p
Duplicate: Yes	p	No p
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

Well ID: MW-270

Client / Job Number: National Grid B0036648.0000 Task 006

Date:

Weather:

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	(from MP)
Total Depth:	(feet)	(from MP)
Length of Water Column:	(feet)	
Volume of Water in Well:	(gal)	
Intake depth for tubing:	(feet)	

Well Type:	Flushmount	☐	Slick-Up	☐
Well Material:	Stainless Steel	☐	PVC	☐
Well Locked:	Yes	☐	No	☐
Measuring Point Marked:	Yes	☐	No	☐
Well Diameter:	1"	☐	2"	☐
	Other	☐		

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☐	Whale Pump	☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☐	Teflon	☐	Other:	
Sampling Method:	Bailer	☐	Peristaltic	☐	Whale Pump	☐	Other:	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time:	
Pump Stop Time:	
Water-Quality Meter Type:	Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed:	(gal)	Did well go dry:	Yes	☐	No	☐

Parameter:	10	11	12	13	5	6	7	8	9
Time	08:24	09:24							
Volume Purged (L)	13.5	150							
Rate (mL/min)	300	300							
Depth to Water (ft.)	8.65	8.65							
pH	6.64	6.64							
Temp. (C)	15.4	15.4							
Conductivity (mS/cm)	273	274							
Dissolved Oxygen (mg/L)	2.58	2.51							
ORP (mV)	-152	-151							
Turbidity (NTU)	5.08	5.07							
Notes:									

Sampling Information

Problems / Observations

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-270	Sample Time: 09:30	
MS/MSD: Yes	☐	No ☐
Duplicate: Yes	☐	No ☐
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESBWell ID: MW-285Client / Job Number: National Grid B0036648.0000 Task 006Date: 12/22/08Weather: Sunny 10's, WindyTime In: 1330Time Out: 1515

Well Information

Depth to Water: (feet) 2.99 (from MP)

Total Depth: (feet) 8.36 (from MP)

Length of Water Column: (feet) 5.37

Volume of Water in Well: (gal) 0.875

Intake depth for tubing: (feet) 6 feet

Well Type: Flushmount ☒ Stick-Up ☐

Well Material: Stainless Steel ☒ PVC ☐

Well Locked: Yes ☒ No ☐

Measuring Point Marked: Yes ☒ No ☐

Well Diameter: 1" ☒ 2" ☐ Other: ☐

Purging Information

Purging Method: Bailer ☒ Peristaltic ☐ Whale Pump ☐ Other: ☐

Tubing/Bailer Material: Steel ☒ Polyethylene ☐ Teflon ☐ Other: ☐

Sampling Method: Bailer ☒ Peristaltic ☐ Whale Pump ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1344

Pump Stop Time: _____

Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) 2.97 Did well go dry: Yes ☒ No ☐

Parameter:	1	2	3	4	5	6	7	8	9
Time	1349	1354	1359	1404	1409	1414	1419	1424	1429
Volume Purged (L)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Rate (mL/min)	250	250	250	250	250	250	250	250	250
Depth to Water (ft.)	3.79	3.79	3.91	3.95	3.97	4.01	4.00	4.01	4.00
pH	14.69	14.71	14.72	14.75	14.80	14.81	14.83	14.84	14.86
Temp. (C)	10.1	10.1	11.1	11.0	11.1	11.6	11.3	11.4	11.6
Conductivity (mS/cm)	4.75	4.70	4.77	4.85	5.01	5.09	5.17	5.23	5.27
Dissolved Oxygen (mg/L)	3.61	3.48	3.29	3.32	3.27	3.11	3.10	3.09	2.98
ORP (mV)	-313	-329	-351	-356	-375	-385	-396	-407	-414
Turbidity (NTU)	33.3	27.1	24.4	27.1	14.7	11.3	9.32	6.59	6.63
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-285	Sample Time: 1432	
MS/MSD: Yes ☒ No ☐		
Duplicate: Yes ☒ No ☐		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Strong Odor at beginning

pH appears wrong. Same Horiba used as on well
MW-22R on 12/14 that was off

Shoen in Bucket

Strong smell at Sampling

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO Well ID: MW-280
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/22/08
 Weather: 0° Cloudy Time In: 1130 Time Out: _____

Well Information

Depth to Water: (feet) 8.24' (from MP)
 Total Depth: (feet) 24.65' (from MP)
 Length of Water Column: (feet) 13.41'
 Volume of Water in Well: (gal) 2.17 gal
 Intake depth for tubing: (feet) 16'

Well Type: Flysimount p Stick-Up p
 Well Material: Stainless Steel p PVC p
 Well Locked: Yes p No p
 Measuring Point Marked: Yes p No p
 Well Diameter: 1" 2 Other _____

Purging Information

Purging Method: Bailer p Peristaltic p Whale Pump p Other: _____
 Tubing/Bailer Material: Steel p Polyethylene p Teflon p Other: _____
 Sampling Method: Bailer p Peristaltic p Whale Pump p Other: _____

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.468
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1150
 Pump Stop Time: 1400 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: 5.0 (gal) Did well go dry: Yes p No p

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1150	1155	1200	1205	1210	1215	1220	1225	1230
Volume Purged (L)		.75	1.50	2.25	3.0	3.75	4.5	5.25	6.0
Rate (mL/min)		150	150	150	150	150	150	150	150
Depth to Water (ft)		8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28
pH		7.12	7.37	7.44	7.46	7.47	7.15	7.09	7.05
Temp. (C)		14.1	14.3	14.2	13.9	14.0	13.9	14.0	14.0
Conductivity (mS/cm)		2.99	3.07	3.12	3.20	3.24	3.32	3.37	3.37
Dissolved Oxygen (mg/L)		1.72	0.47	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)		-306	-245	-216	-209	-267	-270	-276	-277
Turbidity (NTU)		4.03	5.07	5.36	6.10	3.32	2.60	3.09	2.45
Notes:	Pump started								

Sampling Information

Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
	<u>p</u>	
Sample ID: <u>MW-280</u>	Sample Time: <u>1250</u>	
MS/MSD: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Duplicate: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Duplicate: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Duplicate: <u>Yes</u> <u>p</u>	<u>No</u> <u>p</u>	
Chain of Custody Signed By:		

Problems / Observations

clear, odorless at beginning of pumping
 slight odor at end of pumping (like petrol)

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: JRO Well ID: MW-280
 Client / Job Number: National Grid B0036648.0000 Task 006 Date: 12/22/07
 Weather: 0° cloudy Time In: 1130 Time Out: 1445

Well Information

Depth to Water: (feet) 8.24' (from MP)
 Total Depth: (feet) 21.65' (from MP)
 Length of Water Column: (feet) 13.41'
 Volume of Water in Well: (gal) 2.19 gal
 Intake depth for tubing: (feet) 16'

Well Type: Flushpoint ☒ Stick-Up ☐
 Well Material: Stainless Steel ☒ Alc ☐
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☐ No ☒
 Well Diameter: 1" ☒ Other ☐

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other ☐
 Sampling Method: Bailer ☐ Peristaltic ☒ Whale Pump ☐ Other ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 1150
 Pump Stop Time: 1400 Water-Quality Meter Type: Horiba U-22 w/flow cell

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: 4.75 (gal) 5.0 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1235</u>	<u>1240</u>	<u>1250</u>						
Volume Purged (L)	<u>6.75</u>	<u>7.5</u>							
Rate (mL/min)	<u>150</u>	<u>150</u>							
Depth to Water (ft.)	<u>8.28</u>	<u>8.28</u>							
pH	<u>7.03</u>	<u>7.02</u>							
Temp. (C)	<u>13.9</u>	<u>13.7</u>							
Conductivity (mS/cm)	<u>3.36</u>	<u>3.39</u>							
Dissolved Oxygen (mg/L)	<u>0.00</u>	<u>0.00</u>							
ORP (mV)	<u>-291</u>	<u>-297</u>							
Turbidity (NTU)	<u>2.45</u>	<u>2.48</u>							
Notes:			<u>SAMPLE TAKEN</u>						

Sampling Information

Sampling Information		
Analyses	#	Laboratory
BTEX	1	TestAmerica
PAHs	1	TestAmerica
Cyanide	1	TestAmerica
RCRA 8 Metals	1	TestAmerica
Sample ID: MW-280	Sample Time: 1250	
MS/MSD: ☒ Yes ☐ No		
Duplicate: ☒ Yes ☐ No		
Duplicate ID D08-122008	Dup. Time: 1250	
Chain of Custody Signed By:		

Problems / Observations

See page 1

ARCADIS

Attachment B

Validated Analytical Data Reports

**National Grid – North Albany
Service Center**

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, Metals and Cyanide Analyses

SDG#JL17029

Analyses Performed By:
Shealy Environmental, Inc
West Columbia, South Carolina

Report: #9852R
Review Level: Tier III
Project: B0036648.0000.00006

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #JL17029 for samples collected in association with the National Grid North Albany Service Center. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
MW-27S	JL17029-001	Water	12/16/2008		X	X		X	X
MW-27D	JL17029-002	Water	12/16/2008		X	X		X	X
MW-10	JL17029-003	Water	12/16/2008		X	X		X	X
MW-6D	JL17029-004	Water	12/16/2008		X	X		X	X
MW-26D	JL17029-005	Water	12/16/2008		X	X		X	X
MW-20D	JL17029-006	Water	12/15/2008		X	X		X	X
MW-8	JL17029-007	Water	12/15/2008		X	X		X	X
Trip Blank	JL17029-008	Water	12/17/2008		X				

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed for semivolatiles on sample location MW-27S.
3. Matrix spike/matrix spike duplicate (MS/MSD) was performed for ICP metals on sample locations MW-26D and MW-20D, and for mercury on sample location MW-27S.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) USEPA SW-846 Method 8260 and 8270 as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cooled @ 4 °C.

s.u. Standard units

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD was not performed on a sample location associated with this SDG.

8. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS)					X
Matrix Spike Duplicate(MSD)					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (RPD)					X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A.Reconstructed ion chromatograms		X		X	
B.Quantitation Reports		X		X	
C.RT of sample compounds within the established RT windows		X		X	

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

SEMI-VOLATILE VOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8270	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the SVOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
MW-27D	Naphthalene	1190 E	950 D	950 D
MW-26D	1-Methylnaphthalene	340 E	290 D	290 D
	2-Methylnaphthalene	320 E	260 D	260 D
	Naphthalene	2500 E	2400 D	2400 D

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR SVOCs

SVOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field Duplicate (RPD)					X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) SW-846 Methods 6010B, 7470A and 9012A as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

- U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

- E The reported value is estimated due to the presence of interference.

- N Spiked sample recovery is not within control limits.

- * Duplicate analysis is not within control limits.

- Validation Qualifiers

- J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

- UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

- UB Analyte considered non-detect at the listed value due to associated blank contamination.

- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cooled @ 4 °C.
SW-846 7470	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

A CRDL was not performed. Sample results not qualified.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS/MSD analysis performed on sample locations MW-27S, MW-26D and MW-20D exhibited recoveries within the control limits.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample location MW-20 exhibited %D within the control limit.

8. Furnace Analysis QC

No furnace analyses were performed on the samples.

9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METAL

METALS; SW-846 6000/7000	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP)						
Atomic Absorption – Manual Cold Vapor (CV)						
Tier II Validation						
Holding Times		X		X		
Reporting limits (units)		X		X		
Blanks						
A. Instrument Blanks		X		X		
B. Method Blanks		X		X		
C. Equipment/Field Blanks					X	
Laboratory Control Sample (LCS)		X		X		
Matrix Spike (MS) %R		X		X		
Matrix Spike Duplicate (MSD) %R		X		X		
MS/MSD Precision (RPD)		X		X		
Field Duplicate (RPD)					X	
ICP Serial Dilution		X		X		
Reporting Limit Verification		X		X		
Raw Data		X		X		
Tier III Validation						
Initial Calibration Verification		X		X		
Continuing Calibration Verification		X		X		
CRDL Standard	X					
ICP Interference Check		X		X		
Transcription/calculation errors present				X		
Reporting limits adjusted to reflect sample dilutions		X		X		

%R Percent recovery

RPD Relative percent difference

GENERAL CHEMISTRY ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of greater than 12.
	Soil		Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the

laboratory qualifier "N" will be removed.

A MS was not performed on a sample location associated with this SDG.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

A laboratory duplicate was not performed on a sample location associated with this SDG.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate analysis was not performed on a sample location within this SDG.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA 9012A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R					X
Matrix Spike Duplicate(MSD) %R					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (RPD)					X
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data					
Transcription/calculation errors present				X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,
 %D – difference

SAMPLE COMPLIANCE REPORT

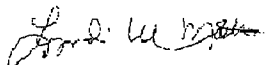
SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
JL17029	12/16/2008	ASP 2005	MW-27S	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/16/2008	ASP 2005	MW-27D	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/16/2008	ASP 2005	MW-10	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/16/2008	ASP 2005	MW-6D	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/16/2008	ASP 2005	MW-26D	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/15/2008	ASP 2005	MW-20D	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/15/2008	ASP 2005	MW-8	Water	Yes	Yes	--	Yes	Yes	
JL17029	12/17/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	

- 1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

VALIDATION PERFORMED BY: Lyndi Mott

SIGNATURE:



DATE: March 8, 2009

PEER REVIEW: Dennis Capria

DATE: April 24, 2009

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS**

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-001

Description: MW-27S

Matrix: Aqueous

Date Sampled: 12/16/2008 0916

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	2	12/22/2008 1305	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.25		0.020	0.0056	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS				Laboratory ID: JL17029-001			
Description: MW-27S				Matrix: Aqueous			
Date Sampled: 12/16/2008 0916							
Date Received: 12/17/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/23/2008 2046	IVC		92305

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	160		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	48		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	2.2		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	20		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL17029-001
Description: MW-27S	Matrix: Aqueous
Date Sampled: 12/16/2008 0916	
Date Received: 12/17/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1725	DC	12/23/2008 1938	92248

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	37		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	4.7	J	5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	3.0	J	5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	2.6	J	5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	6.2		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	41		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	15		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	2.6	J	5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		103	37-129
Nitrobenzene-d5		112	38-127
Terphenyl-d14		35	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-001

Description: MW-27S

Matrix: Aqueous

Date Sampled: 12/16/2008 0916

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2248	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0056	MNM	12/18/2008 1408	91950

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.12		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-002

Description: MW-27D

Matrix: Aqueous

Date Sampled: 12/16/2008 0930

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1236	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.048		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS			Laboratory ID: JL17029-002		
Description: MW-27D			Matrix: Aqueous		
Date Sampled: 12/16/2008 0930					
Date Received: 12/17/2008					

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/23/2008 2108	IVC		92305

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	1.9		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	1.3		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.33	J	1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL17029-002
Description: MW-27D	Matrix: Aqueous
Date Sampled: 12/16/2008 0930	
Date Received: 12/17/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1820	DC	12/23/2008 1938	92248
2	3520C	8270C	10	12/26/2008 1128	DC	12/23/2008 1938	92248

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	190		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	6.7		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	10		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	9.6		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	49		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	200		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	100		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	950 D		50	13	ug/L	2
Phenanthrene	85-01-8	8270C	60		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	11		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
2-Fluorobiphenyl		100	37-129		77	37-129
Nitrobenzene-d5		103	38-127		76	38-127
Terphenyl-d14		50	10-148		38	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-002

Description: MW-27D

Matrix: Aqueous

Date Sampled: 12/16/2008 0930

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2253	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0101	MNM	12/18/2008 1408	91950

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.012		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.56		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-003

Description: MW-10

Matrix: Aqueous

Date Sampled: 12/16/2008 1145

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1237	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.0045	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS				Laboratory ID: JL17029-003			
Description: MW-10				Matrix: Aqueous			
Date Sampled: 12/16/2008 1145							
Date Received: 12/17/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1356	DLB		92524

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	7.3		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	1.4		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	3.1		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	5.8		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-003

Description: MW-10

Matrix: Aqueous

Date Sampled: 12/16/2008 1145

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1839	DC	12/23/2008 1938	92248

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	8.0		5.2	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.2	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.2	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.2	0.62	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.2	0.52	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.2	0.62	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.2	0.83	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.2	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.2	0.73	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.2	1.4	ug/L	1
Fluoranthene	206-44-0	8270C	1.4	J	5.2	1.4	ug/L	1
Fluorene	86-73-7	8270C	7.6		5.2	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.2	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.2	1.6	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.2	1.6	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.2	1.4	ug/L	1
Phenanthrene	85-01-8	8270C	4.8	J	5.2	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.2	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		96	37-129
Nitrobenzene-d5		100	38-127
Terphenyl-d14		80	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-003

Description: MW-10

Matrix: Aqueous

Date Sampled: 12/16/2008 1145

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2254	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0107	MNM	12/18/2008 1408	91950

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.014		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.20		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-004

Description: MW-6D

Matrix: Aqueous

Date Sampled: 12/16/2008 1200

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1237	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.088		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS				Laboratory ID: JL17029-004			
Description: MW-6D				Matrix: Aqueous			
Date Sampled: 12/16/2008 1200							
Date Received: 12/17/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/23/2008 2129	IVC		92305

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-004

Description: MW-6D

Matrix: Aqueous

Date Sampled: 12/16/2008 1200

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1857	DC	12/23/2008 1938	92248

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.1	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.1	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.1	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.1	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.1	0.51	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.1	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.1	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.1	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.1	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.1	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.1	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.1	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.1	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.1	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.1	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.1	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.1	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.1	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		88	37-129
Nitrobenzene-d5		89	38-127
Terphenyl-d14		63	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-004

Description: MW-6D

Matrix: Aqueous

Date Sampled: 12/16/2008 1200

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2257	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0434	KJC	12/19/2008 0945	92003

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.41		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: **ARCADIS**

Laboratory ID: **JL17029-005**

Description: **MW-26D**

Matrix: **Aqueous**

Date Sampled: **12/16/2008 1413**

Date Received: **12/17/2008**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1238	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.014		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS				Laboratory ID: JL17029-005			
Description: MW-26D				Matrix: Aqueous			
Date Sampled: 12/16/2008 1413							
Date Received: 12/17/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/23/2008 2151	IVC		92305

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	0.50	J	1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	3.6		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	1.5		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-005

Description: MW-26D

Matrix: Aqueous

Date Sampled: 12/16/2008 1413

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1916	DC	12/23/2008 1938	92248
2	3520C	8270C	20	12/26/2008 1147	DC	12/23/2008 1938	92248

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	220		5.1	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	4.9	J	5.1	1.2	ug/L	1
Anthracene	120-12-7	8270C	14		5.1	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.1	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.1	0.51	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.1	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.1	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.1	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.1	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.1	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	8.5		5.1	1.4	ug/L	1
Fluorene	86-73-7	8270C	89		5.1	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.1	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	290	D	100	31	ug/L	2
2-Methylnaphthalene	91-57-6	8270C	260	D	100	31	ug/L	2
Naphthalene	91-20-3	8270C	2400	D	100	26	ug/L	2
Phenanthrene	85-01-8	8270C	100		5.1	1.2	ug/L	1
Pyrene	129-00-0	8270C	10		5.1	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
2-Fluorobiphenyl		101	37-129		79	37-129
Nitrobenzene-d5		106	38-127		68	38-127
Terphenyl-d14		71	10-148		54	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-005

Description: MW-26D

Matrix: Aqueous

Date Sampled: 12/16/2008 1413

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2258	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0440	KJC	12/19/2008 0945	92003

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.012		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.19		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-006

Description: MW-20D

Matrix: Aqueous

Date Sampled: 12/15/2008 1237

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1243	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	ND		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-006

Description: MW-20D

Matrix: Aqueous

Date Sampled: 12/15/2008 1237

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/23/2008 2213	IVC		92305

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS				Laboratory ID: JL17029-006			
Description: MW-20D				Matrix: Aqueous			
Date Sampled: 12/15/2008 1237							
Date Received: 12/17/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1552	DC	12/22/2008 1530	92177

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.81	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		104	37-129
Nitrobenzene-d5		104	38-127
Terphenyl-d14		99	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-006

Description: MW-20D

Matrix: Aqueous

Date Sampled: 12/15/2008 1237

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2259	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0504	KJC	12/19/2008 0945	92003

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.093		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL17029-007

Description: MW-8

Matrix: Aqueous

Date Sampled: 12/15/2008 1513

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1243	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.032		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-007

Description: MW-8

Matrix: Aqueous

Date Sampled: 12/15/2008 1513

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 0104	MZ		92345

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	3.7		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	1.1		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-007

Description: MW-8

Matrix: Aqueous

Date Sampled: 12/15/2008 1513

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/25/2008 1610	DC	12/22/2008 1530	92177

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	17		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	4.0	J	5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	5.6		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	2.3	J	5.0	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	3.9	J	5.0	0.81	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	1.2	J	5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	2.2	J	5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	2.6	J	5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	5.6		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	1.4	J	5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	4.0	J	5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		100	37-129
Nitrobenzene-d5		98	38-127
Terphenyl-d14		95	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL17029-007

Description: MW-8

Matrix: Aqueous

Date Sampled: 12/15/2008 1513

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2300	BNW	12/22/2008 1855	92197
1	3005A	6010B	1	12/20/2008 0528	KJC	12/19/2008 0945	92003

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.081		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Seienium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL17029-008

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 12/17/2008 1000

Date Received: 12/17/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 0126	MZ		92345

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		89	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

**National Grid – North Albany
Service Center**

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, Metals and Cyanide Analyses

SDG#JL18021

Analyses Performed By:
Shealy Environmental, Inc
West Columbia, South Carolina

Report: #10322R
Review Level: Tier III
Project: B0036648.0000.00006

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #JL18021 for samples collected in association with the National Grid North Albany Service Center. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
MW-19D	JL18021-001	Water	12/17/2008		X	X		X	X
MW-26S	JL18021-002	Water	12/17/2008		X	X		X	X
MW-3	JL18021-003	Water	12/17/2008		X	X		X	X
MW-17S	JL18021-004	Water	12/17/2008		X	X		X	X
MW-15S	JL18021-005	Water	12/17/2008		X	X		X	X
MW-24S	JL18021-006	Water	12/17/2008		X	X		X	X
Trip Blank	JL18021-007	Water	12/18/2008		X				
MW-25S	JL18021-008	Water	12/17/2008		X	X		X	X

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed for metals on sample location MW-19D and for mercury on sample location MW-26S.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) USEPA SW-846 Method 8260 and 8270 as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cooled @ 4 °C.

s.u. Standard units

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD was not performed on a sample location associated with this SDG.

8. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS)					X
Matrix Spike Duplicate(MSD)					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (RPD)					X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
D.Transcription/calculation errors present				X	
E.Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

SEMI-VOLATILE VOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8270	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the SVOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

= Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD analysis was not performed on a sample location within this data set.

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR SVOCs

SVOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R					X
Matrix Spike Duplicate(MSD) %R					X
MS/MSD Precision (RPD)					X
Field Duplicate (RPD)					X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) SW-846 Methods 6010B, 7470A and 9012A as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

- U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

- E The reported value is estimated due to the presence of interference.

- N Spiked sample recovery is not within control limits.

- * Duplicate analysis is not within control limits.

- Validation Qualifiers

- J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

- UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

- UB Analyte considered non-detect at the listed value due to associated blank contamination.

- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cooled @ 4 °C.
SW-846 7470	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the instrument detection limit (IDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the IDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (J) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
MW-19D MW-26S MW-3 MW-17S MW-15S MW-24S MW-25S	Silver	Detected sample results <RL and <BAL	"UB" at the RL

RL = reporting limit

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing

acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

A CRDL was not performed. Sample results not qualified.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS/MSD analysis performed on sample location MW-19D exhibited recoveries within the control limits.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not performed on a sample location associated with this SDG.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

All serial dilutions were within control limits, with the exception of the analytes presented in the following table. The sample locations associated with the deviant %D are also presented in the following table.

Sample Locations	Analytes	Serial Dilution (%D)
All sample locations	Arsenic Lead	100%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

8. Furnace Analysis QC

No furnace analyses were performed on the samples.

9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METALS

METALS; SW-846 6000/7000	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP)					
Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment/Field Blanks					X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field Duplicate (RPD)					X
ICP Serial Dilution		X	X		
Reporting Limit Verification		X		X	
Raw Data		X		X	
Tier III Validation					
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
CRDL Standard	X				
ICP Interference Check		X		X	
Transcription/calculation errors present				X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%R Percent recovery

RPD Relative percent difference

GENERAL CHEMISTRY ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of greater than 12.
	Soil		Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the

laboratory qualifier "N" will be removed.

The MS/MSD exhibited acceptable recoveries.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

A MS/MSD was performed in place of a laboratory duplicate. The MS/MSD exhibited acceptable RPD between recoveries.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate analysis was not performed on a sample location within this SDG.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA 9012A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)					X
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data					
Transcription/calculation errors present				X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
JL18021	12/17/2008	ASP 2005	MW-19D	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/17/2008	ASP 2005	MW-26S	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/17/2008	ASP 2005	MW-3	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/17/2008	ASP 2005	MW-17S	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/17/2008	ASP 2005	MW-15S	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/17/2008	ASP 2005	MW-24S	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution
JL18021	12/18/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	
JL18021	12/17/2008	ASP 2005	MW-25S	Water	Yes	Yes	--	No	Yes	MET --blank contamination, serial dilution

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

VALIDATION PERFORMED BY: Melissa Hall

SIGNATURE: Melissa Hall

DATE: June 11, 2009

PEER REVIEW: Dennis Capria

DATE: June 23, 2009

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS**

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL18021-001

Description: MW-19D

Matrix: Aqueous

Date Sampled: 12/17/2008 0940

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1244	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.050		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC-columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-001

Description: MW-19D

Matrix: Aqueous

Date Sampled: 12/17/2008 0940

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2032	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and > MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-001

Description: MW-19D

Matrix: Aqueous

Date Sampled: 12/17/2008 0940

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/29/2008 1938	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.1	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.1	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.1	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.1	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.1	0.51	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.1	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.1	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.1	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.1	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.1	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.1	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.1	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.1	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.1	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.1	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.1	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.1	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.1	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		67	37-129
Nitrobenzene-d5		70	38-127
Terphenyl-d14		64	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-001

Description: MW-19D

Matrix: Aqueous

Date Sampled: 12/17/2008 0940

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2328	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1530	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.0055	J	0.010	0.0040	mg/L	1 J
Barium	7440-39-3	6010B	0.051		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0028	J	0.010	0.0019	mg/L	1 J
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.0044	B	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL18021-002
Description: MW-26S	Matrix: Aqueous
Date Sampled: 12/17/2008 0800	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1245	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	ND		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL18021-002
Description: MW-26S	Matrix: Aqueous
Date Sampled: 12/17/2008 0800	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2053	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-002

Description: MW-26S

Matrix: Aqueous

Date Sampled: 12/17/2008 0800

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/29/2008 1956	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		85	37-129
Nitrobenzene-d5		88	38-127
Terphenyl-d14		84	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-002

Description: MW-26S

Matrix: Aqueous

Date Sampled: 12/17/2008 0800

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2329	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1546	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.0049	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.14		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0024	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00043	UB	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and > MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL18021-003
Description: MW-3	Matrix: Aqueous
Date Sampled: 12/17/2008 1000	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1246	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.0081	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-003

Description: MW-3

Matrix: Aqueous

Date Sampled: 12/17/2008 1000

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2114	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-003

Description: MW-3

Matrix: Aqueous

Date Sampled: 12/17/2008 1000

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/29/2008 2015	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.1	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.1	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.1	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.1	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.1	0.51	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.1	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.1	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.1	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.1	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.1	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.1	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.1	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.1	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.1	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.1	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.1	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.1	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.1	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		88	37-129
Nitrobenzene-d5		87	38-127
Terphenyl-d14		84	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-003

Description: MW-3

Matrix: Aqueous

Date Sampled: 12/17/2008 1000

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/23/2008 0000	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1550	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.32		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.00072	J	0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.0048	WBJ	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL18021-004
Description: MW-17S	Matrix: Aqueous
Date Sampled: 12/17/2008 1135	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1247	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.012		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-17S Date Sampled: 12/17/2008 1135 Date Received: 12/18/2008	Laboratory ID: JL18021-004 Matrix: Aqueous

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 12/24/2008 2136	Analyst MZ	Prep Date	Batch 92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-004

Description: MW-17S

Matrix: Aqueous

Date Sampled: 12/17/2008 1135

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/29/2008 2034	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		85	37-129
Nitrobenzene-d5		82	38-127
Terphenyl-d14		71	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-004

Description: MW-17S

Matrix: Aqueous

Date Sampled: 12/17/2008 1135

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2336	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1554	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.0066	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.050		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00063	W	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two QC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL18021-005

Description: MW-15S

Matrix: Aqueous

Date Sampled: 12/17/2008 1133

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1248	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.014		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and $\geq$ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-15S Date Sampled: 12/17/2008 1133 Date Received: 12/18/2008	Laboratory ID: JL18021-005 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2157	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-005

Description: MW-15S

Matrix: Aqueous

Date Sampled: 12/17/2008 1133

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1212	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		88	37-129
Nitrobenzene-d5		89	38-127
Terphenyl-d14		88	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and > MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS Description: MW-15S Date Sampled: 12/17/2008 1133 Date Received: 12/18/2008	Laboratory ID: JL18021-005 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2339	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1606	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.16		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0025	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.00044~~ UB		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

Inorganic non-metals

Client: ARCADIS Description: MW-24S Date Sampled: 12/17/2008 1415 Date Received: 12/18/2008	Laboratory ID: JL18021-006 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1248	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.085		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range.

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL18021-006
Description: MW-24S	Matrix: Aqueous
Date Sampled: 12/17/2008 1415	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2218	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-006

Description: MW-24S

Matrix: Aqueous

Date Sampled: 12/17/2008 1415

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1249	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	6.6		5.1	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.1	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.1	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.1	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.1	0.51	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.1	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.1	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.1	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.1	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.1	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.1	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.1	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.1	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.1	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.1	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.1	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.1	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.1	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		89	37-129
Nitrobenzene-d5		86	38-127
Terphenyl-d14		88	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-006

Description: MW-24S

Matrix: Aqueous

Date Sampled: 12/17/2008 1415

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2340	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1610	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.0094	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	1.6		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.0012~~ 0.0012		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-007

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 12/18/2008 0950

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2008 2010	MZ		92428

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL18021-008

Description: MW-25S

Matrix: Aqueous

Date Sampled: 12/17/2008 1603

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/22/2008 1249	WD	12/19/2008 1030	92014

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.034		0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL18021-008
Description: MW-25S	Matrix: Aqueous
Date Sampled: 12/17/2008 1603	
Date Received: 12/18/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2008 1311	DLB		92605

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL18021-008

Description: MW-25S

Matrix: Aqueous

Date Sampled: 12/17/2008 1603

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1517	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		78	37-129
Nitrobenzene-d5		74	38-127
Terphenyl-d14		72	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL18021-008

Description: MW-25S

Matrix: Aqueous

Date Sampled: 12/17/2008 1603

Date Received: 12/18/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2341	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1614	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.012	J	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.21		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	0.019		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.025	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.0012	UBBJ	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 86469

Client ARCADIS			Report to Contact Lucas Jeffs			Telephone No. / Fax No. / E-mail 518.860.2963 lucas.jeffs@arcadis-us.com			Quote No.		
Address 6723 Tow Path Rd			Sampler's Signature 			Waybill No. 2625 - 3445			Page 1 of 1		
City Syracuse	State NY	Zip Code 13214	X Printed Name Ellis Baird			Analysis (Attach list if more space is needed.)					
Project Name National Grid - North Albany			Project No. B0036648.06			BTEX PAHs PCRA 8 metals Cyanide Lot No. SL16021					

Project No.	P.O. No.		G-Grab C-Composite	Matrix			No. of Containers by Preservative Type							Lot No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time		Aqueous	Solid	Non- Aqueous	Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEX	PAHs	RCRA 8 m	Cyanide	SL16021																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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MW-19D	12/17/08	0940	G	X			2	1	3	1			X	X	X	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</

Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown				Sample Disposal ☐ Return to Client ☒ Disposal by Lab				Note: All samples are retained for six weeks from receipt unless other arrangements are made.			
Turn Around Time Required (Prior lab approval required for expedited TAT) ☒ Standard ☐ Rush (Specify)				QC Requirements (Specify) NYS Category B							
1. Relinquished by 		Date 12/17/08	Time 17:00	1. Received by		Date		Time			
2. Relinquished by		Date	Time	2. Received by		Date		Time			
3. Relinquished by FEDGX		Date 12/18/08	Time 0950	3. Laboratory received by 		Date 12-18-08		Time 0950			
Comments				LAB USE ONLY Received on ice (Circle) Yes No Ice Pack DB				Receipt Temp. 3.3 °C 3.9			

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

**National Grid – North Albany
Service Center**

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, PCB, Metals and Cyanide
Analyses

SDG#JL19027

Analyses Performed By:
Shealy Environmental, Inc
West Columbia, South Carolina

Report: #10329R
Review Level: Tier III
Project: B0036648.0000.00006

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #JL19027 for samples collected in association with the National Grid North Albany Service Center. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
MW-22R	JL19027-001	Water	12/18/2008		X	X		X	X
MW-22D	JL19027-002	Water	12/18/2008		X	X		X	X
MW-22S	JL19027-003	Water	12/18/2008		X	X		X	X
MW-21R	JL19027-004	Water	12/18/2008		X	X	X	X	X
DUP-121808	JL19027-005	Water	12/18/2008	MW-21R	X	X	X	X	X
MW-21SR	JL19027-006	Water	12/18/2008		X	X		X	X
MW-21D	JL19027-007	Water	12/18/2008		X	X		X	X
Trip Blank	JL19027-008	Water	12/19/2008		X				
Trip Blank	JL19027-009	Water	12/22/2008		X				
MW-2	JL19027-010	Water	12/19/2008		X	X		X	X
MW-28D	JL19027-011	Water	12/22/2008		X	X		X	X
MW-28S	JL19027-012	Water	12/22/2008		X	X		X	X
Trip Blank	JL19027-013	Water	12/23/2008		X				
DUP-122208	JL19027-014	Water	12/22/2008	MW-28D	X	X		X	X
MW-16R	JL19027-015	Water	12/23/2008		X	X		X	X
MW-16D	JL19027-016	Water	12/23/2008		X	X		X	X
Trip Blank	JL19027-017	Water	12/24/2008		X				

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed for metals on sample location MW-21R and MW-28D.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) USEPA SW-846 Method 8260, 8270 and 8082 as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cooled @ 4 °C.

s.u. Standard units

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
MW-28D	Toluene	<LL but >10%	AC
	Xylenes (total)	<LL but >10%	<LL but >10%

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. in the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

8. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-21R/DUP-121808	Toluene	1.7	1.7	AC
	Benzene	0.21 J	ND	AC
	Ethylbenzene	0.55 J	ND	AC
MW-28D/DUP-122208	Benzene	190	170	11.1%
	Ethylbenzene	310	270	13.7%
	Toluene	41	38	7.6%
	Xylenes (total)	100	98	2.0%

AC Acceptable
NC Not compliant
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A.Reconstructed ion chromatograms		X		X	
B.Quantitation Reports		X		X	
C.RT of sample compounds within the established RT windows		X		X	

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
D.Transcription/calculation errors present				X	
E.Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

SEMI-VOLATILE VOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8270	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Surrogate	Recovery
MW-2 (Run 2)	Nitrobenzene-d5	D
	2-Fluorobiphenyl	D
	Terphenyl-d14	D

UL Upper control limit

LL Lower control limit

D Diluted

AC Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compounds	Non-detect	J ¹
	Detect	

A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the SVOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
MW-28D	Naphthalene	>UL	AC

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
MW-28D	Naphthalene

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	J
	Detect	J

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-21R/DUP-121808	All compounds	ND	ND	AC
MW-28D/DUP-122208	Acenaphthene	15	13	AC
	Acenaphthylene	10	8.2	AC
	Benzo(g,h,i)perylene	1.2 J	ND	AC
	Fluorene	3.2 J	2.7 J	AC
	1-Methylnaphthalene	22	18	AC
	2-Methylnaphthalene	2.4 J	ND	AC
	Naphthalene	2.2 J	1.7 J	AC
	Phenanthrene	1.7 J	1.8 J	AC

AC Acceptable
NC Not compliant
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR SVOCs

SVOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X	X		
Field Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
 %R Percent recovery
 RPD Relative percent difference
 %D Percent difference

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8082	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.3 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All calibration criteria were within the control limits.

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that one of the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

7. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-21R/DUP-121808	All compounds	ND	ND	AC

AC Acceptable

NC Not compliant
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

9. Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 40%.

No target compounds were identified in the sample.

10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR PCBs

PCBs; SW-846 8082	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
GAS CHROMATOGRAPHY (GC/FID)						
Tier II Validation						
Holding times		X		X		
Reporting limits (units)		X		X		
Blanks						
D. Method blanks		X		X		
E. Equipment blanks		X		X		
Laboratory Control Sample (LCS) %R		X		X		
Laboratory Control Sample Duplicate(LCSD) %R					X	
LCS/LCSD Precision (RPD)					X	
Matrix Spike (MS) %R		X		X		
Matrix Spike Duplicate(MSD) %R		X		X		
MS/MSD Precision (RPD)		X		X		
Field/Lab Duplicate (RPD)		X		X		
Surrogate Spike Recoveries		X		X		
Column (%D) (If dual column is performed-not confirmation purposes only)					X	
Dilution Factor		X		X		
Moisture Content		X		X		
Tier III Validation						
Initial calibration %RSDs		X		X		
Continuing calibration %Ds		X		X		
System performance and column resolution		X		X		
Compound identification and quantitation						
A. Quantitation Reports		X		X		
B. RT of sample compounds within the established RT windows		X		X		
C. Pattern identification		X		X		
D. Transcription/calculation errors present		X		X		
E. Reporting limits adjusted to reflect sample dilutions		X		X		

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,
 %D – difference

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United States Environmental Protection Agency) SW-846 Methods 6010B, 7470A and 9012A as referenced in NYSDEC ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
 - B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).
- Quantitation (Q) Qualifiers
 - E The reported value is estimated due to the presence of interference.
 - N Spiked sample recovery is not within control limits.
 - * Duplicate analysis is not within control limits.
- Validation Qualifiers
 - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cooled @ 4 °C.
SW-846 7470	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the instrument detection limit (IDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the IDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (J) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
MW-2 MW-22R MW-22D MW-22S MW-21R DUP-121808 MW-21SR MW-21D	Silver	Detected sample results <RL and <BAL	"UB" at the RL
MW-28D DUP-122208	Arsenic Lead		
MW-28S	Arsenic		

RL = reporting limit

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

A CRDL was not performed. Sample results not qualified.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS/MSD analysis performed on sample location MW-19D exhibited recoveries within the control limits.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-21R/DUP-121808	Barium	0.20	0.19	5.1%
	Chromium	0.0045 J	0.0036 J	AC
	Lead	0.0043 J	0.0039 J	AC
MW-28D/DUP-122208	Barium	5.1	6.5	24.1%
	Cadmium	0.00080 J	ND (0.0020)	AC

AC Acceptable
NC Not compliant
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

A serial dilution analysis was not included with this data set.

8. Furnace Analysis QC

No furnace analyses were performed on the samples.

9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METALS

METALS; SW-846 6000/7000	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP)					
Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment/Field Blanks					X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field Duplicate (RPD)					X
ICP Serial Dilution	X				
Reporting Limit Verification		X		X	
Raw Data		X		X	
Tier III Validation					
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
CRDL Standard	X				
ICP Interference Check		X		X	
Transcription/calculation errors present				X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%R Percent recovery

RPD Relative percent difference

GENERAL CHEMISTRY ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of greater than 12.
	Soil		Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the

laboratory qualifier "N" will be removed.

All analytes associated with MS/MSD recoveries were within control limits with the exception of the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
MW-28D	Cyanide	65%	AC

AC = acceptable

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

A MS/MSD was performed in place of a laboratory duplicate. The MS/MSD exhibited acceptable RPD between recoveries.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-21R/DUP-121808	Cyanide	0.0037 J	0.0047 J	AC
MW-28D/DUP-122208	Cyanide	0.63	0.57	10%

ND = Not detected

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA 9012A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data					
Transcription/calculation errors present				X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,
 %D – difference

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
JL19027	12/18/2008	ASP 2005	MW-22R	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	MW-22D	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	MW-22S	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	MW-21R	Water	Yes	Yes	Yes	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	DUP-121808	Water	Yes	Yes	Yes	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	MW-21SR	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/18/2008	ASP 2005	MW-21D	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/19/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	
JL19027	12/22/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	
JL19027	12/19/2008	ASP 2005	MW-2	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/22/2008	ASP 2005	MW-28D	Water	No	No	--	No	No	VOC – MS/MSD %R SVOC – MS %R, MS/MSD RPD MET – blank contamination Cyanide – MS %R
JL19027	12/22/2008	ASP 2005	MW-28S	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/23/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	
JL19027	12/22/2008	ASP 2005	DUP-122208	Water	Yes	Yes	--	No	No	MET –blank contamination Cyanide – MS %R
JL19027	12/23/2008	ASP 2005	MW-16R	Water	Yes	Yes	--	Yes	No	Cyanide – MS %R
JL19027	12/23/2008	ASP 2005	MW-16D	Water	Yes	Yes	--	Yes	No	Cyanide – MS %R

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
JL19027	12/24/2008	ASP 2005	Trip Blank	Water	Yes	--	--	--	--	

- 1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

VALIDATION PERFORMED BY: Melissa Hall

SIGNATURE: Melissa Hall

DATE: June 15, 2009

PEER REVIEW: Dennis Capria

DATE: June 27, 2009

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS**

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-001
Description: MW-22R	Matrix: Aqueous
Date Sampled: 12/18/2008 1425	
Date Received: 12/19/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1626	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.011	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-001

Description: MW-22R

Matrix: Aqueous

Date Sampled: 12/18/2008 1425

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1604	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-001

Description: MW-22R

Matrix: Aqueous

Date Sampled: 12/18/2008 1425

Date Received: 12/19/2008

Run 1	Prep Method 3520C	Analytical Method 8270C	Dilution 1	Analysis Date 12/30/2008 1919	Analyst GLR	Prep Date 12/24/2008 2056	Batch 92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.2	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.2	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.2	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.2	0.62	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.2	0.52	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.2	0.62	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.2	0.83	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.2	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.2	0.73	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.2	1.4	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.2	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.2	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.2	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.2	1.6	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.2	1.6	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.2	1.4	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.2	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.2	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		64	37-129
Nitrobenzene-d5		65	38-127
Terphenyl-d14		86	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-001

Description: MW-22R

Matrix: Aqueous

Date Sampled: 12/18/2008 1425

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2342	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2236	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	11		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.0011 UB		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-002
Description: MW-22D	Matrix: Aqueous
Date Sampled: 12/18/2008 1037	
Date Received: 12/19/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1627	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	ND	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-002

Description: MW-22D

Matrix: Aqueous

Date Sampled: 12/18/2008 1037

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1627	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-002

Description: MW-22D

Matrix: Aqueous

Date Sampled: 12/18/2008 1037

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1938	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.81	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		77	37-129
Nitrobenzene-d5		76	38-127
Terphenyl-d14		28	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

RCRA Metals

Client: ARCADIS	Laboratory ID: JL19027-002
Description: MW-22D	Matrix: Aqueous
Date Sampled: 12/18/2008 1037	
Date Received: 12/19/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2343	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2240	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.021	J	0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0045	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.00065~~ UCB		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and > MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL19027-003

Description: MW-22S

Matrix: Aqueous

Date Sampled: 12/18/2008 1420

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1628	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	ND	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-22S Date Sampled: 12/18/2008 1420 Date Received: 12/19/2008	Laboratory ID: JL19027-003 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1649	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-003

Description: MW-22S

Matrix: Aqueous

Date Sampled: 12/18/2008 1420

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1957	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.81	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		67	37-129
Nitrobenzene-d5		67	38-127
Terphenyl-d14		79	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-003

Description: MW-22S

Matrix: Aqueous

Date Sampled: 12/18/2008 1420

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2344	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2244	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.17		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.00073	J	0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	0.0028	J	0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.00065~~ ^{UB}		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL19027-004

Description: MW-21R

Matrix: Aqueous

Date Sampled: 12/18/2008 0955

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1629	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.0037	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-004

Description: MW-21R

Matrix: Aqueous

Date Sampled: 12/18/2008 0955

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	12/31/2008 0934	DLB		92649

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	0.21	J	1.0	0.13	ug/L	2
Ethylbenzene	100-41-4	8260B	0.55	J	1.0	0.33	ug/L	2
Toluene	108-88-3	8260B	1.7		1.0	0.33	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		113	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-004

Description: MW-21R

Matrix: Aqueous

Date Sampled: 12/18/2008 0955

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 2015	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.2	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.2	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.2	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.2	0.62	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.2	0.52	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.2	0.62	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.2	0.83	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.2	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.2	0.73	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.2	1.4	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.2	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.2	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.2	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.2	1.6	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.2	1.6	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.2	1.4	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.2	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.2	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		74	37-129
Nitrobenzene-d5		73	38-127
Terphenyl-d14		40	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

PCBs by GC

Client: ARCADIS

Laboratory ID: JL19027-004

Description: MW-21R

Matrix: Aqueous

Date Sampled: 12/18/2008 0955

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8082	1	12/28/2008 1607	KLC	12/24/2008 2056	92321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aroclor 1016	12674-11-2	8082	ND		0.26	0.052	ug/L	1
Aroclor 1221	11104-28-2	8082	ND		0.26	0.14	ug/L	1
Aroclor 1232	11141-16-5	8082	ND		0.26	0.21	ug/L	1
Aroclor 1242	53469-21-9	8082	ND		0.26	0.14	ug/L	1
Aroclor 1248	12672-29-6	8082	ND		0.26	0.15	ug/L	1
Aroclor 1254	11097-69-1	8082	ND		0.26	0.11	ug/L	1
Aroclor 1260	11096-82-5	8082	ND		0.26	0.062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Decachlorobiphenyl		58	20-139
Tetrachloro-m-xylene		82	44-127

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-004

Description: MW-21R

Matrix: Aqueous

Date Sampled: 12/18/2008 0955

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2345	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2248	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.20		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	0.0045	J	0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0043	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.0010~~ <i>UB</i>		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS Description: DUP-121808 Date Sampled: 12/18/2008 Date Received: 12/19/2008	Laboratory ID: JL19027-005 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1634	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.0047	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: DUP-121808 Date Sampled: 12/18/2008 Date Received: 12/19/2008	Laboratory ID: JL19027-005 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1735	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	1.7		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-005

Description: DUP-121808

Matrix: Aqueous

Date Sampled: 12/18/2008

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 2112	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.2	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.2	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.2	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.2	0.62	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.2	0.52	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.2	0.62	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.2	0.82	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.2	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.2	0.72	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.2	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.2	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.2	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.2	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.2	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.2	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.2	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.2	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.2	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		66	37-129
Nitrobenzene-d5		66	38-127
Terphenyl-d14		48	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

PCBs by GC

Client: ARCADIS Description: DUP-121808 Date Sampled: 12/18/2008 Date Received: 12/19/2008	Laboratory ID: JL19027-005 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8082	1	12/28/2008 1648	KLC	12/24/2008 2056	92321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aroclor 1016	12674-11-2	8082	ND		0.26	0.052	ug/L	1
Aroclor 1221	11104-28-2	8082	ND		0.26	0.14	ug/L	1
Aroclor 1232	11141-16-5	8082	ND		0.26	0.21	ug/L	1
Aroclor 1242	53469-21-9	8082	ND		0.26	0.14	ug/L	1
Aroclor 1248	12672-29-6	8082	ND		0.26	0.16	ug/L	1
Aroclor 1254	11097-69-1	8082	ND		0.26	0.11	ug/L	1
Aroclor 1260	11096-82-5	8082	ND		0.26	0.062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Decachlorobiphenyl		41	20-139
Tetrachloro-m-xylene		87	44-127

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-005

Description: DUP-121808

Matrix: Aqueous

Date Sampled: 12/18/2008

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2346	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2303	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.19		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	0.0036	J	0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0039	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00094	UB	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS Description: MW-21SR Date Sampled: 12/18/2008 1155 Date Received: 12/19/2008	Laboratory ID: JL19027-006 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1635	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	ND	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-21SR Date Sampled: 12/18/2008 1155 Date Received: 12/19/2008	Laboratory ID: JL19027-006 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1758	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit.

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: **ARCADIS**

Laboratory ID: **JL19027-006**

Description: **MW-21SR**

Matrix: **Aqueous**

Date Sampled: **12/18/2008 1155**

Date Received: **12/19/2008**

Run 1	Prep Method 3520C	Analytical Method 8270C	Dilution 1	Analysis Date 12/31/2008 1056	Analyst GLR	Prep Date 12/24/2008 2056	Batch 92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.61	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.61	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.61	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.71	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		85	37-129
Nitrobenzene-d5		86	38-127
Terphenyl-d14		85	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and > MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-006

Description: MW-21SR

Matrix: Aqueous

Date Sampled: 12/18/2008 1155

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2348	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2315	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.16		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00063 U.B.		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS

Laboratory ID: JL19027-007

Description: MW-21D

Matrix: Aqueous

Date Sampled: 12/18/2008 1006

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1636	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.050	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-007

Description: MW-21D

Matrix: Aqueous

Date Sampled: 12/18/2008 1006

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 1821	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-007

Description: MW-21D

Matrix: Aqueous

Date Sampled: 12/18/2008 1006

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/31/2008 1115	GLR	12/24/2008 2056	92320

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		69	37-129
Nitrobenzene-d5		65	38-127
Terphenyl-d14		87	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-007

Description: MW-21D

Matrix: Aqueous

Date Sampled: 12/18/2008 1006

Date Received: 12/19/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2353	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/22/2008 2323	MNM	12/20/2008 1300	92089

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.94		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.00071	J	0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0022	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	~~0.0016~~ U-B		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL19027-008
Description: Trip Blank	Matrix: Aqueous
Date Sampled: 12/19/2008 0940	
Date Received: 12/19/2008	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 12/29/2008 1844	Analyst DLB	Prep Date	Batch 92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-009

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 12/22/2008 0955

Date Received: 12/22/2008

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 12/29/2008 1908	Analyst DLB	Prep Date	Batch 92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-010
Description: MW-2	Matrix: Aqueous
Date Sampled: 12/19/2008 1030	
Date Received: 12/22/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1637	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.026	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-010

Description: MW-2

Matrix: Aqueous

Date Sampled: 12/19/2008 1030

Date Received: 12/22/2008

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 10	Analysis Date 12/31/2008 1239	Analyst DLB	Prep Date	Batch 92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	1100		10	1.3	ug/L	1
Ethylbenzene	100-41-4	8260B	2000		10	3.3	ug/L	1
Toluene	108-88-3	8260B	660		10	3.3	ug/L	1
Xylenes (total)	1330-20-7	8260B	1800		10	3.3	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-010

Description: MW-2

Matrix: Aqueous

Date Sampled: 12/19/2008 1030

Date Received: 12/22/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	2	12/30/2008 1901	GLR	12/26/2008 1509	92390
2	3520C	8270C	20	12/31/2008 1038	GLR	12/26/2008 1509	92390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	64		11	2.7	ug/L	1
Acenaphthylene	208-96-8	8270C	61		11	2.7	ug/L	1
Anthracene	120-12-7	8270C	5.3	J	11	2.4	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	2.2	J	11	1.3	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		11	1.1	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		11	1.3	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		11	1.8	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		11	2.2	ug/L	1
Chrysene	218-01-9	8270C	ND		11	1.6	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		11	2.9	ug/L	1
Fluoranthene	206-44-0	8270C	ND		11	3.1	ug/L	1
Fluorene	86-73-7	8270C	24		11	3.1	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		11	5.1	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	230		11	3.3	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	220		11	3.3	ug/L	1
Naphthalene	91-20-3	8270C	3400	J	110	29	ug/L	2
Phenanthrene	85-01-8	8270C	27		11	2.7	ug/L	1
Pyrene	129-00-0	8270C	ND		11	6.9	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
2-Fluorobiphenyl		68	37-129	N	0.0	37-129
Nitrobenzene-d5		66	38-127	N	0.0	38-127
Terphenyl-d14		78	10-148	N	0.0	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-010

Description: MW-2

Matrix: Aqueous

Date Sampled: 12/19/2008 1030

Date Received: 12/22/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/22/2008 2355	BNW	12/22/2008 1855	92198
1	3005A	6010B	1	12/24/2008 1618	KJC	12/22/2008 1100	92144

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.018		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	1.6		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.0090		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0040	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00052	UB	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-011
Description: MW-28D	Matrix: Aqueous
Date Sampled: 12/22/2008 1250	
Date Received: 12/23/2008	

Run 1	Prep Method	Analytical Method (Cyanide - To) 9012A	Dilution 5	Analysis Date 12/31/2008 1646	Analyst WD	Prep Date 12/31/2008 1230	Batch 92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.63	J	0.050	0.014	mg/L	1

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-28D Date Sampled: 12/22/2008 1250 Date Received: 12/23/2008	Laboratory ID: JL19027-011 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/31/2008 0912	DLB		92649

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	190		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	310		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	41	J	1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	100	J	1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		81	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-011

Description: MW-28D

Matrix: Aqueous

Date Sampled: 12/22/2008 1250

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1715	DC	12/29/2008 1142	92477

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	15		5.3	1.3	ug/L	1
Acenaphthylene	208-96-8	8270C	10		5.3	1.3	ug/L	1
Anthracene	120-12-7	8270C	ND		5.3	1.2	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.3	0.63	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.3	0.53	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.3	0.63	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	1.2	J	5.3	0.84	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.3	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.3	0.74	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.3	1.4	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.3	1.5	ug/L	1
Fluorene	86-73-7	8270C	3.2	J	5.3	1.5	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.3	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	22		5.3	1.6	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	2.4	J	5.3	1.6	ug/L	1
Naphthalene	91-20-3	8270C	2.2	J	5.3	1.4	ug/L	1
Phenanthrene	85-01-8	8270C	1.7	J	5.3	1.3	ug/L	1
Pyrene	129-00-0	8270C	ND		5.3	3.3	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		67	37-129
Nitrobenzene-d5		65	38-127
Terphenyl-d14		68	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-011

Description: MW-28D

Matrix: Aqueous

Date Sampled: 12/22/2008 1250

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/24/2008 1525	BNW	12/24/2008 1230	92292
1	3005A	6010B	1	12/24/2008 1837	KJC	12/23/2008 1922	92278

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.0077	UB	0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	5.1		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.00080	J	0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0049	UB	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS Description: MW-28S Date Sampled: 12/22/2008 1432 Date Received: 12/23/2008	Laboratory ID: JL19027-012 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	10	12/29/2008 1941	DAS	12/29/2008 1310	92530

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	1.9	J	0.10	0.028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL19027-012
Description: MW-28S	Matrix: Aqueous
Date Sampled: 12/22/2008 1432	
Date Received: 12/23/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	12/31/2008 1323	DLB		92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	1200		10	1.3	ug/L	1
Ethylbenzene	100-41-4	8260B	1900		10	3.3	ug/L	1
Toluene	108-88-3	8260B	1000		10	3.3	ug/L	1
Xylenes (total)	1330-20-7	8260B	1800		10	3.3	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-012

Description: MW-28S

Matrix: Aqueous

Date Sampled: 12/22/2008 1432

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1811	DC	12/29/2008 1142	92477
2	3520C	8270C	5	12/31/2008 1224	DC	12/29/2008 1142	92477
3	3520C	8270C	50	12/31/2008 1243	DC	12/29/2008 1142	92477

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	25		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	260		25	6.0	ug/L	2
Anthracene	120-12-7	8270C	5.6		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	2.8	J	5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	46		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	170		25	7.5	ug/L	2
2-Methylnaphthalene	91-57-6	8270C	230		25	7.5	ug/L	2
Naphthalene	91-20-3	8270C	9700		250	65	ug/L	3
Phenanthrene	85-01-8	8270C	62		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits	Q	Run 3 % Recovery	Acceptance Limits
2-Fluorobiphenyl		75	37-129		63	37-129		85	37-129
Nitrobenzene-d5		76	38-127		63	38-127		68	38-127
Terphenyl-d14		65	10-148		52	10-148		62	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-012

Description: MW-28S

Matrix: Aqueous

Date Sampled: 12/22/2008 1432

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/24/2008 1529	BNW	12/24/2008 1230	92292
1	3005A	6010B	1	12/24/2008 1853	KJC	12/23/2008 1922	92278

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	~~0.0064~~ <i>u-BJ</i>		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.058		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	ND		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	0.0012		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-013

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 12/23/2008 1100

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/31/2008 1301	DLB		92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W".

N = Recovery is out of criteria

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-014
Description: DUP-122208	Matrix: Aqueous
Date Sampled: 12/22/2008 1432	
Date Received: 12/23/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	5	12/31/2008 1649	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.57	J	0.050	0.014	mg/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-014

Description: DUP-122208

Matrix: Aqueous

Date Sampled: 12/22/2008 1432

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/31/2008 1133	DLB		92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	170		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	270		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	38		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	98		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-014

Description: DUP-122208

Matrix: Aqueous

Date Sampled: 12/22/2008 1432

Date Received: 12/23/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1829	DC	12/29/2008 1142	92477

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	13		5.2	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	8.2		5.2	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.2	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.2	0.62	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.2	0.52	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.2	0.62	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.2	0.83	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.2	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.2	0.73	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.2	1.4	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.2	1.4	ug/L	1
Fluorene	86-73-7	8270C	2.7	J	5.2	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.2	2.4	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	18		5.2	1.6	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.2	1.6	ug/L	1
Naphthalene	91-20-3	8270C	1.7	J	5.2	1.4	ug/L	1
Phenanthrene	85-01-8	8270C	1.8	J	5.2	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.2	3.2	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		73	37-129
Nitrobenzene-d5		73	38-127
Terphenyl-d14		78	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS				Laboratory ID: JL19027-014			
Description: DUP-122208				Matrix: Aqueous			
Date Sampled: 12/22/2008 1432							
Date Received: 12/23/2008							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/24/2008 1532	BNW	12/24/2008 1230	92292
1	3005A	6010B	1	12/24/2008 1857	KJC	12/23/2008 1922	92278

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	~~0.0072~~ <i>UB</i>		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	6.5		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	~~0.0021~~ <i>UB</i>		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS	Laboratory ID: JL19027-015
Description: MW-16R	Matrix: Aqueous
Date Sampled: 12/23/2008 1210	
Date Received: 12/24/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1641	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.18	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: MW-16R Date Sampled: 12/23/2008 1210 Date Received: 12/24/2008	Laboratory ID: JL19027-015 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/31/2008 1155	DLB		92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	18		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	3.7		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	0.63	J	1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	2.7		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.
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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-015

Description: MW-16R

Matrix: Aqueous

Date Sampled: 12/23/2008 1210

Date Received: 12/24/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1847	DC	12/29/2008 1142	92477
2	3520C	8270C	5	12/31/2008 1301	DC	12/29/2008 1142	92477

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	24		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	1.3	J	5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	4.7	J	5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	57		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	70		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	560		25	6.5	ug/L	2
Phenanthrene	85-01-8	8270C	2.2	J	5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
2-Fluorobiphenyl		70	37-129		58	37-129
Nitrobenzene-d5		73	38-127		64	38-127
Terphenyl-d14		78	10-148		64	10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-015

Description: MW-16R

Matrix: Aqueous

Date Sampled: 12/23/2008 1210

Date Received: 12/24/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/26/2008 1703	BNW	12/26/2008 1350	92399
1	3005A	6010B	1	12/28/2008 1631	KJC	12/26/2008 1235	92398

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	ND		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	2.0		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	0.0012	J	0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	0.0065		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.017		0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	ND		0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

Inorganic non-metals

Client: ARCADIS Description: MW-16D Date Sampled: 12/23/2008 1100 Date Received: 12/24/2008	Laboratory ID: JL19027-016 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Cyanide - To) 9012A	1	12/31/2008 1645	WD	12/31/2008 1230	92678

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012A	0.10	J	0.010	0.0028	mg/L	1

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL	J = Estimated result < PQL and ≥ MDL	P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"		N = Recovery is out of criteria

Volatile Organic Compounds by GC/MS

Client: ARCADIS

Laboratory ID: JL19027-016

Description: MW-16D

Matrix: Aqueous

Date Sampled: 12/23/2008 1100

Date Received: 12/24/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2008 2213	DLB		92555

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	0.18	J	1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.39	J	1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Semivolatile Organic Compounds by GC/MS

Client: ARCADIS	Laboratory ID: JL19027-016
Description: MW-16D	Matrix: Aqueous
Date Sampled: 12/23/2008 1100	
Date Received: 12/24/2008	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	12/30/2008 1906	DC	12/29/2008 1142	92477

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.0	1.2	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.0	1.2	ug/L	1
Anthracene	120-12-7	8270C	ND		5.0	1.1	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.0	0.60	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.0	0.50	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.0	0.60	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.0	0.80	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.0	1.0	ug/L	1
Chrysene	218-01-9	8270C	ND		5.0	0.70	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.0	1.3	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.0	1.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.0	1.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.0	2.3	ug/L	1
1-Methylnaphthalene	90-12-0	8270C	ND		5.0	1.5	ug/L	1
2-Methylnaphthalene	91-57-6	8270C	ND		5.0	1.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.0	1.3	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.0	1.2	ug/L	1
Pyrene	129-00-0	8270C	ND		5.0	3.1	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
2-Fluorobiphenyl	65		37-129
Nitrobenzene-d5	64		38-127
Terphenyl-d14	75		10-148

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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Level 1 Report v2.1

RCRA Metals

Client: ARCADIS

Laboratory ID: JL19027-016

Description: MW-16D

Matrix: Aqueous

Date Sampled: 12/23/2008 1100

Date Received: 12/24/2008

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	12/26/2008 1704	BNW	12/26/2008 1350	92399
1	3005A	6010B	1	12/28/2008 1655	KJC	12/26/2008 1235	92398

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Arsenic	7440-38-2	6010B	0.013		0.010	0.0040	mg/L	1
Barium	7440-39-3	6010B	0.38		0.025	0.0075	mg/L	1
Cadmium	7440-43-9	6010B	ND		0.0020	0.00060	mg/L	1
Chromium	7440-47-3	6010B	ND		0.0050	0.0021	mg/L	1
Lead	7439-92-1	6010B	0.0046	J	0.010	0.0019	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000053	mg/L	1
Selenium	7782-49-2	6010B	ND		0.010	0.0026	mg/L	1
Silver	7440-22-4	6010B	0.00068	J	0.0050	0.00040	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: ARCADIS Description: Trip Blank Date Sampled: 12/24/2008 1015 Date Received: 12/24/2008	Laboratory ID: JL19027-017 Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/31/2008 1217	DLB		92677

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria



106 Vantage Point Drive
West Columbia, South Carolina 29172

Number 86470

Client ARCADIS		Report to Contact Lucas Jeffs		Telephone No. / Fax No. / E-mail 518.860.2963 Lucas.jeffs@arcadis-usa.com		Quote No. 11795																						
Address 6723 Tow Path Rd		Sampler's Signature 		Waybill No. FedEx # 8639 2625 3375		Page 1 of 1																						
City Syracuse	State NY	Zip Code 13214	Printed Name Elliot Baird		Analysis (Attach list if more space is needed.)																							
Project Name National Grid - North Albany		Project No. B0036648.06		P.O. No.		Lot No. JL19027																						
Sample ID / Description (Containers for each sample may be combined on one line.)		Date	Time	G-Grab C-Composite	Matrix	No. of Containers by Preservative Type																						
				Aqueous	Solid	Non-Aqueous	Unpres.	H2SO4	HNO3	HCl	NaOH	5035 K1	BIEX		PAHs		PCRA & metals		Cyanide		MS		MSD		PLB		Remarks / Cooler I.D.	
MW-22R		12/18/08	14:25	G	X			2	1	3	1			X	X	X	X											
MW-22D			10:37	G	X			2	1	3	1			X	X	X	X											
MW-22S			14:20	G	X			2	1	3	1			X	X	X	X											
MW-21R			0955	G	X			6	3	9	3			X	X	X	X	X	X	X								
DUP-121808				G	X			2	1	3	1			X	X	X	X						X					
MW-21SR			1155	G	X			2	1	3	1			X	X	X	X											
MW-21D			1006	G	X			2	1	3	1			X	X	X	X											
Trip Blank					X									X														
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown				Sample Disposal ☐ Return to Client ☒ Disposal by Lab				Note: All samples are retained for six weeks from receipt unless other arrangements are made.																				
Turn Around Time Required (Prior lab approval required for expedited TAT.) ☐ Standard ☐ Rush (Specify)				OC Requirements (Specify) NYS Category B																								
1. Relinquished by Elliot Baird		Date 12/18/08	Time 17:00	1. Received by		Date	Time																					
2. Relinquished by		Date	Time	2. Received by		Date	Time																					
3. Relinquished by FedEx		Date 12/19/08	Time 0940	3. Laboratory received by 		Date 12-19-08	Time 0940																					
Comments				LAB USE ONLY Received on ice (Circle) Yes ☐ No ☒ Ice Pack								Receipt Temp. 4.0 °C 2.4 °F																

BUTIC [REDACTED] WHITE & [REDACTED] OW-F [REDACTED] labor [REDACTED] th Sal [REDACTED] PINK [REDACTED] client C



106 Vantage Point Drive

West Columbia, South Carolina 29172

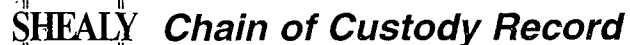
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 86471

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DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

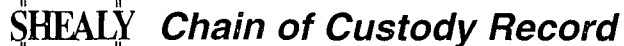
Document Number: F-AD-012 Effective Date: 08-04-02



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West Columbia, South Carolina 29172

Number 86472

Client ARCADIS			Report to Contact Lucas Jeffs										Telephone No. / Fax No. / E-mail 518.860.2963 lucas.jeffs@arcadis-us.com										Quote No.			
Address 6223 Tow Path Rd			Sampler's Signature [Signature]										Waybill No.										Page 1 of 1			
City Syracuse		State NY	Zip Code 13214		Printed Name Elliot J. Baird										Analysis (Attach list if more space is needed.)											
Project Name National Grid - North Albany			Project No. B0036648.06		P.O. No.		G-Grab C-Composite		Matrix			No. of Containers by Preservative Type					Lot No. JL19027									
Sample ID / Description (Containers for each sample may be combined on one line.)			Date		Time		Aqueous		Solid		Non-Aqueous		Unpres.		H2SO4											
MW-28D			12/22/08		12:50		6		X				6		3		9		3						X X X X X X	
MW-28S			12/22/08		14:32		6		X				2		1		3		1						X X X X	
Trip Blank																										
DUP-122208			12/22/08				6		X				2		1		3		1						X X X X	



106 Vantage Point Drive

West Columbia, South Carolina 29172

Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 86473

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DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

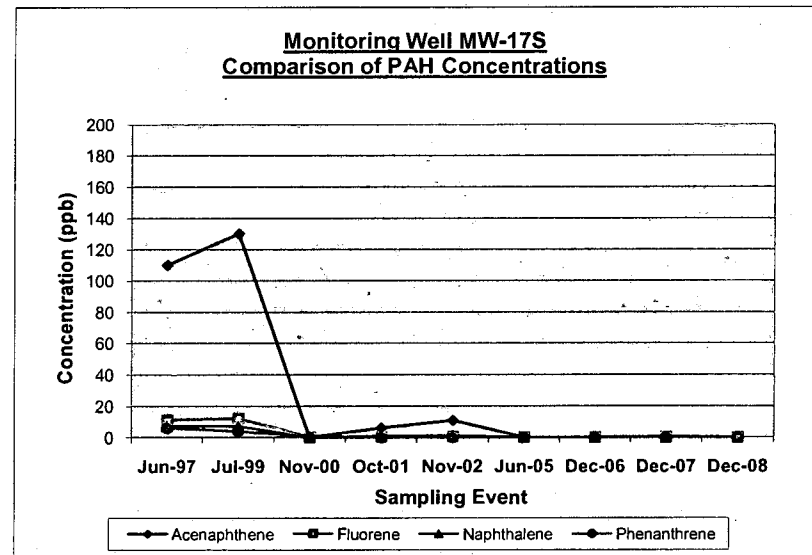
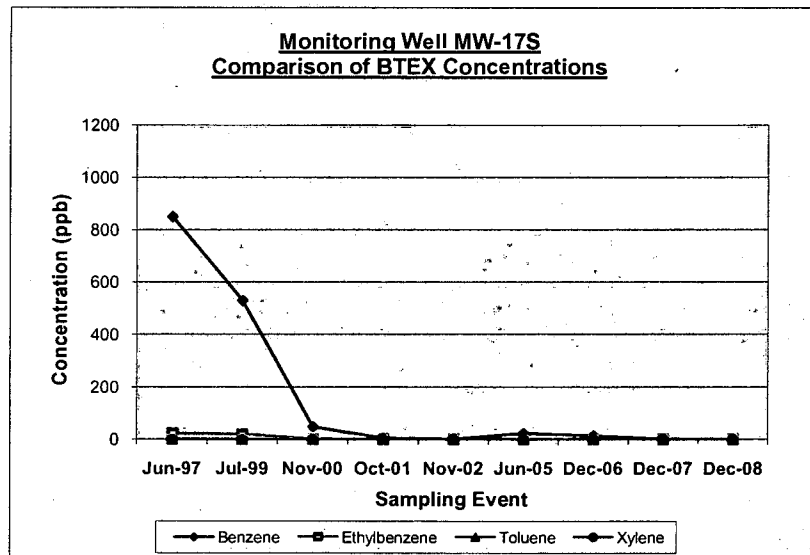
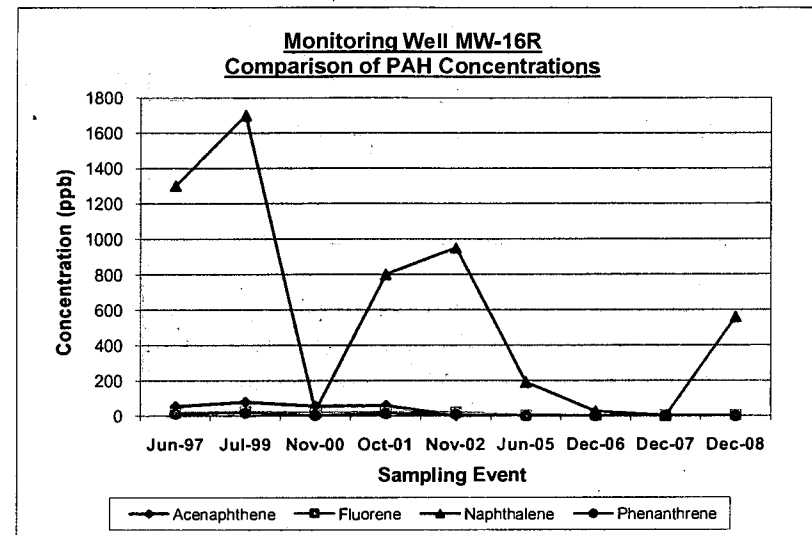
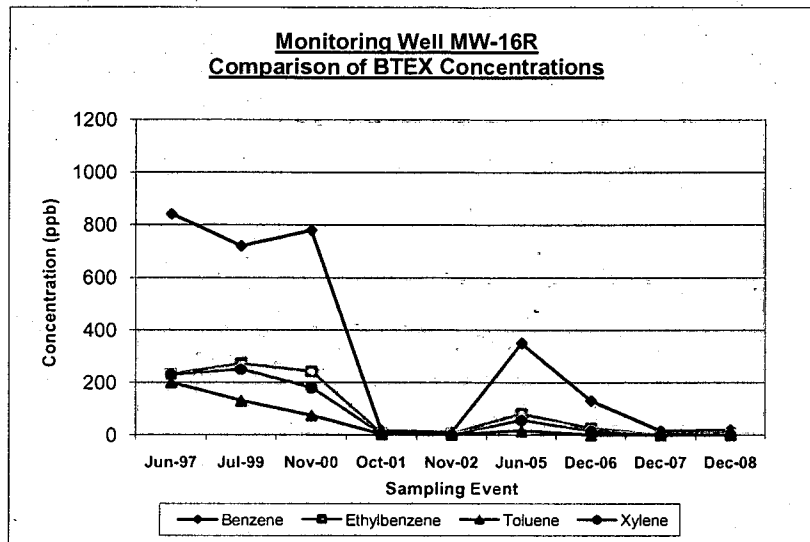
ARCADIS

Attachment C

Offsite Groundwater Quality
Comparison Graphs

National Grid
North Albany Service Center
Albany, New York
2008 Groundwater Sampling Activities

Comparison of Historical Groundwater Analytical Results for Select Offsite Monitoring Wells



ARCADIS

Attachment D

NAPL Monitoring Logs

**NIAGARA MOHAWK, A NATIONAL GRID COMPANY
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK**

Weather:

3/12/2008
Cloudy, 41°F

Company:

Jon Sarone
ARCADIS

[illegible]

All LNAPL was removed by using a sorbent sock

★★ - Trace of CNAPL observed on probe w/ no measurable thickness.

MONITORING WELL - DNAPL DATA COLLECTION FORM

**NIAGARA MOHAWK, A NATIONAL GRID COMPANY
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK**

Date: 3/12/2008
Weather: Cloudy, 41°F

Personnel: Jon Saroney
Company: ARCADIS

Date	Time	Well ID	Well Diameter (inches)	Depth to Water (feet)	Depth to DNAPL (feet)	Total Depth of Well (feet)	DNAPL Thickness in Well Before Bailing (feet)	DNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total DNAPL Thickness Removed, as Measured in Bailer (feet)	Amount of DNAPL Bailed (gallons)	Description of DNAPL
3/12/08		16D	2"	9.48	—	19.91	—	—	—	—	—	
		16R	1	8.97	—	37.56	—	—	—	—	—	
		19D		7.88	—	24.63	—	—	—	—	—	
		17D		11.98	—	18.54	—	—	—	—	—	
		28D		8.39	—	21.64	—	—	—	—	—	
		MW-7		2.23	SCREEN BROKEN - NOT ABLE TO MEASURE							SCREEN BROKEN AT 3.91'
		MW-14		9.82	★★	21.21	★★	★★	—	trace	trace	Trace thick DNAPL
		13		4.76	—	17.68	—	—	—	—	—	Grease on probe
		5R		4.00	★★	22.85	★★	★★	—	trace	trace	Trace thick DNAPL, blebs on probe
		27D		8.31	—	24.54	—	—	—	—	—	
✓		2	✓	7.91	★★	23.43	★★	★★	—	trace	trace	

COMMENTS: MW-26D covered by large snowbank
★★ - trace DNAPL present on probe w/ no measurable thickness
MW-7 screen is broken - probe will not fit past 3.91'

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: June 10, 2008
Weather: _____

Personnel: Coley Campbell/ Luke Jeffs
Company: ARCADIS

Date	Time	Well ID	Well Diameter (inches)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness in Well Before Bailing (feet)	LNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total LNAPL Thickness Removed, as Measured in Bailer (feet)	Amount of LNAPL Bailed (gallons)	Description of LNAPL
Onsite Monitoring Wells											
		MW-2	-	-	-	-	-	-	-	-	Unable to locate
		MW-4	2	2.58	2.61	2.58	0	-	0.03	0.005	14.45 DTB Soft Bottom
		MW-8	-	-	-	-	-	-	-	-	Covered by large metal bin
		MW-10	-	-	-	-	-	-	-	-	Unable to locate
		MW-13		*** Trace	4.45	—	—	—	Trace	Trace	17.70 DTB Hard Bottom
		MW-26S		—	4.1	—	—	—	—	—	8.24 DTB Hard Bottom
		MW-27S		—	5.59	—	—	—	—	—	9.43 DTB Peto-like odor
		MW-28S		—	2.97	—	—	—	—	—	8.35 DTB
Offsite Monitoring Wells											
		MW-15S		—	4.62	—	—	—	—	—	13.51 DTB Hard Bottom
		MW-17S		—	11.29	—	—	—	—	—	16.71 DTB Hard Bottom
		MW-18S	-	-	-	-	-	-	-	-	Destroyed
		MW-23S	-	-	-	-	-	-	-	-	Destroyed
		MW-24S		—	8.4	—	—	—	—	—	17.89 DTB Soft Bottom
		MW-25S		—	6	—	—	—	—	—	15.63

COMMENTS: *** Trace LNAPL observed on probe with no measurable thickness

MONITORING WELL - DNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: June 10, 2005
Weather: _____

Personnel: Coley Campbell/ Lucas Jeffs
Company: ARCADIS

Date	Time	Well ID	Well Diameter (inches)	Depth to Water (feet)	Depth to DNAPL (feet)	Total Depth of Well (feet)	DNAPL Thickness in Well Before Bailing (feet)	DNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total DNAPL Thickness Removed as Measured in Bailer (feet)	Amount of DNAPL Bailed (gallons)	Description of DNAPL
Onsite Monitoring Wells												
		MW-2	-	-	-	-	-	-	-	-	-	Unable to locate
		MW-5R		4.55	22.76	22.77	-	-	-	0.01	0.002	Trace DNAPL blebs on tape
		MW-6A		9.07	-	16.04	-	-	-	-	-	Soft Bottom
		MW-6S		0.72	-	5.41	-	-	-	-	-	Soft Bottom may be broken
		MW-7		2.39	-	4.25	-	-	-	-	-	Well may be broken or filled in
		MW-13		4.45	Trace	17.7	-	-	-	trace	trace	Trace grease on probe
		MW-14		10.9	Trace	20.95	-	-	-	trace	trace	Trace DNAPL on probe
		MW-26D		5.34	-	19	-	-	-	-	-	
		MW-27D		8.51	Trace	24.45	-	-	-	trace	trace	Trace DNAPL on probe
		MW-28D		8.35	-	21.69	-	-	-	-	-	Petro-like odor
Offsite Monitoring Wells												
		MW-16D		9.34	-	19.85	-	-	-	-	-	Hard Bottom
		MW-16R		8.91	-	37.35	-	-	-	-	-	Soft Bottom
		MW-17D		11.66	-	18.4	-	-	-	-	-	Maybe broken
		MW-19D		7.76	-	24.65	-	-	-	-	-	Soft Bottom

COMMENTS:

~~Trace~~ - Trace DNAPL observed on probe/tape w/ no measurable thickness

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date: 9/17/08
Weather: SUNNY 70's

Personnel: L. CAMPBELL / A. BAIRD
Company: ARCADIS

Date	Time	Well ID	Well Diameter (inches)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness in Well Before Bailing (feet)	LNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total LNAPL Thickness Removed, as Measured in Bailer (feet)	Amount of LNAPL Bailed (gallons)	Description of LNAPL
Onsite Monitoring Wells											
		MW-2	—	—	—	—	—	—	—	—	—
		MW-4	2"	XX —	2.69	—	—	—	trace	trace	14.55 SOFT
		MW-8	—	—	—	—	—	—	—	—	BURIED UNDER BIN
		MW-10	2"	—	9.58	—	—	—	—	—	20.70 BOTTOM H
		MW-13	2"	—	2.26	—	—	—	—	—	8.37 SOFT
		MW-26S	4.16	—	—	—	—	—	—	—	8.24 FIRM
		MW-27S	2"	—	5.57	—	—	—	—	—	9.40 HARD
		MW-28S	2"	—	2.76	—	—	—	—	—	8.37 SOFT
Offsite Monitoring Wells											
		MW-15S	2"	—	1.70	—	—	—	—	—	24.68 SOFT BOTTOM
		MW-17S	2"	—	11.4	—	—	—	—	—	16.72 BOTTOM
		MW-18S	—	—	—	—	—	—	—	—	Destroyed
		MW-23S	—	—	—	—	—	—	—	—	Destroyed
		MW-24S	2"	—	5.69	—	—	—	—	—	15.68 SOFT BOTTOM
		MW-25S	2"	—	8.49	—	—	—	—	—	17.95 SOFT BOTTOM

COMMENTS: 42' OFF OF THE BUILDING / 54' OFF OF THE FENCE
MW-4 LNAPL BLEBS ON PROBE
XX Trace of LNAPL observed on probe/tape with no measurable thickness

MONITORING WELL - LNAPL DATA COLLECTION FORM

NIAGARA MOHAWK, A NATIONAL GRID COMPANY
 NORTH ALBANY SERVICE CENTER
 ALBANY, NEW YORK

Date: 12/15/08
 Weather: Cloudy, 50°F

Personnel: Luke Jeffers / Elliot Baird
 Company: ARCHDIS

Date	Time	Well ID	Well Diameter (inches)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness in Well Before Bailing (feet)	LNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total LNAPL Thickness Removed, as Measured in Bailer (feet)	Amount of LNAPL Bailed (gallons)	Description of LNAPL
		MW-2	2	—	7.70	—	—	—	—	—	
		MW-4	2	—	3.12	—	—	—	Trace	Trace	Yellow LNAPL blobs, Pet.-like odor
		MW-8	2	—	5.18	—	—	—	—	—	
		MW-10	2	—	9.13	—	—	—	—	—	
		MW-13	2	—	4.45	—	—	—	—	—	odor
		MW-26S	2	—	3.89	—	—	—	—	—	
		MW-27S	2	—	5.45	—	—	—	—	—	
		MW-28S	2	—	2.59	—	—	—	—	—	odor
		MW-15S	2	—	5.45	—	—	—	—	—	
		MW-17S	2	—	10.32	—	—	—	—	—	
		MW-24S	2	—	7.40	—	—	—	—	—	
		MW-25S	2	—	5.73	—	—	—	—	—	

COMMENTS: — Trace of LNAPL observed on probe w/ no measurable thickness.

MONITORING WELL - DNAPL DATA COLLECTION FORM

NIAGARA MOHAWK, A NATIONAL GRID COMPANY
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date: 12/15/08
Weather: Cloudy, 50°F

Personnel: Luke Jeffers / Elliot Baird
Company: ARCADIS

Date	Time	Well ID	Well Diameter (inches)	Depth to Water (feet)	Depth to DNAPL (feet)	Total Depth of Well (feet)	DNAPL Thickness in Well Before Bailing (feet)	DNAPL Thickness in Well After Bailing (feet)	Inner Diameter of Bailer (inches)	Total DNAPL Thickness Removed, as Measured in Bailer (feet)	Amount of DNAPL Bailed (gallons)	Description of DNAPL
		MW-2	2	7.70	-	23.42	-	-	-	-	-	Strong odor
		MW-5R	2	4.51	-**	22.75	-	-	-	trace	trace	DNAPL blebs on tape and probe, odor
		MW-6A	2	8.36	-	16.13	-	-	-	-	-	
		MW-6S	2	1.65	-**	5.47	-	-	-	trace	trace	DNAPL blebs on tape, odor
		MW-7	2	2.51	-	4.31	Note: well appears to be destroyed					* Well appears to be caved in due to broken depth. *
		MW-13	2	4.45	-**	17.63	-	-	-	-	-	odor
		MW-14	2	10.06	-**	21.20	-	-	-	trace	trace	DNAPL blebs on tape.
		MW-26D	2	5.45	-	19.00	-	-	-	-	-	
		MW-27D	2	7.97	-	24.45	-	-	-	-	-	
		MW-28D	2	7.95	-	21.65	-	-	-	-	-	
		MW-16D	2	8.74	-	19.86	-	-	-	-	-	
		MW-16R	2	8.29	-	37.36	-	-	-	-	-	
		MW-19D	2	7.17	-	24.66	-	-	-	-	-	

COMMENTS: ** - Trace of DNAPL observed on probe/tape with no measurable thickness
