

Report. 401040. 2012-12-03.

GW - NAPL - Recovery

nationalgrid

Transmitted Via Express Mail

December 3, 2012

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RECEIVED
DEC 04 2012
Remedial Bureau C
Div of Environmental Remediation

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

Dear Mr. MacNeal:

This letter presents the results of groundwater monitoring activities conducted during December 2011 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 2011 and December 2011. 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 approved 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 2011. 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 12, 2011. 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 2011 groundwater elevation measurements is included as Figure 2.

Groundwater Sampling

Groundwater sampling was conducted between December 13, 2011 and December 15, 2011 and included the collection of groundwater samples from 21 existing groundwater monitoring wells in the vicinity of the site. A summary of groundwater samples submitted for laboratory analysis is presented in Table 2. Groundwater samples were not collected from monitoring wells where NAPL was encountered (including monitoring wells MW-6S and MW-14) or from monitoring wells which were destroyed, damaged, or inaccessible (including monitoring wells MW-7, MW-10, MW-12, MW-17D, MW-18S, and MW-23S). In addition, National Grid was unable to coordinate access to the rail yard located east of Erie Boulevard for the 2011 groundwater sampling activities. As a result, groundwater samples were not collected from downgradient wells MW-21D, MW-21R, MW-21SR, MW-22S, MW-22D, and MW-22R.

Low-flow sampling techniques were used to purge groundwater from each monitoring well prior to collecting groundwater samples. Field parameters (consisting of temperature, pH, conductivity, dissolved oxygen, turbidity and oxidation reduction potential [ORP]) 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 Accutest Laboratories, Inc. (Accutest) located in Marlborough, Massachusetts 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. Analytical methods utilized for analysis of the groundwater samples are summarized below.

Parameter	Analytical Method
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

Groundwater samples collected from monitoring well MW-21R for previous groundwater monitoring events were analyzed for polychlorinated biphenyls. However, as discussed above, MW-21R was not accessible for the 2011 groundwater monitoring event.

Quality assurance/quality control (QA/QC) samples, including blind duplicate (collected from monitoring wells MW-15S and MW-27D), 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 to Accutest 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.

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 2011 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 for the December 2011 groundwater elevations is presented on Figure 2.

Groundwater level measurements were obtained from the offsite bedrock well MW-16R during the December 2011 monitoring event; however, the offsite bedrock wells MW-21R and MW-22R were inaccessible during the event. The flow direction for groundwater within shallow bedrock beneath was not confirmed during the 2011 monitoring event, however, the flow has been in a general southeast direction during previous monitoring events.

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 (0.008 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 1.8 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 2011 monitoring event are summarized below. The discussion below includes a comparison of the analytical results 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 2011 annual groundwater monitoring event are included in Attachment B.

BTEX

Analytical results obtained for the laboratory analysis of the groundwater samples for BTEX are presented in Table 4 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	12	2.8 – 2900	MW-2
Ethylbenzene	5	10	2.1 – 2,900	MW-2
Toluene	5	8	1.8 – 1,200	MW-2
Total Xylenes	5 X	11	1.8 – 2,700	MW-2
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				

BTEX compounds were detected in groundwater samples collected from 12 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-2. None of the groundwater samples collected from the farthest downgradient monitoring wells (including locations MW-15S, MW-24S, and MW-25S) contained BTEX at detectible concentrations.

PAHs

Analytical results obtained for the laboratory analysis of the groundwater samples for PAHs are presented in Table 5 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	7	7.3 – 320 EJ	MW-28S
Acenaphthene	20 G	11	13 – 140	MW-27D
Acenaphthylene	NA	3	34 – 210 EJ	MW-2
Anthracene	50 G	2	8.3 – 9.3	MW-27D
Benzo(a)anthracene	0.002 G	0	--	--
Benzo(a)pyrene	NA	0	--	--
Benzo(b)fluoranthene	0.002 G	0	--	--
Benzo(g,h,i)perylene	NA	0	--	--
Benzo(k)fluoranthene	0.002 G	0	--	--
Chrysene	0.002 G	0	--	--
Dibenz(a,h)anthracene	NA	0	--	--
Fluoranthene	50 G	5	5.4 – 11	MW-27D
Fluorene	50 G	5	32 – 56	MW-26D
Indeno(1,2,3-cd)pyrene	0.002 G	0	--	--
Naphthalene	10 G	9	30 – 8,700 D	MW-28S
Phenanthrene	50 G	5	25 – 65	MW-26D
Pyrene	50 G	2	7.9 – 10	MW-27D
Notes: 1. Concentrations presented in micrograms per liter (ug/L) or parts per billion (ppb). 2. J – Estimated value. 3. E – The compound was quantitated above the calibration range. 4. D – Indicates that the concentration is based on a diluted sample analysis. 5. G – Guidance Value. 6. NA – Indicates that a NYSDEC Groundwater Standard/Guidance Value is not available for the indicated parameter. 7. NYSDEC Class GA groundwater standards and guidance values from TOGS, 1.1.1 (NYSDEC, June 1998). 8. * – Sample quantities do not include duplicate samples.				

PAHs were detected in groundwater samples collected from 10 of the onsite 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.

PAHs 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, 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 6 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	10	4.8 – 19.9	MW-27D
Barium	1000	21	67 – 3,850	MW-28D
Cadmium	5	0	--	--
Chromium	50	0	--	--
Cyanide	200	18	17 – 3,200	MW-4
Lead	25	1	5.5	MW-5R
Mercury	0.7	1	1.5	MW-28S
Selenium	10	0	--	--
Silver	50	0	--	--

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, cyanide, and mercury were detected at concentrations exceeding the NYSDEC Class GA groundwater quality standards/guidance values presented in TOGS 1.1.1. Concentrations of RCRA metals and cyanide detected in groundwater samples collected during the December 2011 annual groundwater monitoring event were generally consistent with the results for previous sampling events.

Comparison of Groundwater Analytical Results with Previous Sampling Events

The analytical results for groundwater samples collected as part of the December 2011 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 2011 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 2011 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 2011 monitoring event and

previous sampling events is presented in Table 7. Although MW-14 was not sampled in December 2011 due to the presence of NAPL, it has been included in previous comparisons and is included on Table 7.

As shown in Table 7, analytical results for the December 2011 groundwater monitoring event indicate an increase in BTEX concentrations at monitoring wells MW-27S and MW-28S. Benzene concentrations increased at monitoring wells MW-26D and MW-27D, while ethylbenzene, toluene, and xylene concentrations decreased or remained the same. Benzene and ethylbenzene concentrations increased at monitoring well MW-28D, while toluene and xylene concentrations decreased. BTEX compounds were not detected at MW-26S for the third consecutive year. Analytical results for the December 2011 groundwater monitoring event indicate a decrease in PAH concentrations at monitoring wells MW-27S and MW-28D as compared to the previous groundwater monitoring events. PAH concentrations increased at monitoring wells MW-26D, MW-27D, and MW-28S. PAHs were not detected at monitoring well MW-26S during the December 2011 monitoring event which is generally consistent with the results for previous groundwater monitoring events.

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 2011 monitoring event and previous sampling events is presented in Table 8. In addition, a graphical comparison of the historical and current analytical results is included in Attachment C.

As summarized in Table 8 and shown in Attachment C, analytical results for the December 2011 groundwater monitoring event indicate a general reduction in BTEX concentrations for monitoring well MW-16R as compared to previous groundwater monitoring events. Acenaphthene and Naphthalene concentrations increased at monitoring well MW-16R while PAH concentrations indicate a general reduction for other compounds. BTEX and PAH compounds were not detected at MW-17S during the 2011 groundwater monitoring event which is consistent with 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 2011, June 2011, September 2011 and December 2011. 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-4, MW-8, 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-2, MW-5R, MW-6S, MW-7, and MW-14 where DNAPL has been observed during previous monitoring events.
- Monitoring wells MW-6A, 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 2011 through December 2011 monitoring events (including NAPL thicknesses measured for previous monitoring events) is presented in Table 9.

NAPL Recovery Activities

NAPL recovery efforts 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 10. 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 10. 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 2011 and December 2011 are presented in Tables 9, 10, and 11. 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 2011 and December 2011, trace amounts of LNAPL was detected within monitoring well MW-14. Observed LNAPL thicknesses and recovery results are summarized in Table 9 and 10.

Quarterly DNAPL Monitoring and Recovery Results

During the quarterly NAPL monitoring and recovery activities conducted between February 2010 and December 2010, trace amounts of DNAPL was detected within monitoring well MW-6S. Observed DNAPL thicknesses and recovery results are summarized in Tables 9 and 11.

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 9 and 11) 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 2011 groundwater monitoring event and the 2011 quarterly NAPL monitoring/recovery activities is presented below.

- Select BTEX compounds were detected in groundwater samples collected from onsite monitoring wells MW-2, MW-4, MW-5R, MW-6A, MW-8, MW-13, MW-26D, MW-27D, MW-27S, MW-28D and MW-28S 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-4, MW-5R, MW-6A, MW-13, MW-26D, MW-27D, MW-28D and MW-28S at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values. The analytical results for the December 2011 groundwater monitoring event indicate an increase in BTEX concentrations at monitoring wells MW-27S and MW-28S. Benzene concentrations increased at monitoring wells MW-26D and MW-27D, while ethylbenzene, toluene, and xylene concentrations decreased or remained the same. Benzene and ethylbenzene concentrations increased at monitoring well MW-28D, while toluene and xylene concentrations decreased. BTEX compounds were not detected at MW-26S for the third consecutive year. Analytical results for the December 2011 groundwater monitoring event indicate decrease in PAH concentrations at monitoring wells MW-27S and MW-28D as compared to the previous groundwater monitoring events. PAH concentrations increased at monitoring wells MW-26D, MW-27D, and MW-28S. PAH were not detected at monitoring well MW-26S during the December 2011 monitoring event which is generally consistent with the results for previous groundwater monitoring events.
- The analytical results for the December 2011 groundwater monitoring event indicate a general reduction in BTEX concentrations for offsite monitoring well MW-16R as compared to previous groundwater monitoring events. Acenaphthene and Naphthalene concentrations increased at monitoring well MW-16R while PAH concentrations indicate a general reduction for other compounds. BTEX and PAH compounds were not detected at MW-17S during the 2011 groundwater monitoring event which is consistent with 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-24S, and MW-25S) contained BTEX or PAHs at concentrations exceeding the NYSDEC Class GA groundwater standards and/or guidance values. Monitoring wells MW-21D, MW-21R, MW-21SR, MW-22S, MW-22D, MW-22R were not accessible during the 2011 groundwater monitoring event.
- Concentrations of metals and cyanide detected in groundwater samples collected during the December 2011 annual groundwater monitoring event were generally consistent with the concentrations detected in groundwater samples collected during previous sampling events.
- Trace amounts of LNAPL were detected in monitoring well MW-14 during the quarterly NAPL monitoring and recovery events conducted between March 2011 and December 2011. 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. From March 2003 through December 2011, approximately 0.13 gallons of LNAPL has been recovered from onsite monitoring wells and containerized for offsite treatment/disposal in accordance with applicable regulations.

Mr. Douglas K. MacNeal, P.E.

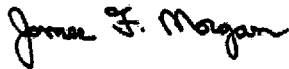
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- Trace amounts of DNAPL were detected in monitoring well MW-6S during the quarterly NAPL monitoring/recovery events conducted between March 2011 and December 2011. The monitoring well locations where DNAPL was detected remained generally consistent 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 has continued to implement quarterly NAPL monitoring and recovery activities during 2012. In addition, National Grid plans to conduct field sampling for the 2012 annual groundwater monitoring event during December 2012. 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. Brian Stearns, P.E., National Grid (w/o attachment)
Mr. Terry W. Young, P.E., ARCADIS. (w/o attachment)
Mr. Michael C. Jones, ARCADIS

Tables

Table 1
National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Groundwater Elevations (ft)

Well ID	Top of Casing Elevation	Groundwater Elevations																																					
		09/27/96	06/29/97	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	11/6/00	2/21/01	2/21/01	10/24/01	11/2002	6/21/05	12/5/06	12/17/07	12/15/08	3/5/09	5/22/09	9/29/09	11/10/09	2/3/10	6/30/10	9/10/10	12/13/10	3/10/11	6/23/11	9/28/11	12/12/11		
MW-01	22.93	14.62	14.61	14.65	NM	NM	NM	NM	NM	14.54	NM	NM	14.42	8.52	14.41	NM	NM	NM	NM	14.00	14.09	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	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	7.9	18.61	NA	NM	18.02	17.98	18.62	18.28	18.45	18.81	18.56	18.33	18.45	18.58	18.58	18.28	NM	18.43	19.36	18.69	18.68	18.67		
MW-03	21.77	15.06	NM	14.94	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	15.32	7.07	14.7	NM	NM	14.28	15.08	NM	15.17	15.45	16.10	NM	NM	NM	15.04	NM	NM	NM	16.62	NM	NM	NM	15.94		
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	3.77	15.75	3.93	15.59	15.31	15.63	16.24	16.25	16.97	16.40	16.44	16.29	16.16	16.07	16.32	16.42	15.50	16.71	16.49	16.55	16.49	16.71		
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	4.87	15.38	4.88	15.37	14.95	15.36	NM	15.36	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
MW-05R	20.37	NI	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	15.78	15.52	15.76	15.38	15.41	15.62	13.80	16.02	13.35	13.41	15.97	15.66			
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	9.77	6.22	9.43	6.56	NM	5.95	3.99	NM	6.85	7.63	6.67	6.82	13.19	6.67	5.10	4.05	4.06	3.99	NM	5.00	4.01	5.08		
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	2.31	13.79	1.65	14.45	13.9 ^(a)	15.20	13.96	NM	15.15	14.45	14.45	14.51	14.35	14.20	14.49	14.20	13.44	NM	NM	14.45	14.38	14.46		
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	3.35	14.49	2.97	14.87	14.14	14.69	14.73	14.61	NM	15.33	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾	Destroyed ⁽¹⁾			
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	8.95	10.27	7.6	11.62	10.45	14.14	12.83	13.77	13.55	14.04	13.13	13.26	13.89	13.00	13.05	13.10	10.88	14.52	14.39	14.08	14.20	14.09		
MW-09	21.24	9.09	9.02	9.03	NM	NM	NM	NM	NM	9.61	NM	NM	NM	NM	9.06	12.51	8.73	NM	NM	8.66	8.88	8.99	NM	9.01	9.52	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		
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	11.89	5.56	11.64	5.81	5.25	6.22	6.47	7.58	7.34	8.32	6.65	6.35	6.20	6.96	6.69	6.93	5.20	8.17	NM	NM	NM	NM		
MW-11	20.97	5.24	5.49	5.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	4.89	16.67	4.3	NM	NM	3.82	5.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	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	14.67	5.6	NM	NM	5.19	5.83	Destroyed ⁽²⁾	Destroyed ⁽²⁾	Destroyed ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽²⁾	NM ⁽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	5.57	16.41	5.255	16.73	15.90	16.72	16.86	16.68	17.20	17.53	17.35	17.18	17.05	16.83	17.01	17.08	15.93	17.34	17.98	17.78	17.52	17.36		
MW-14	17.63	6.59	6.70	6.48	NM	NM	NM	NM	NM	6.72	NM	NM	NM	NM	6.50	11.55	6.08	11.27	6.36	5.85	6.09	6.53	6.71	NM	7.57	6.69	6.43	6.40	6.49	6.63	6.72	6.37	NM	NM	10.73	10.78	9.84		
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	6.07	10.59	5.46	11.20	9.96	11.09	10.59	11.11	11.09	11.21	11.06	11.03	9.83	11.17	13.66	11.54	11.01	11.95	12.53	12.16	11.84	11.91		
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	10.1	5.71	9.72	6.09	5.50	5.96	6.10	6.39	6.31	7.07	6.21	6.09	5.96	6.08	6.25	5.98	5.43	6.81	8.68	7.51	7.39	7.02		
MW-16R	16.15	NI	7.87	3.75	NM	NM	NM	NM	NM	7.53	NM	NM	7.05	NM	7.27	9.45	6.7	9.2	6.95	6.34	6.71	6.78	7.12	7.07	7.86	7.09	6.88	6.84	6.93	7.08	6.85	6.25	7.69	9.35	8.63	8.18	7.80		
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	11.99	4.77	11.61	5.15	4.58	4.98	4.86	5.17	5.08	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	Destroyed ⁽³⁾	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	11.69	4.73	11.31	5.11	4.55	4.92	4.91	5.20	5.10	6.10	5.07	4.92	4.81	4.93	5.11	4.84	4.34	5.65	7.59	6.15	6.06	5.82		
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	11.48	5.06	10.59	5.95	4.83	5.30	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾	Destroyed ⁽⁴⁾		
MW-19D	17.00	NI	8.90	8.69	NM	NM	NM	NM	NM	9.27	NM	NM	NM	NM	8.85	8.55	8.45	NM	NM	8.05	8.98	8.89	9.09	8.99	9.83	9.05	8.96	9.03	8.88	9.06	8.85	7.97	9.76	10.65	9.89	9.65	9.60		
MW-20D	31.32	NI	24.18	24.17	NM	NM	NM	NM	NM	24.22	NM	NM	NM	NM	24.10	7.02	24.3	NM	NM	23.88	23.97	24.27	24.40	24.49	NM	NM	NM	NM	NM	NM	NM	24.57	NM	NM	NM	NM	24.94		
MW-21D	15.67	NI	2.87	2.49	NM	NM	NM	NM	NM	3.13	3.12	NM	NM	NM	1.94	13.84	1.83	NM	NM	1.42	1.97	2.73	3.15	2.25	4.42	NM	NM	NM	NM	NM	NM	3.57	NM	NM	NM	NM			
MW-21R	15.68	NI	2.66	-9.45	NM	NM	NM	NM	NM	3.12	3.06	NM	NM	NM	2.48	13.79	1.89	13.34	2.34	1.47	2.05	2.76	3.26	2.24	4.40	NM	NM	NM	NM	NM	2.74	NM	NM	NM	NM	NM	NM		
MW-21S(R)	15.40	NI	3.14	2.84	NM	NM	NM	1.35	NM	3.78	3.85	NM	NM	NM	2.02	Destroyed ⁽⁵⁾	NM	NM	NM	1.52	2.01	NM	NM	NM	NM	5.62	NM	NM	NM	NM	2.87	NM	NM	NM	NM	NM	NM	NM	
MW-22D	15.45	NI	3.10	2.85	NM	NM	NM	NM	NM	NM	2.54	NM	NM	NM	2.04	13.45	2.0	NM	NM	1.52	2.14	2.88	3.49	2.41	4.95	NM	NM	NM	NM	2.87	NM	NM	NM	NM	NM	NM	NM		
MW-22R	15.48	NI	3.33	3.07	NM	NM	NM	NM	NM	2.40	NM	NM	NM	NM	2.46	13.26	2.22	12.84	2.64	1.97	2.34	3.52	3.67	3.45	5.57	NM</													

Table 2

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Analytical Sample Summary

Matrix	Sample Location	Sample ID	Date Sampled	SDG#	Parameters			
					BTEX	PAHs	RCRA Metals	Total Cyanide
Groundwater	MW-02	MW-2	12/13/2011	MC6476	X	X	X	X
	MW-03	MW-3	12/14/2011	MC6577	X	X	X	X
	MW-04	MW-4	12/14/2011	MC6577	X	X	X	X
	MW-05R	MW-5R	12/13/2011	MC6476	X	X	X	X
	MW-06A	MW-6A	12/14/2011	MC6577	X	X	X	X
	MW-08	MW-8	12/13/2011	MC6476	X	X	X	X
	MW-13	MW-13	12/14/2011	MC6577	X	X	X	X
	MW-15S	MW-15S	12/15/2010	MC6576	X	X	X	X
		BD-121511	12/15/2010	MC6576	X	X	X	X
	MW-16D	MW-16D	12/15/2010	MC6576	X	X	X	X
	MW-16R	MW-16R	12/15/2010	MC6576	X	X	X	X
	MW-17S	MW-17S	12/14/2011	MC6577	X	X	X	X
	MW-19D	MW-19D	12/15/2010	MC6576	X	X	X	X
	MW-20D	MW-20D	12/14/2011	MC6577	X	X	X	X
	MW-24S	MW-24S	12/14/2011	MC6577	X	X	X	X
	MW-25S	MW-25S	12/14/2011	MC6577	X	X	X	X
	MW-26D	MW-26D	12/13/2011	MC6476	X	X	X	X
	MW-26S	MW-26S	12/13/2011	MC6476	X	X	X	X
	MW-27D	MW-27D	12/13/2011	MC6476	X	X	X	X
		DUP-12132011	12/13/2011	MC6476				
	MW-27S	MW-27S	12/13/2011	MC6476	X	X	X	X
	MW-28D	MW-28D	12/13/2011	MC6476	X	X	X	X
	MW-28S	MW-28S	12/13/2011	MC6476	X	X	X	X
Water	QAQC	TRIP BLANK	12/13/2011	MC6476	X			
	QAQC	TRIPBLANK	12/14/2011	MC6577	X			

Notes:

- SDG - Sample delivery group.
- Sample designations indicate the following:
 - MW - Monitoring Well.
 - DUP/BD - Field duplicate sample. Sample ID shown in brackets indicates location where duplicate sample was collected.
- Samples were analyzed using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Service Protocol (ASP):
 - 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.
 - PCRA Metals - Resource Conservation and Recovery Act Metals using USEPA Methods 6010B and 7470.

Table 3

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Groundwater Field Parameters

Sample ID	MW-2	MW-3	MW-4	MW-5R	MW-6A	MW-8	MW-13	MW-15S	MW-16D
Sample Date	12/13/2011	12/14/2011	12/14/2011	12/13/2011	12/14/2011	12/13/2011	12/14/2011	12/15/2011	12/15/2011
Temperature (°C)	12.19	12.90	12.70	10.18	14.60	10.98	13.94	12.26	10.66
pH (S.U.)	7.04	6.78	7.24	6.52	6.49	6.55	7.14	6.54	6.32
Conductivity (mS/cm)	0.783	4.025	5.950	0.188	1.980	1.444	0.898	0.914	2.012
DO (mg/L)	0.65	0.64	0.37	0.27	0.39	0.38	0.68	0.79	0.55
Turbidity (NTU)	6.61	0.40	16.10	49.90	11.50	12.00	1.66	11.30	0.32
ORP (mV)	-110.7	-1.5	-292.8	-230.8	-74.7	-53.2	-115.5	-135.1	-78.7

Sample ID	MW-16R	MW-17S	MW-19D	MW-20D	MW-24S	MW-25S	MW-26D	MW-26S	MW-27D
Sample Date	12/15/2011	12/14/2011	12/15/2011	12/14/2011	12/14/2011	12/14/2011	12/13/2011	12/13/2011	12/13/2011
Temperature (°C)	10.38	12.95	12.26	11.01	14.69	13.46	13.50	9.87	13.20
pH (S.U.)	7.82	6.29	6.15	7.16	7.12	6.76	7.08	7.27	6.52
Conductivity (mS/cm)	1.200	0.596	1.193	2.089	3.227	1.459	1.809	0.712	2.524
DO (mg/L)	1.39	0.95	0.55	0.43	0.76	0.87	0.57	1.13	0.34
Turbidity (NTU)	9.90	7.02	2.20	0.40	14.50	3.54	0.65	1.34	4.19
ORP (mV)	-49.4	-91.1	-39.5	-2.7	-50.1	-89.6	-234.6	-70.3	-92.5

Sample ID	MW-27S	MW-28D	MW-28S
Sample Date	12/13/2011	12/13/2011	12/13/2011
Temperature (°C)	11.40	14.95	12.10
pH (S.U.)	6.56	7.26	12.39
Conductivity (mS/cm)	2.197	2.505	5.374
DO (mg/L)	0.25	0.83	0.10
Turbidity (NTU)	6.01	4.03	1.08
ORP (mV)	-142.1	-155.9	-360.4

Notes:

1. Field parameters measured by ARCADIS.
2. Field parameters measured using a YSI 600 or 650 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.

Table 4

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Groundwater Analytical Results for BTEX (ppb)

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-02 12/13/11	MW-03 12/14/11	MW-04 12/14/11	MW-05R 12/13/11	MW-06A 12/14/11	MW-08 12/13/11	MW-13 12/14/11	MW-15S 12/15/11	MW-16D 12/15/11	MW-16R 12/15/11	MW-17S 12/14/11	MW-19D 12/15/11	MW-20D 12/14/11
Volatiles														
Benzene	1	2,900	<0.50	42	720 D	21	2.8	34	<0.50 [<0.50]	<0.50	59	<0.50	<0.50	<0.50
Ethylbenzene	5	2,900	<1.0	690 D	300	2.1	<1.0	<1.0	<1.0 [<1.0]	<1.0	16	<1.0	<1.0	<1.0
Toluene	5	1,200	<1.0	31	29	<1.0	<1.0	<1.0	<1.0 [<1.0]	<1.0	1.8	<1.0	<1.0	<1.0
Total Xylenes	5	2,700	<1.0	290	150	2.3	<1.0	1.8	<1.0 [<1.0]	<1.0	11	<1.0	<1.0	<1.0

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-24S 12/14/11	MW-25S 12/14/11	MW-26D 12/13/11	MW-26S 12/13/11	MW-27D 12/13/11	MW-27S 12/13/11	MW-28D 12/13/11	MW-28S 12/13/11
Volatiles									
Benzene	1	<0.50	<0.50	39	<0.50	19 [18]	190	160	1,100
Ethylbenzene	5	<1.0	<1.0	250	<1.0	21 [18]	30	170	1,600
Toluene	5	<1.0	<1.0	5.8	<1.0	<1.0 [<1.0]	1.9	6.5	750
Total Xylenes	5	<1.0	<1.0	94	<1.0	15 [12]	18.7	23	1,600

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Accutest Laboratories, Inc. located in Marlborough, Massachusetts.
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. D = Concentration is based on a diluted sample analysis.
9. Bold and shaded values indicate that the constituent was detected at a concentration greater than the NYSDEC Class GA Standard or Guidance Value.

Table 5

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Groundwater Analytical Results for PAHs (ppb)

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-02 12/13/11	MW-03 12/14/11	MW-04 12/14/11	MW-05R 12/13/11	MW-06A 12/14/11	MW-08 12/13/11	MW-13 12/14/11	MW-15S 12/15/11	MW-16D 12/15/11	MW-16R 12/15/11	MW-17S 12/14/11
Semivolatiles												
2-Methylnaphthalene	NA	320 D	<5.0	21	7.3	<5.0	<5.0	<5.0 J	<5.1 [<5.0]	5.1 U	53	<5.7
Acenaphthene	20	74	<5.0	21	15	<5.0	15	56 J	<5.1 [<5.0]	5.1 U	22	<5.7
Acenaphthylene	NA	100	<5.0	34	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Anthracene	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Benzo(a)anthracene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Benzo(a)pyrene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Benzo(b)fluoranthene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Benzo(g,h,i)perylene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Benzo(k)fluoranthene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Chrysene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Dibenz(a,h)anthracene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Fluoranthene	50	<5.0	<5.0	6.5	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Fluorene	50	32	<5.0	34	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Indeno(1,2,3-cd)pyrene	0.002	<5.0	<5.0	<5.0 J	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Naphthalene	10	5,700 D	<5.0	590 D	230 D	35	<5.0	<5.0	<5.1 [<5.0]	5.1 U	530 D	<5.7
Phenanthrene	50	25	<5.0	35	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7
Pyrene	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.1 [<5.0]	5.1 U	5.0 U	<5.7

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-19D 12/15/11	MW-20D 12/14/11	MW-24S 12/14/11	MW-25S 12/14/11	MW-26D 12/13/11	MW-26S 12/13/11	MW-27D 12/13/11	MW-27S 12/13/11	MW-28D 12/13/11	MW-28S 12/13/11
Semivolatiles											
2-Methylnaphthalene	NA	<5.0	<5.0	<5.0	<5.0	190 EJ	<5.0	39 [43]	<5.0	<5.0	400 EJ
Acenaphthene	20	<5.0	<5.0	<5.0	<5.0	130	<5.0	130 [140]	14	13	22
Acenaphthylene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	210 EJ
Anthracene	50	<5.0	<5.0	<5.0	<5.0	8.3	<5.0	8.9 [9.3]	<5.0	<5.0	<5.0
Benzo(a)anthracene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Benzo(a)pyrene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Benzo(b)fluoranthene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Benzo(g,h,i)perylene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Benzo(k)fluoranthene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Chrysene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Dibenz(a,h)anthracene	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Fluoranthene	50	<5.0	<5.0	<5.0	<5.0	9.0	<5.0	11 [11]	5.4	<5.0	6.5
Fluorene	50	<5.0	<5.0	<5.0	<5.0	56	<5.0	37 [40]	<5.0	<5.0	42
Indeno(1,2,3-cd)pyrene	0.002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5.0]	<5.0	<5.0	<5.0
Naphthalene	10	<5.0	<5.0	<5.0	<5.0	1,700 D	<5.0	110 [120]	<5.0	30	8,700 D
Phenanthrene	50	<5.0	<5.0	<5.0	<5.0	65	<5.0	50 [53]	<5.0	<5.0	51
Pyrene	50	<5.0	<5.0	<5.0	<5.0	7.9	<5.0	10 [10]	<5.0	<5.0	<5.0

Table 5

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Groundwater Analytical Results for PAHs (ppb)

Notes:

1. Samples were collected by Arcadis.
2. Laboratory analysis was conducted by Accutest Laboratories, Inc. located in Marlborough, Massachusetts.
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. D = Indicates that the concentration is based on a diluted sample analysis.
9. E = The compound was quantitated above the calibration range.
10. NA = Indicates that a NYSDEC Class GA groundwater Standard or Guidance Value is not available for the indicated parameter.
11. Bold and shaded values indicate that the constituent was detected at or above NYSDEC Class GA Standard or Guidance Value.
12. G = Guidance value.

Table 6

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-02 12/13/11	MW-03 12/14/11	MW-04 12/14/11	MW-05R 12/13/11	MW-06A 12/14/11	MW-08 12/13/11	MW-13 12/14/11	MW-15S 12/15/11	MW-16D 12/15/11
Inorganics										
Arsenic	25	11.5	<4.00	6.00	4.80	<4.00	<4.00	<4.30 B	<4.00 [<4.00]	15.2
Barium	1,000	2,150	346	130	127	211	166	119	230 [235]	470
Cadmium	5	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00 [<4.00]	<4.00
Chromium	50	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0 [<10.0]	<10.0
Cyanide	0.2	200	<10.0	3200	80	110	91	57	29 [28]	11
Lead	25	<5.00	<5.00	<5.00	5.50	<5.00	<5.00	<5.00	<5.00 [<5.00]	<5.00
Mercury	0.7	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200 [<0.200]	<0.200
Selenium	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0 [<10.0]	<10.0
Silver	50	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 [<5.00]	<5.00

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-16R 12/15/11	MW-17S 12/14/11	MW-19D 12/15/11	MW-20D 12/14/11	MW-24S 12/14/11	MW-25S 12/14/11	MW-26D 12/13/11	MW-26S 12/13/11	MW-27D 12/13/11
Inorganics										
Arsenic	25	<4.00	9.20	<4.00	<4.00	<4.00	7.00	14.1	<4.00	19.6 [19.9]
Barium	1,000	1,020	102	67.0	90.7	1,410	2,630	248	74.0	612 [608]
Cadmium	5	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00 [<4.00]
Chromium	50	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0 [<10.0]
Cyanide	0.2	190	33	87	<10.0	35	57	17	<10.0	68 [64]
Lead	25	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 [<5.00]
Mercury	0.7	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200 [<0.200]
Selenium	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0 [<10.0]
Silver	50	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 [<5.00]

Location ID: Date Collected:	NYSDEC Groundwater Standards & Guidance Values (ppb)	MW-27S 12/13/11	MW-28D 12/13/11	MW-28S 12/13/11
Inorganics				
Arsenic	25	9.60	7.20	<4.00
Barium	1,000	127	3,850	79.2
Cadmium	5	<4.00	<4.00	<4.00
Chromium	50	<10.0	<10.0	<10.0
Cyanide	0.2	230	640	2400
Lead	25	<5.00	<5.00	<5.00
Mercury	0.7	<0.200	<0.200	1.50
Selenium	10	<10.0	<10.0	<10.0
Silver	50	<5.00	<5.00	<5.00

Table 6

**National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities**

Notes:

1. Samples were collected by Arcades.
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, Technical and Operational "Division of Water, 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-
5. Concentrations reported in milligrams per liter (mg/l) or parts per million (ppm).
6. 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
7. < - Indicates that the constituent was not detected; the associated value is the laboratory limit.
8. Bold and shaded values indicate that the constituent was detected at or above NYSDEC Class GA Standard or Guidance Value.

Table 7
National Grid
North Albany Service Center
Albany, New York
2011 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-09	Dec-10	Dec-11	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11			
BTEX Compounds																																													
Benzene	1	120	50	210 D	52 J	26	NS	NS	NS	NS	NS	NS	18 J	34	ND	ND	ND	ND	ND	ND	ND	ND	310	20 J	NS	58	45 J	57	0.5 J	20	33	39	1300 D	2400 D	350 DJ	1,400	750 J	330	160	630	130	190			
Ethylbenzene	5	16	5	10	5 J	ND	NS	NS	NS	NS	NS	NS	680	190	ND	ND	3 J	1.6	ND	ND	ND	ND	760	320 DJ	NS	460	320 J	440 J	3.6	240	250	250	620	710	320 DJ	320	210 J	69	48	110	19	30			
Toluene	5	4 J	1 J	28	2 J	0.52 J	NS	NS	NS	NS	NS	NS	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	42	18 J	NS	20 J	12 J	14	ND	6.7	6.8	5.8	17 J	22	6 J	14 J	6.2 J	3.3	2.2	3.7	1.3	1.9			
Xylene	5	10	9	20	6 J	3.7 J	NS	NS	NS	NS	NS	NS	ND	120	ND	ND	1 J	0.77	ND	ND	ND	ND	700	39 J	NS	250	150 J	190	1.5	100	110	94	180	200	82 J	84 J	43 J	26	20	32	9.4	8.7			
Select PAH Compounds																																													
Acenaphthene	20 G	51	67	61	2 J	52	NS	NS	NS	NS	NS	NS	97 D	30	ND	ND	15	5	ND	ND	ND	ND	190	220 D	NS	190 J	140 J	186	220	180	99	130	340 EJ	260 D	17 J	90	67	38	37	49	18	14			
Fluorene	50 G	9 J	11	10	13 J	4 J	NS	NS	NS	NS	NS	NS	29	7 J	ND	ND	7 J	2.3	ND	ND	ND	ND	74 J	100	NS	ND	61 J	91	89	79	47	58	66	66	62 J	25 J	18	7.5	6.2	ND	ND	ND			
Naphthalene	10 G	79	65	98	34 J	3 J	NS	NS	NS	NS	NS	NS	340 D	0.8 J	1 J	ND	110	8.4	ND	ND	ND	ND	5,300 D	3 J	NS	3,200	2,000	2,500	2,400 D	2,800 J	1,500 D	1,700 D	2,400 D	750 D	430 DJ	190	21	4.3	15	ND	ND	ND			
Phenanthrene	50 G	16	15	12	12 J	7 J	NS	NS	NS	NS	NS	NS	34	0.6 J	ND	ND	12 J	3.8	ND	ND	ND	ND	92 J	120	NS	99 J	70 J	111	100	91	50	65	120 EJ	72	53 J	36 J	15	5.5	2.6 J	ND	ND	ND			

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-09	Dec-10	Dec-11	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11	
BTEX Compounds																															
Benzene	1	110 J	18	400 DJ	480	14	170	1.9	3.8	16	19 [18]	500	890	1,200 J	750	2,000	3,100	1,200	1,000	660 J	1,100	390	43 J	110	55	160	190	49 [49]	120	160	
Ethylbenzene	5	78 J	21	300 DJ	320	12	130	1.3	4.6	25	21 [18]	560	1,800	1,100 J	1,500	2,100	2,700	1,900	1,800	1,400 J	1,600	1,200 D	78 J	250	60	160	310	120 [120]	160	170	
Toluene	5	1 J	ND	5 J	5.4 J	0.36 J	1.8	ND	ND	ND	ND [ND]	240	850	310 J	660	1,400	2,000	1,000	850	640 J	750	220	16 J	34	7.7	20	41 J	11 [11]	7.9	6.5	
Xylene	5	30 J	10 J	110 J	85	9.6	33	0.33 J	5.5	14	15 [12]	610	2,500	970 J	2,000	2,100	2,600	1,800	1,900	1,600 J	1,600	600	33 J	110	19	57	100 J	41 [41]	37	23	
Select PAH Compounds																															
Acenaphthene	20 G	270 EJ	140	320 DJ	150 J	170	140	190	190	81	130 [140]	94 EJ	49	70 J	ND	ND	ND	25	36	ND	22	11	4 J	23 J	7 J	20	15	21 [19]	13	13	
Fluorene	50 G	46	54	60 J	39 J	54	43 J	49	51	23	37 [40]	22	50	47 J	ND	ND	ND	46	68	ND	42	3 J	0.9 J	ND	ND	4.4	3.2 J	ND [ND]	ND	ND	
Naphthalene	10 G	1,800 D	940 D	2,200 DJ	1,200	110	83	950 D	86	81	110 [120]	3,900 D	8,700 D	5,400 DJ	9,100	13,000	11,000 J	9,700	13,000 J	1,700	8,700 D	460 D	0.4 J	1,000	130	330	2.2 J	580 [430]	170	30	
Phenanthrene	50 G	81 EJ	79	62 J	63 J	65	56	60	64	33	50 [53]	34	72	51 J	ND	ND	76 J	62	85	ND	51	2 J	0.3 J	ND	ND	3.9	1.7 J	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. 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, 2008, 2009, 2010, and 2011 sampling events 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 8

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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

Constituent	NYSDEC GW Criteria	MW-16R												MW-17S											
		Jun-97	Jul-99	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11	Jun-97	Jul-99	Nov-00	Oct-01	Nov-02	Jun-05	Dec-06	Dec-07	Dec-08	Nov-09	Dec-10	Dec-11
BTEX Compounds																									
Benzene	1	840	720	780 JD	15	10 J	350	130	14	18	540	310	59	850	530	48 J	3.7 J	ND	22	12	ND	ND	41	ND	ND
Ethylbenzene	5	230	270	240 JD	5	3 J	79	23	1.1 J	3.7	340	140	16	21 J	17 J	ND	ND	ND	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	47	14	1.8	ND	ND	ND	ND	ND	ND	ND	0.21 J	ND	ND	ND	ND
Xylene	5	230	250	180 J	4.4 J	1 J	57	16	0.95 J	2.7	220	98	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND
Select PAH Compounds																									
Acenaphthene	20 G	53	78	54	58	1 J	2 J	ND	ND	24	50	19	22	110	130	ND	6 J	11	ND	ND	0.44 J	ND	10	ND	ND
Fluorene	50 G	14	21	13	19	16 J	ND	ND	ND	4.7 J	11	5.2	ND	11	12	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10 G	1,300 D	1,700 D	27	800 D	950 D	190	24	ND	560	1,000	ND	530 D	7 J	7 J	ND	0.8 J	1 J	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50 G	12	19	4 J	14	9 J	ND	ND	ND	2.2 J	8.9	ND	ND	6 J	4 J	ND	ND	ND	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.

Table 9

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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	Thickness	Type
	9/27/1996		6/2/1997		7/30/1998		8/31/1998		10/5/1998		10/30/1998		12/8/1998		1/6/1999		2/3/1999		3/2/1999		3/30/1999		5/6/1999	
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		Trace	D	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		Trace	D	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 9

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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	Thickness	Type
	6/2/1999		7/13/1999		10/30/2000		2/21/2001		6/2/2001		8/23/2001		10/22/2001		2/19/2002		5/22/2002		9/20/2002		11/12/2002		3/6/2003	
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 9

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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		
	6/10/2003		9/17/2003		12/22/2003		3/23/2004		6/23/2004		9/22/2004		12/28/2004		3/22/2005		6/21/2005		9/21/2005		12/7/2005		3/14/2006	
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 0.37	L D	ND Trace		Trace	D/L
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	2.30**	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		0.12*	L	Trace	L	NM	L
MW-10	ND		Trace	L	NM		Trace	L	Trace	L	Trace	L	Trace	L	NM		ND		NM		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 ND	L D	Trace ND	L D	NM		Trace ND	L D	Trace ND	L D	Trace ND	L D	Trace ND	L D	Trace ND	L D	Trace ND	L D	Trace ND	L D	Trace ND	L D	NM	
MW-14	ND		ND		NM		ND		ND		ND		ND		ND		ND		Trace	D	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	

Table 9

National Grid
North Albany Service Center
Albany, New York
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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	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		3/5/2009	
MW-01	NM		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		ND	
MW-03	NM		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	ND	
MW-05	NM		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	ND	
MW-06A(D)	NM		NM'		Trace	D	NM		NM		ND		ND		NM		ND		ND		ND		ND	
MW-06S (06)	ND		NM'		ND		NM		NM		NM		3.40*	D	NM		ND		ND		Trace	D	NM	
MW-07	2.24**	D	ND***		ND		ND		ND		2.20**	D	NM		NM		ND		ND		NM		NM	
MW-08	Trace	L	0.01*	L	0.01*	L	Trace	L	Trace	L	Trace	L	ND		Trace	L	NM		NM		ND		ND	
MW-09	NM		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		ND	
MW-11	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-12	Trace****		NM		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		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	0.1	L
MW-15S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-16D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-16R	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
MW-17D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NM		NM	
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		ND		ND		ND		ND		ND		NM	
MW-20D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-21R	NM		NM		NM		NM		NM		NM		NM		NM		NM		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		NM		NM		NM		NM	
MW-22R	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-22S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-23S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
MW-24S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NM	
MW-25S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NM	
MW-26D	ND		ND		ND		NM		ND		ND		ND		NM		ND		ND		ND		ND	
MW-26S	ND		ND		ND		NM		ND		ND		ND		NM		ND		ND		ND		ND	
MW-27D	ND		ND		ND		ND		ND		ND		ND		ND		Trace	D	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		NM		ND		ND		ND		ND	
PZ-01D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
PZ-01S	NM		NM		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 9

National Grid
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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	
	5/22/2009		9/29/2009		11/10/2009		2/3/2010		6/30/2010		9/10/2010		12/13/2010		3/10/2011		6/23/2011		9/28/2011		12/12/2011
MW-01	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-02	ND		ND		ND		ND		Trace	D	NM		ND		ND		Trace	D	ND		
MW-03	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-04	ND		0.01	L	ND		ND		ND		ND		ND		Trace	L	ND		ND		
MW-05	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-05R	Trace	D	Trace	D	0.01	L	Trace	D	Trace	D	Trace	D	ND		ND		Trace	D	ND		
MW-06A(D)	ND		ND		ND		ND		ND		ND		ND		NM		ND		ND		
MW-06S (06	ND		2.3	D	ND		ND		ND		Trace	D	NM		NM		Trace	D	Trace	D	
MW-07	NM		ND		ND		NM		ND		NM		NM		NM		ND		ND		
MW-08	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-09	NM		NM		NM		NM		NM		NM		NM		NM		ND		NM		
MW-10	ND		ND		ND		ND		ND		Trace	L	ND		NM		NM		NM		
MW-11	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-12	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-13	ND		ND		ND		ND		Trace (Trace)	L (D)	ND		ND		ND		ND		ND		
MW-14	0.1 (Trace)	L (D)	Trace	D	0.01	L	ND		Trace		Trace	L	NM		NM		ND		Trace	L	
MW-15S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-16D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-16R	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-17D	NM		ND		ND		ND		NM		NM		ND		NM		ND		ND		
MW-17S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-18S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-19D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-20D	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-21D	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-21R	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-21SR	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-22D	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-22R	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-22S	NM		NM		ND		NM		NM		NM		ND		NM		NM		NM		
MW-23S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
MW-24S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-25S	ND		ND		ND		ND		ND		ND		ND		NM		ND		ND		
MW-26D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-26S	ND		ND		ND		ND		ND		NM		ND		ND		ND		ND		
MW-27D	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-27S	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		
MW-28D	ND		Trace	D	ND		ND		ND		ND		ND		ND		ND		ND		
MW-28S	ND		ND		ND		ND		ND		ND		ND		ND		ND		NM		
PZ-01D	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
PZ-01S	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
PZ-02	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		

Table 9

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

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.

Table 10

National Grid
North Albany Service Center
Albany, New York
2011 Quarterly LNAPL Monitoring Activities

Measured LNAPL Thickness (ft)

Monitoring Well ID	Measured LNAPL Thickness (feet)																			
	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
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
MW-05	ND	ND	ND	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
MW-5R	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	Trace	ND	Trace	Trace	ND	ND	ND	ND	Trace	ND
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
MW-10	Trace	ND	Trace	NM	Trace	Trace	Trace	Trace	NM	ND	0.12	Trace	Trace	Trace	ND	Trace	ND	ND	Trace	ND
MW-13	Trace	Trace	Trace	NM	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	NM	NM	ND	ND	Trace	Trace	Trace	Trace
MW-14	ND	ND	ND	NM	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15S	NM	ND	ND	ND	ND	ND	ND	NM	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	ND	ND	ND	ND	ND	ND	ND	ND
MW-23S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	***	***	***	***	***
MW-24S	NM	NM	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND
MW-26S	ND	ND	ND	NM	ND	ND	NM	ND	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	ND	ND	ND	ND	ND	ND	ND	ND
MW-28S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Estimated Total Volume of LNAPL Removed (gal)

Monitoring Well ID	Measured LNAPL Thickness (feet)																Total LNAPL Removed (gal)
	March 2008	June 2008	September 2008	December 2008	March 2009	May 2009	September 2009	November 2009	February 2010	June 2010	September 2010	December 2010	March 2011	June 2011	September 2011	December 2011	
MW-04	0.01	0.03	Trace	Trace	ND	ND	0.01	ND	ND	ND	ND	ND	ND	Trace	ND	ND	0.07
MW-05	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	NA
MW-5R	NM	NM	NM	NM	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	< 0.01
MW-08	Trace	NM	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05
MW-10	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	Trace	ND	NM	NM	NM	NM	0.02
MW-13	NM	Trace	NM	ND	ND	ND	ND	ND	ND	Trace	ND	ND	ND	ND	ND	ND	NA
MW-14	NM	NM	NM	NM	ND	Trace	ND	0.01	ND	ND	Trace	ND	NM	ND	ND	Trace	< 0.01
MW-15S	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	NA
MW-23S	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	NA
MW-24S	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-25S	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	NA
MW-26S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	ND	ND	ND	ND	ND	NA
MW-27S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-28S	NM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NM	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.
8. *** - Monitoring Well MW-23S was destroyed between 2005 and 2006 sampling events.

Table 11

National Grid
North Albany Service Center
Albany, New York
2011 Groundwater Monitoring Activities

Apparent DNAPL Thickness (ft)

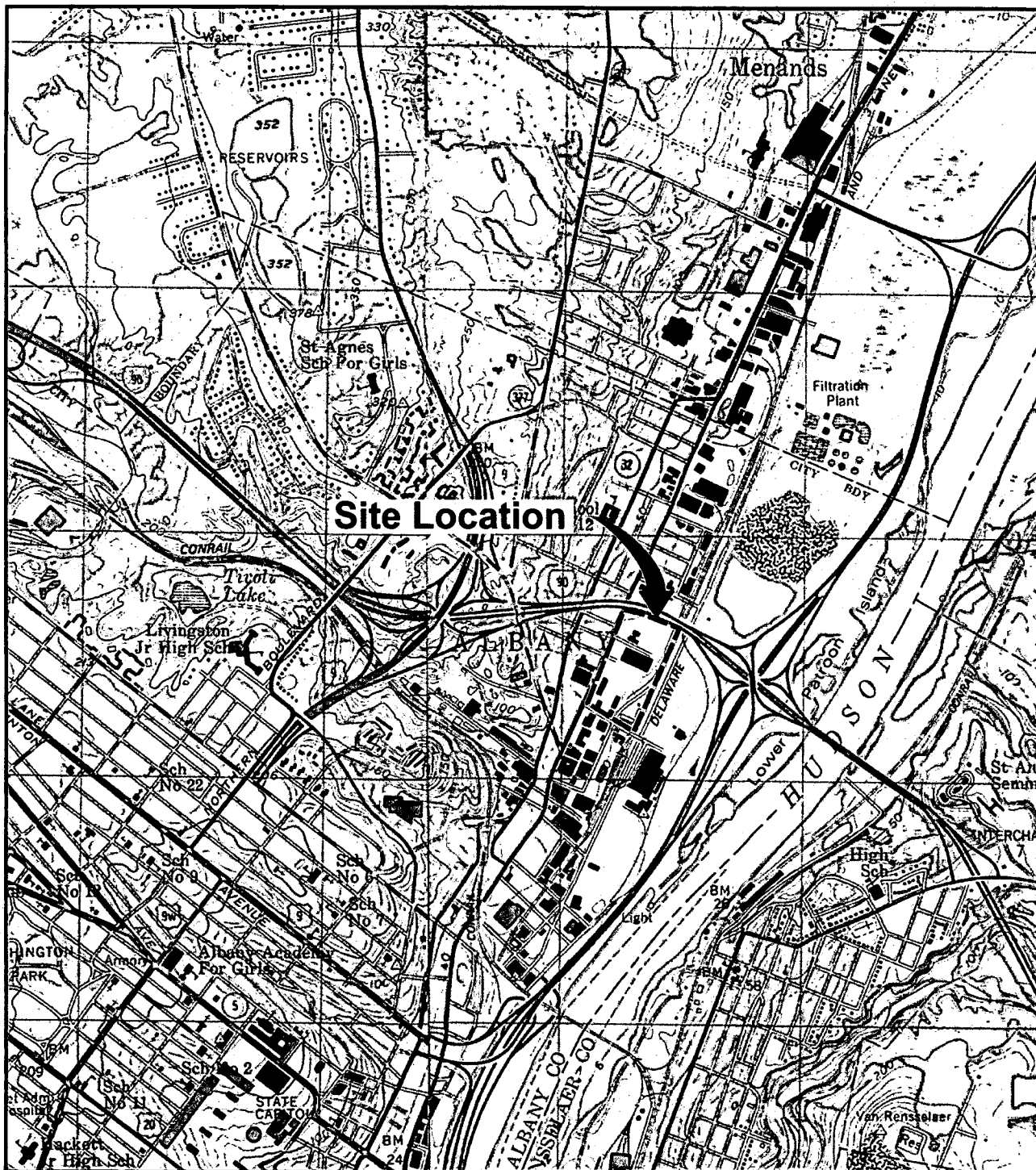
Monitoring Well ID	Apparent DNAPL Thickness (feet)																							
	March 2003	June 2003	September 2003	December 2003	March 2004	June 2004	September 2004	December 2004	March 2005	June 2005	September 2005	December 2005	March 2006	June 2006	September 2006	December 2006	March 2007	June 2007	September 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	NM	ND	ND	ND
MW-05	Trace	Trace	Trace	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
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
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
MW-06S	3.75 *	NM	3.74 *	NM	3.60 *	3.55 *	3.80 *	3.56 *	3.56 *	3.55 *	3.53 *	4.55 *	ND	ND	NM	ND	NM	NM	NM	3.40*	NM	ND	ND	Trace
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	***	***	***	***
MW-13	ND	ND	ND	NM	ND	ND	ND	ND	ND	ND	ND	ND	NM	NM	ND	ND	Trace	Trace	Trace	Trace	ND	Trace	ND	ND
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
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
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
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	****
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
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
MW-27D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Trace	ND	ND	ND
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
Estimated Total Volume of DNAPL Removed (gal)																								

Monitoring Well ID	Apparent DNAPL Thickness (feet)												Total DNAPL Removed (gal)
	March 2006	May 2006	September 2006	November 2006	February 2007	June 2007	September 2007	December 2007	March 2008	June 2008	September 2008	December 2008	
MW-02	ND	ND	ND	ND	ND	Trace	NM	ND	ND	Trace	ND	ND	NA
MW-05	**	**	**	**	**	**	**	**	**	**	**	**	NA
MW-5R	ND	Trace	Trace	ND	Trace	Trace	Trace	ND	ND	Trace	ND	ND	0.06
MW-06A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-06S	2.66****	2.66****	2.3****	2.7****	ND	ND	Trace	NM	NM	Trace	Trace	Trace	NA
MW-07	***	***	***	***	***	***	***	***	***	***	***	***	***
MW-13	ND	ND	ND	ND	ND	Trace	ND	ND	ND	ND	ND	ND	NA
MW-14	Trace	Trace	Trace	0.01	ND	Trace	ND	ND	NM	ND	ND	ND	<0.01
MW-16D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-16R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-17D	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	NA
MW-19D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-26D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-27D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
MW-28D	ND	ND	Trace	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Estimated Total Volume of DNAPL Removed (gal)													0.06

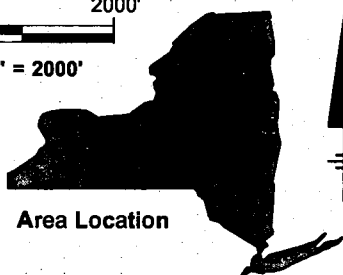
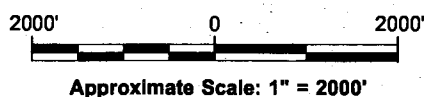
Notes:

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.
9. **** - Indicates thick NAPL on bottom of well mixed with silt. Unable to remove.
10. ***** - Field measurements indicate that monitoring well MW-17D has been damaged/destroyed.

Figures



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

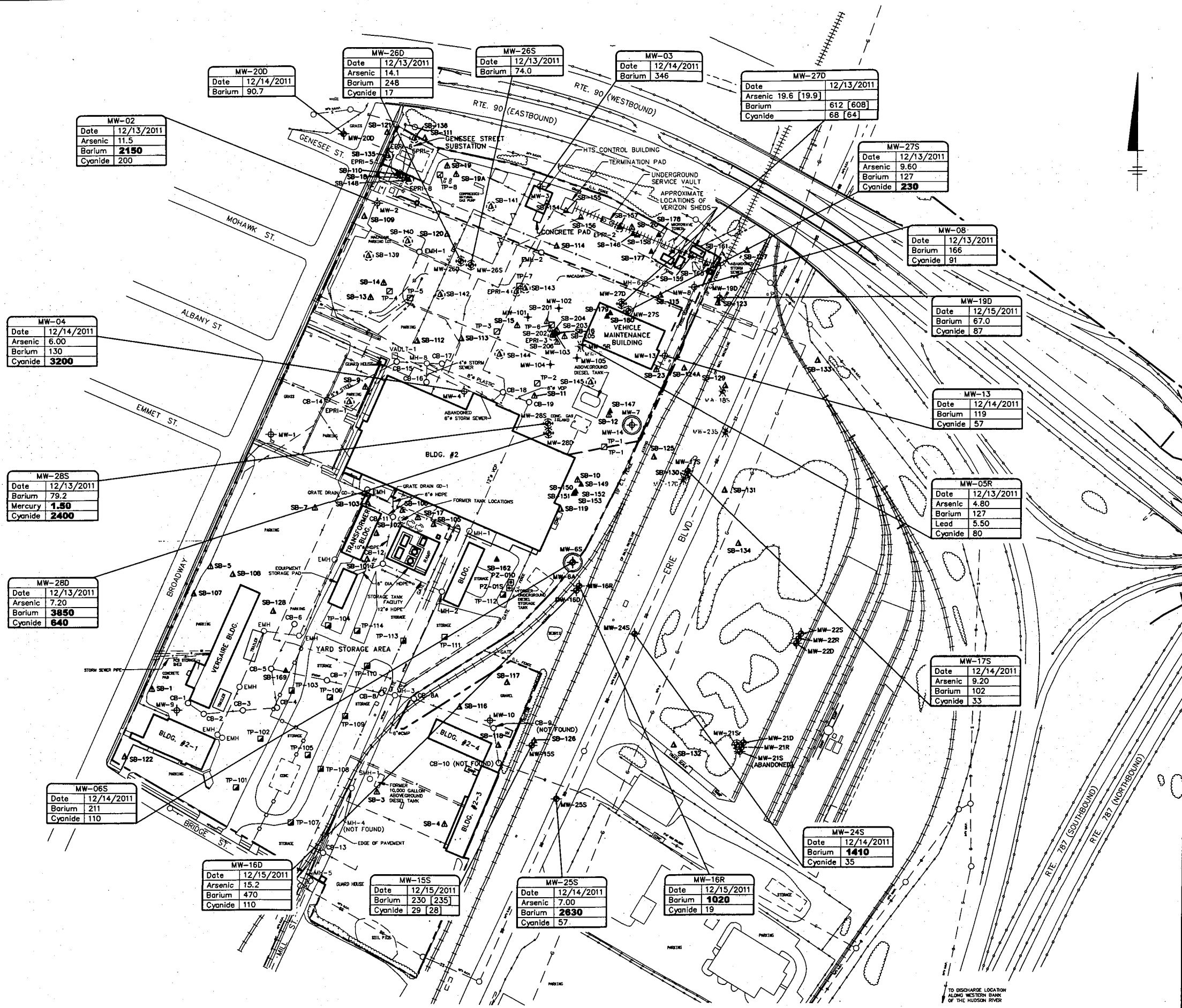


NATIONAL GRID
NORTH ALBANY SERVICE CENTER

SITE LOCATION MAP



FIGURE
1



NATIONAL GRID NORTH ALBANY FORMER MGP SITE ALBANY, NEW YORK	
GROUNDWATER ANALYTICAL RESULTS (12/2011) DETECTED RCRA METALS AND CYANIDE (ppb)	
 ARCADIS	FIGURE 4



 FENCE
 EXISTING RAILROAD
 APPROXIMATE PROPERTY LINE
 MW-105 PILOT-TEST MONITORING WELL LOCATION
 MW-28S ADDITIONAL GROUNDWATER INVESTIGATION GROUNDWATER MONITORING WELL LOCATION
 MW-15S MGP/RCRA GROUNDWATER MONITORING WELL LOCATION
 PZ-01S MGP/RCRA PIEZOMETER
 MW-11 PSA/IRM GROUNDWATER MONITORING WELL LOCATION
 CB-2 EXISTING CATCH BASIN
 MH-1 EXISTING STORM SEWER MANHOLE
 STORM SEWER
 SANITARY SEWER
 (NM) NOT MEASURED
 (18.67) GROUNDWATER ELEVATION (FT., AMSL)
 GROUNDWATER ELEVATION CONTOUR
 (DASHED WHERE INFERRED)(FT., AMSL)
 GENERALIZED GROUNDWATER FLOW DIRECTION

1. BASE MAP (INCLUDING BUILDING LOCATIONS AND PSA/RM SAMPLING LOCATIONS) DEVELOPED FROM ELECTRONIC FILE OF NATIONAL GRID DRAWING NO. C-29736-C, DATED JULY 1994, ENTITLED NORTH ALBANY SERVICE CENTER HAZARDOUS WASTE MANAGEMENT PERMIT APPLICATION, TOPOGRAPHIC MAP - INDEX SHEET.
2. LOCATIONS OF UNDERGROUND UTILITIES (INCLUDING ON-SITE STORM SEWERS, SANITARY SEWERS, TELEPHONE LINES, ELECTRICAL LINES, GAS LINES, WATER LINES, AND CABLE) WERE DIGITIZED FROM NATIONAL GRID DRAWING NO. D-29734-E, FILE INDEX NO. 20-3-A11--82, DATED JUNE 27, 1984, ENTITLED NORTH ALBANY SERVICE CENTER SITE PLAN - PAVING (OUTSIDE FENCE) LOCATIONS OF NATURAL GAS MAINS ARE APPROXIMATED BASED ON FIELD OBSERVATIONS DURING UTILITY LOCATING ACTIVITIES. ACTUAL LOCATIONS OF UNDERGROUND GAS UTILITIES MUST BE DETERMINED PRIOR TO IMPLEMENTING SUBSURFACE WORK ACTIVITIES.
3. LOCATIONS OF MANHOLES AND CATCH BASINS WERE OBTAINED FROM A SURVEY CONDUCTED BY NATIONAL GRID DURING JULY/AUGUST 1997.
4. LOCATIONS OF OFF-SITE STORM AND SANITARY SEWERS WERE DIGITIZED FROM CITY OF ALBANY DRAWINGS AND ARE APPROXIMATE.
5. NM - NOT MEASURED.
6. ALL ELEVATIONS ARE IN MEAN SEA LEVEL (MSL) REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) 1928.
7. MONITORING WELL MW-08, WHICH WAS INSTALLED DURING PSA ACTIVITIES (FOSTER WHEELER, 1995), WAS APPARENTLY PAVED OVER AND HAS NOT BEEN LOCATED.
8. MONITORING WELL MW-21S WAS DECOMMISSIONED IN DECEMBER 2000 AND REPLACED BY MW-21S(R) DUE TO IRREPARABLE DAMAGE.
9. MW-12 WAS PARTIALLY DESTROYED PRIOR TO THE JUNE 2005 MONITORING EVENT AND DECOMMISSIONED IN JANUARY 2007.
10. MONITORING WELLS MW-18S & MW-23S WERE DESTROYED BETWEEN THE 2005 AND 2006 SAMPLING EVENTS.
11. MONITORING WELL MW-17D WAS DESTROYED PRIOR TO THE 2006 SAMPLING EVENT.
12. MW-17D, PZ-01D AND PZ-01S WERE DESTROYED PRIOR TO THE DECEMBER 2008 MONITORING EVENT.
13. MW-7 WAS DESTROYED PRIOR TO THE MARCH 15, 2009 MONITORING EVENT.
14. GROUNDWATER ELEVATION DATA OBTAINED FROM MW-6A NOT INCLUDED WHEN CREATING THIS CONTOUR MAP.



**SHALLOW GROUNDWATER
POTENTIOMETRIC SURFACE
CONTOUR MAP (DECEMBER 2011)**


ARCADIS

FIGURE 2

Attachment A

Groundwater Sampling Logs

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIATSOELL
 Client / Job Number: National Grid B0036648
 Weather: SUNNY, 25° F

Well ID: MW-2
 Date: 12-13-11
 Time In: 0500 Time Out: 1015

Well Information

Depth to Water: (feet) 7.83 (from MP)
 Total Depth: (feet) 23.33 (from MP)
 Length of Water Column: (feet) 15.5
 Volume of Water in Well: (gal) 2.5
 Intake depth for tubing: (feet) ~16

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: VOC Bailer Peristaltic Whale Pump Other:

Pump Start Time: 0845Pump Stop Time: 0950 1015Water-Quality Meier Type: YSI 600
Horiba U-22 w/flow cellTotal Volume Removed: ~3.0 (gal)Old 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:	<u>0900</u>	2	3	4	5	6	7	8	9	10	11	12
Time	<u>0900</u>	<u>0905</u>	<u>0910</u>	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>					
Volume Purged (L)												
Rate (mL/min)	<u>160</u>	<u>160</u>	<u>160</u>	<u>160</u>	<u>160</u>	<u>160</u>	<u>S</u>					
Depth to Water (ft.)	<u>7.92</u>	<u>7.94</u>	<u>7.94</u>	<u>7.95</u>	<u>7.95</u>	<u>7.95</u>	<u>A</u>					
pH	<u>7.33</u>	<u>7.12</u>	<u>7.08</u>	<u>7.06</u>	<u>7.06</u>	<u>7.04</u>	<u>M</u>					
Temp. (C)	<u>9.58</u>	<u>11.77</u>	<u>12.23</u>	<u>12.22</u>	<u>12.21</u>	<u>12.19</u>	<u>D</u>					
Conductivity (mS/cm)	<u>0.677</u>	<u>0.723</u>	<u>0.765</u>	<u>0.786</u>	<u>0.784</u>	<u>0.783</u>	<u>L</u>					
Dissolved Oxygen (mg/L)	<u>0.84</u>	<u>0.72</u>	<u>0.69</u>	<u>0.74</u>	<u>0.76</u>	<u>0.65</u>	<u>E</u>					
ORP (mV)	<u>-112.1</u>	<u>-110.4</u>	<u>-113.6</u>	<u>-109.8</u>	<u>-103.3</u>	<u>-110.7</u>						
Turbidity (NTU)	<u>13.3</u>	<u>11.6</u>	<u>9.51</u>	<u>7.47</u>	<u>6.69</u>	<u>6.61</u>						
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-2</u>	Sample Time: <u>0930</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>LG</u>		

Problems / Observations

- CLEAR, COLORLESS, ODOR CT LIKE

- CLEAR, COLORLESS, CT LIKE ODOR

AFTER FILLING BOTTLES
 WHEN PULLING WATER LEVEL PROBE
 OUT OF WELL BROWN OIL LIKE
 MATERIAL ON PROBE

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:	MS	Well ID:	MW-3
Client / Job Number:	National Grid B0036648	Date:	12/14/11
Weather:	Sunny, 40°F	Time In:	Time Out:

Well Information

Depth to Water:	(feet)	5.98	(from MP)
Total Depth:	(feet)	10.6	(from MP)
Length of Water Column:	(feet)	4.62	
Volume of Water in Well:	(gal)	0.75	
Intake depth for tubing:	(feet)	~8	

Well Type:	Rushmore	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:	PVC	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:	945	Water-Quality Meter Type:	Horiba U-22 w/flow cell
Pump Stop Time:	1000	Did well go dry:	Yes (No)
Total Volume Removed:	(gal) 1.19		

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	10	11	12
Time	950	955	1000	1005	1010	1015	1020	1025	1030			
Volume Purged (L)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
Rate (mL/min)	100	100	100	100	100	100	100	100	100			
Depth to Water (ft.)	5.98	5.98	5.99	5.99	5.99	5.99	5.99	5.99	5.99			
pH	7.15	6.70	6.76	6.76	6.77	6.76	6.77	6.78	6.78			
Temp. (C)	11.78	10.31	12.79	12.94	13.02	13.13	13.03	12.95	12.96			
Conductivity (mS/cm)	2.486	4.109	4.174	4.192	4.191	4.147	4.058	4.020	4.025			
Dissolved Oxygen (mg/L)	5.42	1.31	1.04	1.14	0.86	0.86	0.64	0.65	0.64			
ORP (mV)	8.7	4.0	0.6	0.2	-0.2	-0.3	-1.7	-1.5	-1.5			
Turbidity (NTU)	3.79	1.72	1.01	0.70	0.59	0.50	0.45	0.41	0.40			
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID:	MW-3	Sample Time: 1030
MS/MSD:	Yes (No)	
Duplicate:	Yes (No)	
Duplicate ID		Dup. Time:
Chain of Custody Signed By:	LT	

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

MS

Well ID:

MW-4

Client / Job Number:

National Grid B0036648

Date:

12/14/11

Weather:

Sunny, 40°F

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	5.12	(from MP)
Total Depth:	(feet)	14.61	(from MP)
Length of Water Column:	(feet)	9.49	
Volume of Water in Well:	(gal)	1.55	
Intake depth for tubing:	(feet)	~10	

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:

1210

Pump Stop Time:

1400

Water-Quality Meter Type:

Horiba U-22 w/flow cell

Total Volume Removed:

(gal) 196

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	10	11	12
Time	1220	1225	1230	1235	1240	1245	1250	1255	1300	1305	1310	1315
Volume Purged (L)	0.9	1.35	1.8	2.25	2.7	3.15	3.6	4.05	4.5	4.95	5.4	5.85
Rate (mL/min)	90	90	90	90	90	90	90	90	90	90	90	90
Depth to Water (ft.)	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.33	5.34	5.34
pH	6.83	7.10	7.13	7.24	7.25	7.24	7.25	7.25	7.26	7.27	7.28	7.27
Temp. (C)	12.74	12.41	12.67	12.68	12.74	12.39	12.48	12.56	12.63	12.68	12.72	12.77
Conductivity (mS/cm)	5.350	5.307	5.337	5.349	5.386	5.422	5.445	5.527	5.667	5.712	5.740	5.853
Dissolved Oxygen (mg/L)	4.75	0.29	0.12	0.16	0.23	0.36	0.38	0.40	0.38	0.36	0.35	0.34
ORP (mV)	-307.9	-308.7	-305.1	-302.0	-300.9	-297.6	-297.0	-296.5	-295.2	-294.6	-294.4	-293.8
Turbidity (NTU)	49.2	36.3	35.8	31.2	40.9	34.1	33.2	30.1	27.2	24.8	22.3	19.1
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID:	MW-4	Sample Time: 1330
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID		Dup. Time:
Chain of Custody Signed By:	LT	

Problems / Observations

Early drawdown ~~was~~ resolved
w/ lower flow rate

Organic smell (strong)

Organic sheen in bucket

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MS Well ID: MW-4
 Client / Job Number: National Grid B0036648 Date: 12/14/11
 Weather: Sunny, 40°F 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:
 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	10	11	12
Time	1320	1325	1330									
Volume Purged (L)	6.3	6.75	7.2									
Rate (mL/min)	90	90	90									
Depth to Water (ft.)	5.34	5.34	5.34									
pH	7.26	7.26	7.24									
Temp. (C)	12.76	12.74	12.70									
Conductivity (mS/cm)	5.925	5.932	5.950									
Dissolved Oxygen (mg/L)	0.32	0.35	0.37									
ORP (mV)	-243.9	-243.2	-242.8									
Turbidity (NTU)	17.2	16.9	16.1									
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX		
PAHs		
Cyanide		
RCRA 8 Metals		
PCBs		
Sample ID:	Sample Time: 1330	
MS/MSD:	Yes	No
Duplicate:	Yes	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MSWell ID: MW-SRClient / Job Number: National Grid B0036648Date: 12/13/11Weather: Sunny, 30°F

Time In: _____ Time Out: _____

Well Information

Depth to Water:	(feet)	<u>4.82</u>	(from MP)
Total Depth:	(feet)	<u>23.00</u>	(from MP)
Length of Water Column:	(feet)	<u>18.18</u>	
Volume of Water in Well:	(gal)	<u>2.96</u>	
Intake depth for tubing:	(feet)	<u>2.19</u>	

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

Purging Information

Purging Method:	Bailer	<u>Peristaltic</u>	Whale Pump	Other:
Tubing/Bailer Material:	Steel	<u>Polyethylene</u>	Teflon	Other:
Sampling Method:	<u>Bailer</u>	<u>Peristaltic</u>	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: 8:10Pump Stop Time: 9:40Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 1.72Did 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	10	11	12
Time	<u>8:10</u>	<u>8:15</u>	<u>8:30</u>	<u>8:35</u>	<u>8:40</u>	<u>8:45</u>	<u>8:50</u>	<u>8:55</u>	<u>9:00</u>	<u>9:05</u>	<u>9:10</u>	<u>9:15</u>
Volume Purged (L)	<u>1.0</u>	<u>1.5</u>	<u>2.0</u>	<u>2.5</u>	<u>3.0</u>	<u>3.5</u>	<u>4.0</u>	<u>4.5</u>	<u>5.0</u>	<u>5.5</u>	<u>6.0</u>	<u>6.5</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>	<u>100</u>	<u>100</u>	<u>100</u>
Depth to Water (ft.)	<u>4.82</u>	<u>4.82</u>	<u>4.82</u>	<u>4.83</u>	<u>4.83</u>	<u>4.85</u>	<u>4.86</u>	<u>4.86</u>	<u>4.86</u>	<u>4.87</u>	<u>4.87</u>	<u>4.88</u>
pH	<u>6.53</u>	<u>6.50</u>	<u>6.74</u>	<u>6.73</u>	<u>6.37</u>	<u>6.78</u>	<u>6.68</u>	<u>6.86</u>	<u>6.83</u>	<u>6.62</u>	<u>6.59</u>	<u>6.52</u>
Temp. (C)	<u>11.06</u>	<u>10.61</u>	<u>10.10</u>	<u>10.03</u>	<u>9.97</u>	<u>10.38</u>	<u>10.52</u>	<u>10.38</u>	<u>10.07</u>	<u>10.09</u>	<u>10.15</u>	<u>10.18</u>
Conductivity (mS/cm)	<u>4.209</u>	<u>3.210</u>	<u>1.807</u>	<u>1.693</u>	<u>1.529</u>	<u>1.367</u>	<u>1.350</u>	<u>0.194</u>	<u>0.190</u>	<u>0.196</u>	<u>0.192</u>	<u>0.188</u>
Dissolved Oxygen (mg/L)	<u>2.34</u>	<u>1.00</u>	<u>0.52</u>	<u>0.45</u>	<u>0.35</u>	<u>0.33</u>	<u>0.30</u>	<u>0.28</u>	<u>0.28</u>	<u>0.29</u>	<u>0.28</u>	<u>0.27</u>
ORP (mV)	<u>-368.3</u>	<u>-325.3</u>	<u>-282.2</u>	<u>-282.4</u>	<u>-269.3</u>	<u>-272.0</u>	<u>-265.4</u>	<u>-265.9</u>	<u>-259.6</u>	<u>-259.7</u>	<u>-235.4</u>	<u>-230.8</u>
Turbidity (NTU)	<u>844</u>	<u>258</u>	<u>143</u>	<u>127</u>	<u>113</u>	<u>110</u>	<u>106</u>	<u>88.0</u>	<u>60.3</u>	<u>54.5</u>	<u>52.7</u>	<u>49.9</u>
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-SR</u>	Sample Time: <u>9:15</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>LT</u>		

Problems / Observations

Shallow, strong odor,
initially turbid, oil residue
in bucket

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa Conster
 Client / Job Number: National Grid B0036648
 Weather: clear 45°F

Well ID: MW-6D A
 Date: 14 DEC 11
 Time In: _____ Time Out: _____

ESB
1/11/11

Well Information

Depth to Water: (feet) 8.65 (from MP)
 Total Depth: (feet) 14.90 (from MP)
 Length of Water Column: (feet) 6.25
 Volume of Water in Well: (gal) 1.02
 Intake depth for tubing: (feet) 4.2

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: _____

Pump Start Time: 1230Pump Stop Time: 1300Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 3.51Did 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	10	11	12
Time	1235	1240	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330
Volume Purged (L)	0.7	1.4	2.1	2.8	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.8
Rate (mL/min)	140	140	140	140	100	100	100	100	100	100	100	100
Depth to Water (ft.)	9.00	8.97	8.98	9.01	8.97	8.99	8.93	8.92	8.82	8.86	8.88	8.88
pH	6.46	6.48	6.47	6.42	6.49	6.49	6.40	6.50	6.50	6.48	6.47	6.47
Temp. (C)	14.52	14.84	15.01	14.95	14.98	14.97	14.92	14.88	14.14	13.98	14.08	14.15
Conductivity (mS/cm)	2.024	2.024	2.010	2.010	2.007	2.007	2.006	2.003	1.968	1.956	1.958	1.964
Dissolved Oxygen (mg/L)	1.26	0.69	0.68	0.52	0.46	0.47	0.43	0.41	0.44	0.51	0.45	0.46
ORP (mV)	-103.2	-82.2	-77.1	-80.1	-83.8	-84.5	-83.1	-83.5	-83.5	-79.8	-75.8	-74.5
Turbidity (NTU)	157	132	110	86.2	73.1	59.7	50.3	53.7	41.8	40.6	40.8	34.5
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: <u>MW-6S</u>	Sample Time: <u>1437</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>LT</u>		

Problems / Observations

1235 - Cloudy, white
 1330 - switched to car battery for pump

1/12/11 - Sample Log Reads MW-6D, LOC
 reads MW-6S. Actual Well Sampled
 was MW-6A ESB

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa Cansler Well ID: MW-6D A ESS
 Client / Job Number: National Grid B0036648 Date: 14 Dec 11 V/L
 Weather: clear 45°F Time In: Time Out:

Well Information

Depth to Water: (feet) 8.65 (from MP)
 Total Depth: (feet) 14.90 (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:

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	10	11	12
Time	1335	1340	1345	1350	1355	1400	1405	1410	1415	1420	1425	1430
Volume Purged (L)	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft.)	8.91	8.91	8.91	8.91	8.91	8.91	8.92	8.92	8.93	8.93	8.92	8.92
pH	6.47	6.46	6.47	6.46	6.47	6.46	6.47	6.48	6.46	6.47	6.47	6.48
Temp. (C)	13.88	14.47	14.56	14.53	14.56	14.52	14.54	14.61	14.54	14.50	14.67	14.68
Conductivity (mS/cm)	1.949	1.966	1.975	1.977	1.974	1.975	1.974	1.978	1.975	1.974	1.978	1.979
Dissolved Oxygen (mg/L)	0.54	0.39	0.38	0.43	.39	.37	.44	.37	0.38	0.39	0.33	0.38
ORP (mV)	-72.8	-73.7	-74.4	-74.0	-74.1	-74.0	-73.2	-74.4	-73.1	-74.8	-74.1	-74.6
Turbidity (NTU)	36.6	33.8	28.4	28.9	24.6	25.3	22.3	18.5	17.8	15.1	13.3	12.2
Notes:												

Sampling Information

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

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa CanslerWell ID: MW-6DAESS
1/26Client / Job Number: National Grid B0036648Date: 14 Dec 11Weather: Clear 45°F

Time In:

Time Out:

Well Information

Depth to Water: (feet) 8.65 (from MP)
 Total Depth: (feet) 14.90 (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" 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:

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 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	10	11	12
Time	<u>1435</u>											
Volume Purged (L)	<u>13.3</u>											
Rate (mL/min)	<u>100</u>											
Depth to Water (ft.)	<u>8.91</u>											
pH	<u>6.40</u>											
Temp. (C)	<u>14.60</u>											
Conductivity (mS/cm)	<u>1986</u>											
Dissolved Oxygen (mg/L)	<u>0.39</u>											
ORP (mV)	<u>-71.7</u>											
Turbidity (NTU)	<u>11.5</u>											
Notes:												

Sampling Information

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

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MS

Well ID: MW-8

Client / Job Number: National Grid B0036648

Date: 12/13/11

Weather: Sunny, 40°F

Time In: Time Out:

Well Information

Depth to Water: (feet) 5.27 (from MP)
 Total Depth: (feet) 16.37 (from MP)
 Length of Water Column: (feet) 11.1
 Volume of Water in Well: (gal) 1.80
 Intake depth for tubing: (feet) ~10

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:

Pump Start Time: 1410

Pump Stop Time: 1525

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

Total Volume Removed: (gal) 1.32

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	10	11	12
Time	1415	1420	1425	1430	1435	1440	1445	1450	1455	1500		
Volume Purged (L)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0		
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100		
Depth to Water (ft.)	5.53	5.69	5.69	5.69	5.69	5.70	5.70	5.70	5.71	5.71		
pH	6.52	6.51	6.51	6.58	6.50	6.50	6.52	6.53	6.54	6.55		
Temp. (C)	11.36	11.73	11.74	11.49	11.20	11.11	11.11	11.07	11.02	10.98		
Conductivity (mS/cm)	1.729	1.726	1.665	1.583	1.555	1.491	1.479	1.457	1.450	1.444		
Dissolved Oxygen (mg/L)	1.13	0.93	0.60	0.41	0.40	0.37	0.39	0.36	0.37	0.34		
ORP (mV)	-69.0	-80.2	-81.7	-71.2	-66.7	-63.2	-60.8	-57.9	-55.1	-53.2		
Turbidity (NTU)	113	74.1	40.6	35.7	28.0	18.1	16.9	12.9	13.1	12.0		
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: MW-8	Sample Time: 1500	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: LT		

Problems / Observations

Initial Drawdown stabilized
 Slight odor

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIA TERRELLWell ID: MW -13Client / Job Number: National Grid B0036648Date: 12-14-11Weather: CLOUDY 37°FTime In: 0800 Time Out:

Well Information

Depth to Water: (feet) 4.65 (from MP)
 Total Depth: (feet) 17.93 (from MP)
 Length of Water Column: (feet) 12.88
 Volume of Water in Well: (gal) 2.09
 Intake depth for tubing: (feet) ~15

Well Type: Flushmount Stick-Up
 Well Material: Stainless Steel RVC
 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: VOCs 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: 0820Pump Stop Time: 1100Water-Quality Meter Type: YSI - 656
Hanna U-22 with flow cellTotal Volume Removed: 4.5 (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	10	11	12
Time	0835	0840	0845	0850	0855	0900	0905	0910	0915	0920	0925	0930
Volume Purged (L)												
Rate (mL/min)	140	120	120	120	120	120	120	120	120	120	120	120
Depth to Water (ft.)	4.89	4.89	4.89	4.90	4.90	4.91	4.91	4.91	4.91	4.91	4.91	4.91
pH	7.05	7.04	7.06	7.07	7.08	7.10	7.11	7.12	7.12	7.13	7.12	7.12
Temp. (C)	13.01	12.91	12.98	13.08	13.15	13.22	13.34	13.39	13.53	13.61	13.51	13.45
Conductivity (mS/cm)	0.716	0.720	0.727	0.741	0.751	0.767	0.799	0.815	0.833	0.846	0.860	0.864
Dissolved Oxygen (mg/L)	0.49	0.52	0.47	0.44	0.42	0.39	0.46	0.43	0.45	0.46	0.50	0.53
ORP (mV)	-168.0	-155.5	-159.7	-154.1	-150.7	-156.5	-144.4	-151.9	-153.4	-150.3	-124.4	-122.0
Turbidity (NTU)	9.12	7.46	6.72	6.47	6.48	5.05	4.44	3.70	2.73	2.64	2.24	1.84
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: <u>MW -13</u>	Sample Time: <u>0950</u>	
MS/MSD: <u>Yes</u>	No	
Duplicate: Yes <u>(NO)</u>		
Duplicate ID	Dup. Time: -	
Chain of Custody Signed By: <u>LT</u>		

Problems / Observations

0820 - CLEAR, COLORLESS, O.P.O.R.

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIA TERRELLWell ID: MW-13Client / Job Number: National Grid B0036648Date: 12-14-11Weather: CLOUDY, 40's

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	<u>4.65</u>	(from MP)
Total Depth:	(feet)	<u>17.53</u>	(from MP)
Length of Water Column:	(feet)		
Volume of Water in Well:	(gal)		
Intake depth for tubing:	(feet)		

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

Purging Information

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

Pump Start Time:

Pump Stop Time:

Water-Quality Meter Type: YS-556
Hanna U-22 w/flow cellTotal Volume Removed: 4.5 (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	10	11	12
Time	<u>0935</u>	<u>0940</u>	<u>0945</u>	<u>0950</u>								
Volume Purged (L)												
Rate (mL/min)	<u>120</u>	<u>120</u>	<u>120</u>	<u>S</u>								
Depth to Water (ft.)	<u>4.91</u>	<u>4.91</u>	<u>4.91</u>	<u>A</u>								
pH	<u>7.13</u>	<u>7.14</u>	<u>7.14</u>	<u>A</u>								
Temp. (C)	<u>13.69</u>	<u>13.81</u>	<u>13.94</u>	<u>M</u>								
Conductivity (mS/cm)	<u>0.886</u>	<u>0.894</u>	<u>0.898</u>	<u>P</u>								
Dissolved Oxygen (mg/L)	<u>0.65</u>	<u>0.62</u>	<u>0.68</u>	<u>P</u>								
ORP (mV)	<u>-118.4</u>	<u>-116.4</u>	<u>-115.5</u>	<u>L</u>								
Turbidity (NTU)	<u>1.65</u>	<u>1.62</u>	<u>1.66</u>	<u>E</u>								
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX		
PAHs		
Cyanide		
RCRA 8 Metals		
PCBs		
Sample ID:		Sample Time:
MS/MSD: <u>Yes</u>		No
Duplicate: <u>Yes</u>		
Duplicate ID		Dup. Time:
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEILA TERRELL
 Client / Job Number: National Grid B0036648
 Weather: RAIN 44°C

Well ID: MW-155
 Date: 12-15-11
 Time In: 11:45 Time Out:

Well Information

Depth to Water: (feet) 4.75 (from MP)
 Total Depth: (feet) 15.21 (from MP)
 Length of Water Column: (feet) 10.46
 Volume of Water in Well: (gal) 1.7
 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" 2" Other:

Purging Information

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

Pump Start Time: 1200Pump Stop Time: 1236Water-Quality Meter Type: YSI-556
Membrane 11.22 w/flow cellTotal Volume Removed: (gal) 2.14Did 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	10	11	12
Time	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	13:00		
Volume Purged (L)	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1			
Rate (mL/min)	180	180	180	180	180	180	180	180	180	S		
Depth to Water (ft.)	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	A		
pH	6.79	6.56	6.56	6.55	6.55	6.54	6.54	6.54	6.54			
Temp. (C)	11.65	12.18	12.20	12.19	12.20	12.26	12.31	12.27	12.26	M		
Conductivity (mS/cm)	0.917	0.910	0.910	0.910	0.911	0.913	0.914	0.914	0.914	P		
Dissolved Oxygen (mg/L)	1.60	0.72	0.75	0.71	0.71	0.79	0.84	0.84	0.79	L		
ORP (mV)	-68.5	-74.3	-73.9	-73.7	-73.0	-97.4	-130.9	-134.5	-135.1	E		
Turbidity (NTU)	55.6	23.3	19.6	16.1	14.6	12.2	11.2	10.3	11.3			
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: <u>MW-155</u>	Sample Time: <u>1300</u>	
MS/MSD: <u>Yes</u>	<u>No</u>	
Duplicate: <u>Yes</u>	<u>No</u>	
Duplicate ID: <u>BN-121511</u>	Dup. Time: <u>-</u>	
Chain of Custody Signed By: <u>LG7</u>		

Problems / Observations

1200 - SLIGHTLY TURBID, MILKY WHITE
 TAN FLOC,

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIA TERRELLWell ID: MW-16DClient / Job Number: National Grid B0036648Date: 12-15-11Weather: CLOUDY, RAIN, 44°FTime In: 0830Time Out: 1130

Well Information

Depth to Water:	(feet)	<u>8.79</u>	(from MP)
Total Depth:	(feet)	<u>17.62</u>	(from MP)
Length of Water Column:	(feet)	<u>8.83</u>	
Volume of Water in Well:	(gal)	<u>1.44</u>	
Intake depth for tubing:	(feet)	<u>~13</u>	

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

Purging Information

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

Pump Start Time: 0920Pump Stop Time: 1045Water-Quality Meter Type: YSI-556
Hanna HI-22 w/flow cellTotal Volume Removed: (gal) 1.66Did 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	10	11	12
Time	<u>0930</u>	<u>0955</u>	<u>1000</u>	<u>1005</u>	<u>1010</u>	<u>1015</u>						
Volume Purged (L)	<u>0.8</u>	<u>1.6</u>	<u>2.4</u>	<u>3.2</u>	<u>4.0</u>							
Rate (mL/min)	<u>160</u>	<u>160</u>	<u>160</u>	<u>160</u>	<u>160</u>	<u>S</u>						
Depth to Water (ft.)	<u>8.81</u>	<u>8.81</u>	<u>8.81</u>	<u>8.81</u>	<u>8.81</u>	<u>A</u>						
pH	<u>6.32</u>	<u>6.30</u>	<u>6.29</u>	<u>6.32</u>	<u>6.32</u>	<u>M</u>						
Temp. (C)	<u>10.04</u>	<u>10.49</u>	<u>10.93</u>	<u>10.72</u>	<u>10.66</u>	<u>P</u>						
Conductivity (mS/cm)	<u>1.909</u>	<u>1.963</u>	<u>2.024</u>	<u>2.024</u>	<u>2.012</u>	<u>L</u>						
Dissolved Oxygen (mg/L)	<u>2.54</u>	<u>0.55</u>	<u>0.53</u>	<u>0.49</u>	<u>0.55</u>	<u>E</u>						
ORP (mV)	<u>-82.2</u>	<u>-79.9</u>	<u>-79.3</u>	<u>-79.0</u>	<u>-78.7</u>							
Turbidity (NTU)	<u>6.46</u>	<u>1.36</u>	<u>0.38</u>	<u>0.77</u>	<u>0.32</u>							
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-16D</u>	Sample Time: <u>1015</u>	
MS/MSD: Yes <u>No</u>		
Duplicate: Yes <u>No</u>		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: <u>LT</u>		

Problems / Observations

0920 CLEAR, COLORLESS, ODOOR CT LIKECLEAR, COLORLESS, ODOOR CT LIKE

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MS Well ID: MW-16R
 Client / Job Number: National Grid B0036648 Date: 12/15/11
 Weather: Rainy, 40°F Time In: Time Out:

Well Information

Depth to Water: (feet) ~~8.35~~ 8.35 (from MP)
 Total Depth: (feet) ~~37.38~~ 37.38 (from MP)
 Length of Water Column: (feet) 29.01
 Volume of Water in Well: (gal) 4.73
 Intake depth for tubing: (feet) ~32

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: 915Pump Stop Time: 1125Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 1.0Did 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	10	11	12
Time	920	925	930	935	940	945	950	955	1000	1005	1010	1015
Volume Purged (L)	0.5	0.75	1.0	1.25	1.50	1.75	2.0	2.25	2.5	2.75	3.00	3.25
Rate (mL/min)	100	50	50	50	50	50	50	50	50	50	50	50
Depth to Water (ft.)	9.11	9.62	10.09	10.32	10.84	11.01	11.12	11.43	11.68	11.91	12.13	12.40
pH	7.81	7.91	7.95	7.96	7.96	7.95	7.95	7.94	7.93	7.91	7.85	7.78
Temp. (C)	11.49	11.62	11.02	10.74	10.41	9.99	9.67	9.70	9.75	9.81	9.99	10.38
Conductivity (mS/cm)	.507	1.241	1.250	1.252	1.247	1.241	1.236	1.230	1.229	1.226	1.213	1.204
Dissolved Oxygen (mg/L)	6.39	3.08	2.39	2.31	2.20	1.98	1.75	1.65	1.60	1.56	1.47	1.43
ORP (mV)	-13.6	-40.3	-41.6	-45.1	-47.0	-50.1	-52.3	-50.1	-48.7	-47.7	-49.9	-52.1
Turbidity (NTU)	11.9	11.7	9.27	7.15	6.72	7.67	9.81	8.27	10.3	9.37	8.98	9.95
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: <u>MW-16R</u>	Sample Time: <u>1025</u>	
MS/MSD: <u>Yes</u> <u>No</u>		
Duplicate: <u>Yes</u> <u>No</u>		
Duplicate ID: <u>110</u>	Dup. Time:	
Chain of Custody Signed By: <u>LT</u>		

Problems / Observations

19.39
 Significant Drawdown
 Slight odor in containers
 DTW: 14.39 ft after sample

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: *MS*Well ID: *MW-16R*

Client / Job Number: National Grid B0036648

Date: *12/15/11*Weather: *Rainy, 40°F*

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	~~12.60~~	(from MP)
Total Depth:	(feet)	~~12.60~~	(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	10	11	12
Time	1020	1025										
Volume Purged (L)	3.5	3.75										
Rate (mL/min)	50	50										
Depth to Water (ft.)	12.60	12.79										
pH	7.80	7.82										
Temp. (C)	10.35	10.38										
Conductivity (mS/cm)	1.202	1.200										
Dissolved Oxygen (mg/L)	1.40	1.39										
ORP (mV)	-80.2	-49.4										
Turbidity (NTU)	9.87	9.90										
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: <i>MW-16D</i>	Sample Time: <i>1025</i>	
MS/MSD: Yes	No	
Duplicate: Yes		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LENA TERRELL Well ID: MW-175
 Client / Job Number: National Grid B0036648 Date: 12-14-11
 Weather: SUNNY, 40's Time In: 1330 Time Out:

Well Information

Depth to Water: (feet) 10.69 (from MP)
 Total Depth: (feet) 16.69 (from MP)
 Length of Water Column: (feet) 6.00
 Volume of Water in Well: (gal) 0.978
 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: VOCs 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: 1350 1345
 Pump Stop Time: 1455 Water-Quality Meter Type: YSI-656
Hanna U-22 w/flow cell
 Total Volume Removed: (gal) 0.79 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	10	11	12
Time	<u>1355</u>	<u>1400</u>	<u>1405</u>	<u>1410</u>	<u>1415</u>	<u>1420</u>	<u>1425</u>					
Volume Purged (L)	<u>0.5</u>	<u>1.0</u>	<u>1.5</u>	<u>2.0</u>	<u>2.5</u>	<u>3.0</u>						
Rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>S</u>					
Depth to Water (ft.)	<u>10.80</u>	<u>10.80</u>	<u>10.80</u>	<u>10.80</u>	<u>10.80</u>	<u>10.80</u>	<u>A</u>					
pH	<u>6.48</u>	<u>6.35</u>	<u>6.31</u>	<u>6.30</u>	<u>6.29</u>	<u>6.29</u>	<u>M</u>					
Temp. (C)	<u>12.50</u>	<u>12.87</u>	<u>12.95</u>	<u>12.91</u>	<u>12.95</u>	<u>12.95</u>	<u>P</u>					
Conductivity (mS/cm)	<u>0.545</u>	<u>0.561</u>	<u>0.575</u>	<u>0.585</u>	<u>0.592</u>	<u>0.596</u>	<u>L</u>					
Dissolved Oxygen (mg/L)	<u>1.78</u>	<u>1.12</u>	<u>0.98</u>	<u>1.02</u>	<u>1.03</u>	<u>0.95</u>	<u>E</u>					
ORP (mV)	<u>-81.1</u>	<u>-83.5</u>	<u>-84.9</u>	<u>-87.5</u>	<u>-90.1</u>	<u>-91.1</u>						
Turbidity (NTU)	<u>12.4</u>	<u>13.4</u>	<u>11.5</u>	<u>7.90</u>	<u>7.29</u>	<u>7.02</u>						
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-175</u>	Sample Time: <u>1420</u>	
MS/MSD: Yes <u>(N)</u>		
Duplicate: Yes <u>(N)</u>		
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: <u>LG1</u>		

Problems / Observations

1345 - CLEAR, COLORLESS,

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa CanslerWell ID: MW-19DClient / Job Number: National Grid B0036648Date: 12-15-11

Weather:

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	<u>7.41</u>	(from MP)
Total Depth:	(feet)	<u>24.62</u>	(from MP)
Length of Water Column:	(feet)	<u>17.21</u>	
Volume of Water in Well:	(gal)	<u>2.81</u>	
Intake depth for tubing:	(feet)	<u>219</u>	

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

Purging Information

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

Pump Start Time: 1030Pump Stop Time: 1200Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 1.61Did 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	10	11	12
Time	<u>1030</u>	<u>1035</u>	<u>1040</u>	<u>1045</u>	<u>1050</u>	<u>1055</u>	<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	
Volume Purged (L)	<u>0.6</u>	<u>1.2</u>	<u>1.8</u>	<u>2.4</u>	<u>3.0</u>	<u>3.6</u>	<u>4.1</u>	<u>4.6</u>	<u>5.1</u>	<u>5.6</u>	<u>6.1</u>	
Rate (mL/min)	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
Depth to Water (ft.)	<u>7.82</u>	<u>7.84</u>	<u>7.90</u>	<u>7.81</u>	<u>7.78</u>	<u>7.78</u>	<u>7.74</u>	<u>7.74</u>	<u>7.74</u>	<u>7.73</u>	<u>7.72</u>	
pH	<u>6.33</u>	<u>6.27</u>	<u>6.29</u>	<u>6.23</u>	<u>6.20</u>	<u>6.17</u>	<u>6.16</u>	<u>6.15</u>	<u>6.15</u>	<u>6.16</u>	<u>6.15</u>	
Temp. (C)	<u>12.74</u>	<u>12.90</u>	<u>12.88</u>	<u>12.83</u>	<u>12.63</u>	<u>12.30</u>	<u>12.20</u>	<u>12.17</u>	<u>12.24</u>	<u>12.31</u>	<u>12.26</u>	
Conductivity (mS/cm)	<u>1.181</u>	<u>1.195</u>	<u>1.177</u>	<u>1.164</u>	<u>1.165</u>	<u>1.168</u>	<u>1.174</u>	<u>1.185</u>	<u>1.187</u>	<u>1.192</u>	<u>1.173</u>	
Dissolved Oxygen (mg/L)	<u>1.63</u>	<u>0.98</u>	<u>0.90</u>	<u>0.80</u>	<u>1.09</u>	<u>0.87</u>	<u>0.78</u>	<u>0.61</u>	<u>0.51</u>	<u>0.52</u>	<u>0.55</u>	
ORP (mV)	<u>-36.7</u>	<u>-37.2</u>	<u>-37.3</u>	<u>-37.1</u>	<u>-37.2</u>	<u>-37.4</u>	<u>-37.8</u>	<u>-38.2</u>	<u>-38.6</u>	<u>-39.0</u>	<u>-39.5</u>	
Turbidity (NTU)	<u>17.6</u>	<u>8.67</u>	<u>5.81</u>	<u>5.21</u>	<u>5.76</u>	<u>3.47</u>	<u>3.04</u>	<u>2.03</u>	<u>2.09</u>	<u>2.23</u>	<u>2.20</u>	
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-19D</u>	Sample Time: <u>1125</u>	
MS/MSD: <u>Yes</u>	<u>No</u>	
Duplicate: <u>Yes</u>	<u>No</u>	
Duplicate ID: <u>1125</u>	Dup. Time: <u>1125</u>	
Chain of Custody Signed By:		

Problems / Observations

1025 clear, colorless, few particles

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:	MS	Well ID:	MW-20D
Client / Job Number:	National Grid B0036648	Date:	12/14/11
Weather:	cloudy, 35°F	Time In:	Time Out:

Well Information

Depth to Water:	(feet)	6.44	(from MP)
Total Depth:	(feet)	21.47	(from MP)
Length of Water Column:	(feet)	15.03	
Volume of Water In Well:	(gal)	2.45	
Intake depth for tubing:	(feet)	~16	

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:

755

Pump Stop Time:

930

Water-Quality Meter Type:

Horiba U-22 w/flow cell

Total Volume Removed:

(gal) 1.59

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	10	11	12
Time	800	805	810	815	820	825	830	835	840	845	850	855
Volume Purged (L)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft.)	6.55	6.62	6.63	6.64	6.64	6.64	6.64	6.64	6.65	6.65	6.65	6.65
pH	6.81	6.88	7.05	7.13	7.14	7.17	7.17	7.17	7.17	7.17	7.17	7.16
Temp. (C)	8.18	8.33	9.50	10.25	10.36	10.44	10.68	10.75	10.89	11.25	11.07	11.01
Conductivity (mS/cm)	1.778	1.796	1.920	2.016	2.058	2.066	2.073	2.079	2.083	2.094	2.092	2.084
Dissolved Oxygen (mg/L)	8.26	7.35	3.14	1.49	1.30	1.34	0.98	0.76	0.64	0.53	0.43	0.43
ORP (mV)	30.3	25.2	12.4	7.3	1.6	0.5	-0.3	-1.0	-1.5	-2.6	-2.6	-2.7
Turbidity (NTU)	15.2	11.4	5.72	3.53	1.82	1.61	1.37	1.26	0.52	0.37	0.42	0.40
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID:	MW-20D	Sample Time: 855
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID		Dup. Time:
Chain of Custody Signed By:	LT	

Problems / Observations

Initial drawdown stabilized

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MS

Well ID: MW-245

Client / Job Number: National Grid B0036648

Date: 12/14/11

Weather: Sunny, 45°F

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	7.62	(from MP)
Total Depth:	(feet)	17.92	(from MP)
Length of Water Column:	(feet)	10.30	
Volume of Water in Well:	(gal)	1.68	
Intake depth for tubing:	(feet)	~12	

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:

Pump Start Time: 1440

Pump Stop Time: 1555

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

Total Volume Removed: (gal) 1.19

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	10	11	12
Time	1445	1450	1455	1500	1505	1510	1515	1520	1525			
Volume Purged (L)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
Rate (mL/min)	100	100	100	100	100	100	100	100	100			
Depth to Water (ft.)	7.65	7.68	7.69	7.69	7.69	7.69	7.69	7.69	7.69			
pH	7.61	7.37	7.24	7.20	7.19	7.15	7.15	7.12	7.12			
Temp. (C)	13.40	13.60	14.28	14.41	14.43	14.58	14.64	14.72	14.69			
Conductivity (mS/cm)	3.142	3.172	3.199	3.206	3.210	3.220	3.222	3.226	3.227			
Dissolved Oxygen (mg/L)	6.18	3.75	1.41	1.16	1.07	0.88	0.84	0.78	0.76			
ORP (mV)	-60.5	-55.2	-54.3	-54.8	-52.1	-49.4	-51.4	-51.3	-50.1			
Turbidity (NTU)	17.2	24.7	33.8	22.2	16.1	15.9	15.0	14.2	14.5			
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID: MW-245	Sample Time: 1525	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By: LT		

Problems / Observations

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa CanslerWell ID: MW 25 SClient / Job Number: National Grid B0036648Date: 14 Dec 11Weather: Clear 40°F

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	<u>4.95</u>	(from MP)
Total Depth:	(feet)	<u>18.65</u>	(from MP)
Length of Water Column:	(feet)	<u>13.70</u>	
Volume of Water in Well:	(gal)	<u>2.23</u>	
Intake depth for tubing:	(feet)	<u>2.13</u>	

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

Purging Information

Purging Method:	<u>Bailer</u>	<u>Peristaltic</u>	Whale Pump	Other:
Tubing/Bailer Material:	<u>Steel</u>	<u>Polyethylene</u>	Teflon	Other:
Sampling Method:	<u>Bailer</u>	<u>Peristaltic</u>	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>1600</u>	Water-Quality Meter Type:	<u>Horiba U-22 w/flow cell</u>
Pump Stop Time:	<u>1710</u>	Did well go dry:	<u>Yes</u>
Total Volume Removed:	(gal) <u>1.19</u>		

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	10	11	12
Time	<u>1605</u>	<u>1610</u>	<u>1615</u>	<u>1620</u>	<u>1625</u>	<u>1630</u>	<u>1635</u>	<u>1640</u>	<u>1645</u>			
Volume Purged (L)	<u>.5</u>	<u>1.0</u>	<u>1.5</u>	<u>2.0</u>	<u>2.5</u>	<u>3.0</u>	<u>3.5</u>	<u>4.0</u>	<u>4.5</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>5.11</u>	<u>5.10</u>	<u>5.10</u>	<u>5.10</u>	<u>5.10</u>	<u>5.11</u>	<u>5.10</u>	<u>5.10</u>	<u>5.10</u>			
pH	<u>6.68</u>	<u>6.79</u>	<u>6.76</u>	<u>6.73</u>	<u>6.75</u>	<u>6.77</u>	<u>6.78</u>	<u>6.76</u>	<u>6.76</u>			
Temp. (C)	<u>12.91</u>	<u>13.31</u>	<u>13.24</u>	<u>13.23</u>	<u>13.25</u>	<u>13.34</u>	<u>13.37</u>	<u>13.39</u>	<u>13.46</u>			
Conductivity (mS/cm)	<u>1.396</u>	<u>1.408</u>	<u>1.412</u>	<u>1.417</u>	<u>1.424</u>	<u>1.442</u>	<u>1.443</u>	<u>1.442</u>	<u>1.459</u>			
Dissolved Oxygen (mg/L)	<u>6.30</u>	<u>1.02</u>	<u>1.05</u>	<u>0.64</u>	<u>0.49</u>	<u>0.76</u>	<u>0.91</u>	<u>0.89</u>	<u>0.87</u>			
ORP (mV)	<u>83.7</u>	<u>88.5</u>	<u>89.8</u>	<u>89.8</u>	<u>90.3</u>	<u>89.9</u>	<u>89.9</u>	<u>80.2</u>	<u>89.6</u>			
Turbidity (NTU)	<u>29.4</u>	<u>10.4</u>	<u>6.09</u>	<u>5.45</u>	<u>4.91</u>	<u>4.69</u>	<u>3.78</u>	<u>3.78</u>	<u>3.54</u>			
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID:	<u>MW-25S</u>	Sample Time: <u>1650</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>LT</u>

Problems / Observations

1600 - clear, colorless

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa CanslerWell ID: MW-26AClient / Job Number: National Grid B0036648Date: 13 Dec 11Weather: Clear 40°F

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	<u>4.92</u>	(from MP)
Total Depth:	(feet)	<u>19.03</u>	(from MP)
Length of Water Column:	(feet)	<u>14.11</u>	
Volume of Water in Well:	(gal)	<u>2.30</u>	
Intake depth for tubing:	(feet)	<u>2.15</u>	

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

Purging Information

Purging Method:	Bailer <u>Peristaltic</u>	Whale Pump	Other:
Tubing/Bailer Material:	Steel <u>Polyethylene</u>	Teflon	Other:
Sampling Method:	<u>Bailer</u> <u>Peristaltic</u>	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: 11:25Pump Stop Time: 12:50Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 2.27Did 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	10	11	12
Time	<u>1130</u>	<u>1140</u>	<u>1145</u>	<u>1150</u>	<u>1155</u>	<u>1200</u>	<u>1205</u>	<u>1210</u>	<u>1215</u>	<u>1220</u>	<u>1225</u>	<u>1230</u>
Volume Purged (L)	<u>0.6</u>	<u>1.5</u>	<u>2.3</u>	<u>3.3</u>	<u>4.0</u>	<u>4.6</u>	<u>5.2</u>	<u>6.0</u>	<u>6.8</u>	<u>7.4</u>	<u>8.0</u>	<u>8.6</u>
Rate (mL/min)	<u>120</u>	<u>180</u>	<u>160</u>	<u>200</u>	<u>130</u>	<u>120</u>	<u>130</u>	<u>160</u>	<u>160</u>	<u>120</u>	<u>120</u>	<u>120</u>
Depth to Water (ft.)	<u>5.13</u>	<u>5.13</u>	<u>5.20</u>	<u>5.20</u>	<u>5.21</u>	<u>5.23</u>	<u>5.21</u>	<u>5.21</u>	<u>5.20</u>	<u>5.22</u>	<u>5.20</u>	<u>5.2</u>
pH	<u>7.21</u>	<u>7.24</u>	<u>7.10</u>	<u>7.14</u>	<u>7.06</u>	<u>7.21</u>	<u>7.14</u>	<u>7.03</u>	<u>7.02</u>	<u>7.06</u>	<u>7.09</u>	<u>7.08</u>
Temp. (C)	<u>12.86</u>	<u>12.92</u>	<u>13.55</u>	<u>13.32</u>	<u>13.56</u>	<u>13.84</u>	<u>13.02</u>	<u>13.25</u>	<u>13.33</u>	<u>13.61</u>	<u>13.54</u>	<u>13.50</u>
Conductivity (mS/cm)	<u>1.709</u>	<u>1.758</u>	<u>1.790</u>	<u>1.791</u>	<u>1.798</u>	<u>1.811</u>	<u>1.780</u>	<u>1.792</u>	<u>1.798</u>	<u>1.808</u>	<u>1.811</u>	<u>1.809</u>
Dissolved Oxygen (mg/L)	<u>1.24</u>	<u>0.97</u>	<u>0.66</u>	<u>0.94</u>	<u>0.62</u>	<u>0.47</u>	<u>0.48</u>	<u>0.49</u>	<u>0.64</u>	<u>0.58</u>	<u>0.65</u>	<u>0.57</u>
ORP (mV)	<u>-230.0</u>	<u>-240.6</u>	<u>-242.7</u>	<u>-239.3</u>	<u>-234.9</u>	<u>-235.4</u>	<u>-241.4</u>	<u>-240.3</u>	<u>-240.4</u>	<u>-240.4</u>	<u>-237.0</u>	<u>-234.6</u>
Turbidity (NTU)	<u>2.72</u>	<u>1.83</u>	<u>3.90</u>	<u>1.69</u>	<u>1.33</u>	<u>0.95</u>	<u>1.19</u>	<u>1.08</u>	<u>1.18</u>	<u>0.73</u>	<u>0.53</u>	<u>0.65</u>
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-260</u>	Sample Time: <u>1235</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>LT</u>		

Problems / Observations

11:15 clear, colorless, COAL TAR LIKE ODOR12:45 CLEAR, COLORLESS, CTL ODOR

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIA TERRELL
 Client / Job Number: National Grid B0036648
 Weather: SUNNY - 30s

Well ID: MW - 26S
 Date: 12-13-11
 Time In: 10:30 Time Out: 1345

Well Information

Depth to Water: (feet) 4.17 (from MP)
 Total Depth: (feet) 8.23 (from MP)
 Length of Water Column: (feet) 4.06
 Volume of Water in Well: (gal) ~ 0.67
 Intake depth for tubing: (feet) ~ 6.0

Well Type: Flushmount Stick-Up
 Well Material: Stainless Steel RVC
 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: VOC ONLY Bailer Peristaltic Whale Pump Other:

Pump Start Time: 1125Pump Stop Time: 1240Water-Quality Meter Type: YSI-556
Horiba LL-22 with flow cellTotal Volume Removed: 2.0 (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	10	11	12
Time	<u>1130</u>	<u>1135</u>	<u>1140</u>	<u>1145</u>	<u>1150</u>	<u>1155</u>	<u>1200</u>	<u>1205</u>	<u>1210</u>	<u>1215</u>	<u>1220</u>	
Volume Purged (L)												
Rate (mL/min)	<u>120</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>	<u>100</u>	<u>S</u>	
Depth to Water (ft.)	<u>5.39</u>	<u>5.74</u>	<u>5.91</u>	<u>6.11</u>	<u>6.11</u>	<u>6.25</u>	<u>6.32</u>	<u>6.47</u>	<u>6.59</u>	<u>6.63</u>	<u>A</u>	
pH	<u>7.25</u>	<u>7.27</u>	<u>7.28</u>	<u>7.26</u>	<u>7.26</u>	<u>7.26</u>	<u>7.27</u>	<u>7.25</u>	<u>7.26</u>	<u>7.27</u>	<u>M</u>	
Temp. (C)	<u>9.62</u>	<u>9.55</u>	<u>9.55</u>	<u>9.65</u>	<u>9.68</u>	<u>9.63</u>	<u>9.62</u>	<u>9.72</u>	<u>9.99</u>	<u>9.87</u>	<u>P</u>	
Conductivity (mS/cm)	<u>0.783</u>	<u>0.775</u>	<u>0.762</u>	<u>0.760</u>	<u>0.760</u>	<u>0.747</u>	<u>0.723</u>	<u>0.712</u>	<u>0.711</u>	<u>0.712</u>	<u>L</u>	
Dissolved Oxygen (mg/L)	<u>1.60</u>	<u>1.65</u>	<u>1.44</u>	<u>1.37</u>	<u>1.34</u>	<u>1.10</u>	<u>1.09</u>	<u>1.12</u>	<u>1.15</u>	<u>1.13</u>	<u>E</u>	
ORP (mV)	<u>-62.5</u>	<u>-62.2</u>	<u>-65.8</u>	<u>-67.1</u>	<u>-67.9</u>	<u>-70.1</u>	<u>-70.7</u>	<u>-71.2</u>	<u>-68.9</u>	<u>-70.3</u>		
Turbidity (NTU)	<u>5.24</u>	<u>2.52</u>	<u>1.75</u>	<u>1.26</u>	<u>1.12</u>	<u>1.29</u>	<u>1.24</u>	<u>1.20</u>	<u>1.29</u>	<u>1.34</u>		
Notes:		<u>*</u>										

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW - 26S</u>	Sample Time: <u>1220</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>LT</u>		

Problems / Observations

1055- CLEAR, COLORLESS, ODORLESSCLEAR, COLORLESS, ODORLESS* 100 mL/min SLOWEST PUMP WOULD RUN UN-INTERRUPTED

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: MS Well ID: MW-270
 Client / Job Number: National Grid B0036648 Date: 12/13/11
 Weather: Sunny, 50°F Time In: Time Out:

Well Information

Depth to Water: (feet) 7.99 (from MP)
 Total Depth: (feet) 24.53 (from MP)
 Length of Water Column: (feet) 16.54
 Volume of Water in Well: (gal) 2.30
 Intake depth for tubing: (feet) ~18

Well Type: Flushmount Stick-Up
 Well Material: Stainless Steel RVS
 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: 1125
 Pump Stop Time: 1215 Water-Quality Meter Type: Horiba U-22 w/flow cell
 Total Volume Removed: (gal) 0.92 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	10	11	12
Time	1130	1135	1140	1145	1150	1155	1200					
Volume Purged (L)	~~10.5~~	1.0	1.5	2.0	2.5	3.0	3.5					
Rate (mL/min)	100	100	100	100	100	100	100					
Depth to Water (ft.)	7.99	7.99	7.99	7.99	7.99	7.99	7.99					
pH	6.60	6.24	6.08	6.36	6.49	6.52	6.52					
Temp. (C)	12.56	13.08	13.71	13.58	13.28	13.17	13.20					
Conductivity (mS/cm)	2.461	2.501	2.548	2.543	2.527	2.519	2.524					
Dissolved Oxygen (mg/L)	4.07	2.71	.35	0.34	0.30	0.33	0.34					
ORP (mV)	-101.3	-94.0	-83.9	-92.2	-98.5	-90.0	-92.5					
Turbidity (NTU)	5.92	4.92	4.40	4.35	4.83	4.67	4.19					
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	4	
PAHs	4	
Cyanide	2	
RCRA 8 Metals	2	
PCBs		
Sample ID: <u>MW-270</u>	Sample Time: <u>1200</u>	
MS/MSD: <u>Yes</u>	No	
Duplicate: <u>Yes</u>		
Duplicate ID: <u>PJP-02132011</u>	Dup. Time: <u>-</u>	
Chain of Custody Signed By: <u>LS</u>		

Problems / Observations

Slight odor

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

MS

Well ID:

MW-27S

Client / Job Number:

National Grid B0036648

Date:

12/13/11

Weather:

Sunny, 30°F

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	5.34	(from MP)
Total Depth:	(feet)	9.41	(from MP)
Length of Water Column:	(feet)	4.07	
Volume of Water in Well:	(gal)	0.66	
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"	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:	1010			
Pump Stop Time:	1115			
Total Volume Removed:	(gal)	1.06		
Water-Quality Meter Type:	Horiba U-22 w/flow cell			
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	10	11	12
Time	1015	1020	1025	1030	1035	1040	1045	1050				
Volume Purged (L)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0				
Rate (mL/min)	100	100	100	100	100	100	100	100				
Depth to Water (ft.)	5.34	5.36	5.37	5.37	5.37	5.37	5.37	5.37				
pH	6.54	6.61	6.57	6.58	6.53	6.55	6.58	6.56				
Temp. (C)	9.29	10.40	11.03	11.22	11.25	11.29	11.37	11.40				
Conductivity (mS/cm)	2.116	2.194	2.231	2.234	2.216	2.194	2.170	2.197				
Dissolved Oxygen (mg/L)	2.15	1.07	0.69	0.40	.33	.27	0.27	0.25				
ORP (mV)	-129.9	-133.4	-101.7	-120.6	-138.8	-128.9	-136.7	-142.1				
Turbidity (NTU)	103	57.8	23.2	13.1	11.3	6.79	6.10	6.01				
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs		
Sample ID:	MW-27S	Sample Time: 1050
MS/MSD:	Yes	No
Duplicate:	Yes	No
Duplicate ID		Dup. Time:
Chain of Custody Signed By:	LT	

Problems / Observations

Slight odor, Brownish/Yellow color

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: LEVIA TERRELL Well ID: MW-280
 Client / Job Number: National Grid B0036648 Date: 12-13-11
 Weather: SUNNY 40.5 Time In: 1400 Time Out:

Well Information

Depth to Water: (feet) 7.99 (from MP)
 Total Depth: (feet) 21.67 (from MP)
 Length of Water Column: (feet) 13.68
 Volume of Water in Well: (gal) 2.2
 Intake depth for tubing: (feet) ~19

Well Type: Pushmount Stick-Up
 Well Material: Stainless Steel EVO
 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: VOCs Bailer Peristaltic Whale Pump Other:
 Pump Start Time: 1420

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 Stop Time:

Water-Quality Meter Type: YSI-556
Hanna U-22 with cellTotal Volume Removed: 3.0 (gal)Did well go dry: Yes NO

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

Parameter:	1430 ¹	2	3	4	5	6	7	8	9	10	11	12
Time	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520	1525
Volume Purged (L)												
Rate (mL/min)	140	140	140	140	140	140	140	140	140	140	140	S
Depth to Water (ft.)	8.05	8.07	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	A
pH	7.58	7.59	7.59	7.57	7.58	7.54	7.49	7.36	7.29	7.26	7.26	M
Temp. (C)	14.20	14.46	14.55	14.69	14.72	14.87	15.01	14.92	14.95	14.95	14.95	P
Conductivity (mS/cm)	2.274	2.297	2.300	2.338	2.339	2.355	2.396	2.445	2.495	2.504	2.505	L
Dissolved Oxygen (mg/L)	1.51	1.13	1.05	0.96	0.79	0.79	0.73	0.81	0.80	0.80	0.83	E
ORP (mV)	-77.2	-79.9	-79.6	-86.7	-92.1	-97.2	-115.7	-132.8	-150.9	-153.1	-155.9	
Turbidity (NTU)	14.7	13.6	11.7	11.3	10.3	7.42	6.06	4.80	4.69	4.11	4.08	
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	2	
PAHs	2	
Cyanide	1	
RCRA 8 Metals	1	
PCBs	1	
Sample ID: <u>MW-280</u>	Sample Time:	
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>LG7</u>		

Problems / Observations

1420 CLEAR, COLORLESS, ODOR

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Teresa Conster
Client / Job Number: National Grid B0036648Well ID: MW-28S
Date: 13 Dec 11Weather: clear 42°F

Time In: Time Out:

Well Information

Depth to Water: (feet) 2.95 (from MP)
 Total Depth: (feet) 8.01 (from MP)
 Length of Water Column: (feet) 5.06
 Volume of Water in Well: (gal) 0.82
 Intake depth for tubing: (feet) 26

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:

Pump Start Time: 1425

Pump Stop Time:

Water-Quality Meter Type: Horiba U-22 w/flow cellTotal Volume Removed: (gal) 2.25Did 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	10	11	12
Time	<u>14:30</u>	<u>14:35</u>	<u>14:40</u>	<u>14:45</u>	<u>14:50</u>	<u>14:55</u>	<u>15:00</u>	<u>15:05</u>	<u>15:10</u>	<u>15:15</u>	<u>15:20</u>	<u>15:25</u>
Volume Purged (L)	<u>.5</u>	<u>1.0</u>	<u>1.5</u>	<u>2.0</u>	<u>2.5</u>	<u>3.0</u>	<u>3.5</u>	<u>4.0</u>	<u>4.5</u>	<u>5.0</u>	<u>5.5</u>	<u>6.0</u>
Rate (mL/min)		<u>90</u>			<u>120</u>		<u>90</u>			<u>160</u>		
Depth to Water (ft.)	<u>3.10</u>	<u>3.11</u>	<u>3.10</u>	<u>3.11</u>	<u>3.11</u>	<u>3.11</u>	<u>3.11</u>	<u>2.17</u>	<u>3.20</u>	<u>3.20</u>	<u>3.19</u>	<u>3.20</u>
pH	<u>12.20</u>	<u>12.25</u>	<u>12.06</u>	<u>12.31</u>	<u>12.29</u>	<u>12.43</u>	<u>12.32</u>	<u>12.36</u>	<u>12.32</u>	<u>12.31</u>	<u>12.47</u>	<u>12.31</u>
Temp. (C)	<u>10.59</u>	<u>10.68</u>	<u>10.81</u>	<u>10.82</u>	<u>10.92</u>	<u>11.00</u>	<u>10.36</u>	<u>11.15</u>	<u>12.05</u>	<u>12.42</u>	<u>12.48</u>	<u>12.45</u>
Conductivity (mS/cm)	<u>5.087</u>	<u>5.093</u>	<u>5.111</u>	<u>5.104</u>	<u>5.118</u>	<u>5.136</u>	<u>5.066</u>	<u>5.188</u>	<u>5.313</u>	<u>5.303</u>	<u>5.374</u>	<u>5.384</u>
Dissolved Oxygen (mg/L)	<u>0.28</u>	<u>0.27</u>	<u>0.19</u>	<u>0.16</u>	<u>0.14</u>	<u>0.15</u>	<u>0.16</u>	<u>0.15</u>	<u>0.14</u>	<u>0.14</u>	<u>0.13</u>	<u>0.13</u>
ORP (mV)	<u>-284.6</u>	<u>-316.1</u>	<u>-316.0</u>	<u>-317.5</u>	<u>-320.7</u>	<u>-326.5</u>	<u>-332.1</u>	<u>329.0</u>	<u>-305.7</u>	<u>-308.3</u>	<u>-369.1</u>	<u>361.6</u>
Turbidity (NTU)	<u>36.7</u>	<u>34.2</u>	<u>29.0</u>	<u>23.9</u>	<u>20.7</u>	<u>33.2</u>	<u>31.3</u>	<u>22.7</u>	<u>14.0</u>	<u>11.3</u>	<u>6.32</u>	<u>4.38</u>
Notes:												

Sampling Information

Analyses	#	Laboratory
BTEX	<u>2</u>	
PAHs	<u>2</u>	
Cyanide	<u>1</u>	
RCRA 8 Metals	<u>1</u>	
PCBs		
Sample ID: <u>MW-28S</u>	Sample Time: <u>1619</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>LT</u>		

Problems / Observations

2:30 cloudy, green?
3:15 pump battery dead - switched to car battery
verified pH with pH paper (12-13)

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Theresa CanslerWell ID: MW-28SClient / Job Number: National Grid B0036648Date: 13 Dec 11Weather: clear 42°F

Time In:

Time Out:

Well Information

Depth to Water: (feet) 2.95 (from MP)
 Total Depth: (feet) 8.01 (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:

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	10	11	12
Time	<u>1530</u>	<u>1535</u>	<u>1540</u>	<u>1545</u>	<u>1550</u>							
Volume Purged (L)	<u>6.5</u>	<u>7.0</u>	<u>7.5</u>	<u>8.0</u>	<u>8.5</u>							
Rate (mL/min)	<u>120</u>			<u>100</u>								
Depth to Water (ft.)	<u>3.19</u>	<u>3.19</u>	<u>3.19</u>	<u>3.19</u>	<u>3.19</u>							
pH	<u>12.38</u>	<u>12.33</u>	<u>12.36</u>	<u>12.44</u>	<u>12.39</u>							
Temp. (C)	<u>12.25</u>	<u>12.14</u>	<u>12.24</u>	<u>11.98</u>	<u>12.10</u>							
Conductivity (mS/cm)	<u>5.380</u>	<u>5.378</u>	<u>5.385</u>	<u>5.372</u>	<u>5.374</u>							
Dissolved Oxygen (mg/L)	<u>0.11</u>	<u>0.12</u>	<u>0.11</u>	<u>0.12</u>	<u>0.10</u>							
ORP (mV)	<u>-359.4</u>	<u>-364.3</u>	<u>-357.2</u>	<u>-360.0</u>	<u>-360.4</u>							
Turbidity (NTU)	<u>3.15</u>	<u>1.72</u>	<u>1.71</u>	<u>1.39</u>	<u>1.08</u>							
Notes:												

Sampling Information

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

Problems / Observations

Attachment B

Validated Analytical Data Reports



Imagine the result

**National Grid – North Albany
Service Center**

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, Metals and Cyanide Analyses

SDG#MC6476

Analyses Performed By:
Accutest Laboratories
Marlborough, Massachusetts

Report: #16147R
Review Level: Tier III
Project: B0036648.0000.00010

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # MC6476 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-2	MC6476-1	Water	12/13/2011		X	X		X	X
DUP-12132011	MC6476-10	Water	12/13/2011	MW-27D	X	X		X	X
TRIP BLANK	MC6476-11	Water	12/13/2011		X				
MW-5R	MC6476-2	Water	12/13/2011		X	X		X	X
MW-27S	MC6476-3	Water	12/13/2011		X	X		X	X
MW-27D	MC6476-4	Water	12/13/2011		X	X		X	X
MW-26S	MC6476-5	Water	12/13/2011		X	X		X	X
MW-26D	MC6476-6	Water	12/13/2011		X	X		X	X
MW-8	MC6476-7	Water	12/13/2011		X	X		X	X
MW-28S	MC6476-8	Water	12/13/2011		X	X		X	X
MW-28D	MC6476-9	Water	12/13/2011		X	X		X	X

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed on sample location MW-27D for Metals.

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. 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	Cool to 4°C±2°C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cool to 4°C±2°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 in 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-27D/DUP12132011	Benzene	19.1	18.2	5.3%
	Toluene	1.0 U	1.0 U	AC
	Ethylbenzene	21.2	17.7	18.0%
	Xylene	14.7	12.4	16.9%

AC Acceptable
U 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.

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-5R	Benzene	--	718 D	718 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.

Samples MW-2, MW-5R, and MW-28S were analyzed at dilution due to the presence of high target compounds.

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		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	Cool to 4°C±2°C.
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°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 sample locations exhibited acceptable surrogate recoveries.

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 was not performed on a sample location in 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-27D/DUP12132011	2-Methylnaphthalene	38.7	42.7	9.8 %
	Acenaphthene	129	140	8.1 %
	Anthracene	8.9	9.3	AC
	Fluoranthene	10.5	11	AC
	Fluorene	37.1	40.4	8.5 %
	Naphthalene	110	122	10.3 %
	Phenanthrene	50.2	52.9	5.2 %
	Pyrene	10.1	10.4	AC

AC Acceptable
U 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.

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-2	2-Methylnaphthalene	--	315 D	315 D
	Naphthalene	--	5690 D	5690 D
MW-5R	Naphthalene	--	226 D	226 D
MW-26D	2-Methylnaphthalene	187 E	187 E	187 EJ
	Naphthalene	--	1700 D	1700 D
MW-28S	Acenaphthylene	212 E	212 E	212 EJ
	2-Methylnaphthalene	400 E	400 E	400 EJ
	Naphthalene	--	8680 D	8680 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		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R					X
Matrix Spike Duplicate(MSD) %R					X
MS/MSD Precision (RPD)					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		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	Cool to 4°C±2°C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to 4°C±2°C.
SW-846 7470	Water	28 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to 4°C±2°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.

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 were 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 (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 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 analysis performed on sample location MW-27D 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.

The laboratory duplicate 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-27D/DUP121311	Arsenic	19.6	19.9	AC
	Barium	612	608	0.7%

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.

The serial dilution analysis exhibited acceptable results.

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		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	Cool to 4°C±2°C; preserved to a pH of greater than 12.
	Soil		Cool to 4°C±2°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 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 analysis was not performed on a sample location within 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.

The laboratory duplicate 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-27D/DUP121311	Cyanide	0.068	0.064	6.1%

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	
Matrix Spike Duplicate(MSD) %R					X	
MS/MSD Precision (RPD)					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

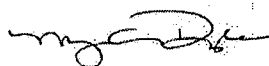
SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
MC6476	12/13/2011	SW846	MW-2	Water	Yes	Yes	--	Yes	Yes	VOC-Dilutions SVOC-Dilutions
MC6476	12/13/2011	SW846	DUP-12132011	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	TRIP BLANK	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	MW-5R	Water	Yes	Yes	--	Yes	Yes	VOC-Dilutions SVOC-Dilutions
MC6476	12/13/2011	SW846	MW-27S	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	MW-27D	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	MW-26S	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	MW-26D	Water	Yes	Yes	--	Yes	Yes	SVOC -Dilutions
MC6476	12/13/2011	SW846	MW-8	Water	Yes	Yes	--	Yes	Yes	
MC6476	12/13/2011	SW846	MW-28S	Water	Yes	Yes	--	Yes	Yes	VOC-Dilutions SVOC-Dilutions
MC6476	12/13/2011	SW846	MW-28D	Water	Yes	Yes	--	Yes	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: Mary Ann Doyle

SIGNATURE:



DATE: May 1, 2012

PEER REVIEW: Dennis Capria

DATE: May 7, 2012

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

16147

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Report of Analysis

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Client Sample ID:	MW-2	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-1	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G114000.D	50	12/23/11	AT	n/a	n/a	MSG4587
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	2860	25	ug/l	
108-88-3	Toluene	1150	50	ug/l	
100-41-4	Ethylbenzene	2930	50	ug/l	
1330-20-7	Xylene (total)	2660	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-2
 Lab Sample ID: MC6476-1
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
 Date Received: 12/15/11
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	S29689.D	1	12/27/11	KR	12/17/11	OP27269	MSS1298
Run #2	I76723.D	50	12/28/11	KR	12/17/11	OP27269	MSI2825

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	73.8	5.0	ug/l	
208-96-8	Acenaphthylene	99.9	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	31.7	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	315 ^A D	250	ug/l	
91-20-3	Naphthalene	5690 ^A D	250	ug/l	
85-01-8	Phenanthrene	25.2	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	33%	49%	30-130%
321-60-8	2-Fluorobiphenyl	82%	74%	30-130%
1718-51-0	Terphenyl-d14	74%	60%	30-130%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-2

Lab Sample ID: MC6476-1

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.5	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	2150	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-2
Lab Sample ID: MC6476-1
Matrix: AQ - Ground Water
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
Date Received: 12/15/11
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.20	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

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Client Sample ID:	MW-5R	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-2	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113861.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2	G114001.D	25	12/23/11	AT	n/a	n/a	MSG4587

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	718ND	13	ug/l	
108-88-3	Toluene	28.6	1.0	ug/l	
100-41-4	Ethylbenzene	301	1.0	ug/l	
1330-20-7	Xylene (total)	146	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	98%	70-130%
2037-26-5	Toluene-D8	99%	100%	70-130%
460-00-4	4-Bromofluorobenzene	85%	91%	70-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: S29690.D I76724.D

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Report of Analysis

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Client Sample ID:	MW-5R	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-2	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	S29690.D	1	12/27/11	KR	12/17/11	OP27269	MSS1298
Run #2	I76724.D	5	12/28/11	KR	12/17/11	OP27269	MSI2825

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	14.5	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	7.3	5.0	ug/l	
91-20-3	Naphthalene	226 AD	25	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%	55%	30-130%
321-60-8	2-Fluorobiphenyl	79%	80%	30-130%
1718-51-0	Terphenyl-d14	71%	79%	30-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-5R

Lab Sample ID: MC6476-2

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.8	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	127	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	5.5	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	MW-5R	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-2	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.080	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-27S	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-3	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113862.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	191	0.50	ug/l	
108-88-3	Toluene	1.9	1.0	ug/l	
100-41-4	Ethylbenzene	29.9	1.0	ug/l	
1330-20-7	Xylene (total)	8.7	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-27S	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-3	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Pereent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176725.D	1	12/28/11	KR	12/17/11	OP27269	MS12825
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	13.6	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	5.4	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	82%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-27S

Lab Sample ID: MC6476-3

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.6	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	127	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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3.3

3

Client Sample ID:	MW-27S	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-3	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.23	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Raw Data: G113863.D

Accutest LabLink@120498 16:12 12-Jan-2012

Report of Analysis

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Client Sample ID:	MW-27D	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-4	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113863.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	19.1	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	21.2	1.0	ug/l	
1330-20-7	Xylene (total)	14.7	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 176726.D

Accutest LabLink@120498 16:12 12-Jan-2012

Report of Analysis

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Client Sample ID: MW-27D
Lab Sample ID: MC6476-4
Matrix: AQ - Ground Water
Method: SW846 8270C SW846 3510C
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
Date Received: 12/15/11
Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176726.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Accnaphthene	129	5.0	ug/l	
208-96-8	Accnaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	8.9	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	10.5	5.0	ug/l	
86-73-7	Fluorene	37.1	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	38.7	5.0	ug/l	
91-20-3	Naphthalene	110	5.0	ug/l	
85-01-8	Phenanthrene	50.2	5.0	ug/l	
129-00-0	Pyrene	10.1	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	37%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.4

3

Client Sample ID: MW-27D

Lab Sample ID: MC6476-4

Matrix: AQ - Ground Water

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	19.6	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	612	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-27D

Lab Sample ID: MC6476-4

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.068	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

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3.5



Client Sample ID: MW-26S
Lab Sample ID: MC6476-5
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
Date Received: 12/15/11
Percent Solids: n/a

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113864.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	94%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-26S	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-5	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	176727.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825

Run #1	Initial Volume	Final Volume
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	83%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-26S

Lab Sample ID: MC6476-5

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	74.0	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-26S
Lab Sample ID: MC6476-5
Matrix: AQ - Ground Water
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
Date Received: 12/15/11
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	< 0.010	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

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Report of Analysis

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Client Sample ID:	MW-26D	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-6	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113865.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	39.2	0.50	ug/l	
108-88-3	Toluene	5.8	1.0	ug/l	
100-41-4	Ethylbenzene	247	1.0	ug/l	
1330-20-7	Xylene (total)	93.5	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value.
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-26D
 Lab Sample ID: MC6476-6
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
 Date Received: 12/15/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76728.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2	I76739.D	50	12/29/11	KR	12/17/11	OP27269	MSI2826

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	125	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	8.3	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	9.0	5.0	ug/l	
86-73-7	Fluorene	56.0	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	187	5.0	ug/l	E J
91-20-3	Naphthalene	1700 ND	250	ug/l	
85-01-8	Phenanthrene	65.0	5.0	ug/l	
129-00-0	Pyrene	7.9	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%	59%	30-130%
321-60-8	2-Fluorobiphenyl	78%	85%	30-130%
1718-51-0	Terphenyl-d14	81%	73%	30-130%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3.6



Client Sample ID:	MW-26D	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-6	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	14.1	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	248	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-26D	Date Sampled: 12/13/11
Lab Sample ID: MC6476-6	Date Received: 12/15/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.017	0.010	mg/l	1	12/20/11 18:39	MA	SW846-9012

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-8	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-7	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113866.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	2.8	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-7	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176729.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	15.2	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

GAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	63%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-8

Lab Sample ID: MC6476-7

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	166	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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3

Client Sample ID: MW-8

Lab Sample ID: MC6476-7

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.091	0.010	mg/l	1	12/20/11 18:39	MA	SW846-9012

RL = Reporting Limit

Accutest LabLink@120498 16:12 12-Jan-2012

Report of Analysis

Page 1 of 1

Client Sample ID: MW-28S	Date Sampled: 12/13/11
Lab Sample ID: MC6476-8	Date Received: 12/15/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G114002.D	20	12/23/11	AT	n/a	n/a	MSG4587
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1130	10	ug/l	
108-88-3	Toluene	750	20	ug/l	
100-41-4	Ethylbenzene	1630	20	ug/l	
1330-20-7	Xylene (total)	1640	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value.
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-28S
 Lab Sample ID: MC6476-8
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
 Date Received: 12/15/11
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76730.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2	I76740.D	100	12/29/11	KR	12/17/11	OP27269	MSI2826

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

GAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	21.8	5.0	ug/l	E J
208-96-8	Acenaphthylene	212	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	E J
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	6.5	5.0	ug/l	
86-73-7	Fluorene	41.7	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	400	5.0	ug/l	
91-20-3	Naphthalene	8680 ND	500	ug/l	
85-01-8	Phenanthrene	50.7	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	116%	62%	30-130%
321-60-8	2-Fluorobiphenyl	79%	80%	30-130%
1718-51-0	Terphenyl-d14	83%	73%	30-130%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-28S

Lab Sample ID: MC6476-8

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	79.2	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	1.5	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-28S	Date Sampled: 12/13/11
Lab Sample ID: MC6476-8	Date Received: 12/15/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	2.4	0.10	mg/l	10	12/20/11 18:39	MA	SW846.9012

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-28D	Date Sampled: 12/13/11
Lab Sample ID: MC6476-9	Date Received: 12/15/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113868.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	158	0.50	ug/l	
108-88-3	Toluene	6.5	1.0	ug/l	
100-41-4	Ethylbenzene	165	1.0	ug/l	
1330-20-7	Xylene (total)	23.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	85%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-28D
 Lab Sample ID: MC6476-9
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
 Date Received: 12/15/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176731.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	12.6	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	29.8	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	52%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3.9

Client Sample ID: MW-28D

Lab Sample ID: MC6476-9

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.2	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	3850	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-28D
Lab Sample ID: MC6476-9
Matrix: AQ - Ground Water
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11
Date Received: 12/15/11
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.64	0.050	mg/l	5	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

Client Sample ID: DUP-12132011		Date Sampled: 12/13/11	
Lab Sample ID: MC6476-10		Date Received: 12/15/11	
Matrix: AQ - Ground Water		Percent Solids: n/a	
Method: SW846 8260B			
Project: North Albany, 1125 Broadway, Albany, NY			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113869.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	18.2	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	17.7	1.0	ug/l	
1330-20-7	Xylene (total)	12.4	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-12132011	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-10	Date Received:	12/15/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176732.D	1	12/28/11	KR	12/17/11	OP27269	MSI2825
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	140	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	9.3	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	11.0	5.0	ug/l	
86-73-7	Fluorene	40.4	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	42.7	5.0	ug/l	
91-20-3	Naphthalene	122	5.0	ug/l	
85-01-8	Phenanthrene	52.9	5.0	ug/l	
129-00-0	Pyrene	10.4	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%		30-130%
321-60-8	2-Fluorobiphenyl	82%		30-130%
1718-51-0	Terphenyl-d14	63%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3.10



Client Sample ID: DUP-12132011

Lab Sample ID: MC6476-10

Matrix: AQ - Ground Water

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	19.9	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	608	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18292

RL = Reporting Limit

Report of Analysis

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3.10

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Client Sample ID: DUP-12132011

Lab Sample ID: MC6476-10

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/13/11

Date Received: 12/15/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.064	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis



Client Sample ID:	TRIP BLANK	Date Sampled:	12/13/11
Lab Sample ID:	MC6476-11	Date Received:	12/15/11
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113859.D	1	12/21/11	AT	n/a	n/a	MSG4582
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



Imagine the result

National Grid – North Albany Service Center

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, Metals and Cyanide Analyses

SDG#MC6576

Analyses Performed By:
Accutest Laboratories
Marlborough, Massachusetts

Report: #16148R
Review Level: Tier III
Project: B0036648.0000.00010

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # MC6576 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-16D	MC6576-1	Water	12/15/2011		X	X		X	X
MW-16R	MC6576-2	Water	12/15/2011		X	X		X	X
MW-19D	MC6576-3	Water	12/15/2011		X	X		X	X
MW-15S	MC6576-4	Water	12/15/2011		X	X		X	X
BD-121511	MC6576-5	Water	12/15/2011	MW-15S	X	X		X	X

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed on sample location MW-15S for VOCs, SVOCs, Metals and Cyanide.

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. 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	Cool to 4°C $\pm$ 2°C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cool to 4°C $\pm$ 2°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.

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

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 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.

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
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	Cool to 4°C±2°C.
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°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, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
MW-16D MW-16R MW-19D MW-15S BD-121511	ICV %RSD	Benzo(a)anthracene	16.7%
		Chrysene	16.7%
		Benzo(b)fluoranthene	18.6%
		Benzo(k)fluoranthene	18.6%
		Benzo(a)pyrene	19.1%
		Indeno(1,2,3-cd)pyrene	20.9%
		Dibenz(a,h)anthracene	20.9%
		Benzo(g,h,i)perylene	21.2%
MW-16D MW-16R MW-19D MW-15S BD-121511	CCV%D	Indeno(1,2,3-cd)pyrene	20.9%
		Dibenz(a,h)anthracene	20.9%
		Benzo(g,h,i)perylene	21.2%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF < 0.05	Non-detect	R
		Detect	J
	RRF < 0.01 ¹	Non-detect	R
		Detect	J
	RRF > 0.05 or RRF > 0.01 ¹	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 15% or a correlation coefficient < 0.99	Non-detect	UJ
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

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 sample locations exhibited acceptable surrogate recoveries.

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/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 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.

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.

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-16R	Naphthalene	--	528 D	528 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		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		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	Cool to 4°C±2°C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to 4°C±2°C.
SW-846 7470	Water	28 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to 4°C±2°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.

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 were 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 (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 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 analysis performed on sample location MW-15S 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.

The laboratory duplicate 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-15S/BD -121511	Barium	230	235	2.1%

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.

The serial dilution analysis exhibited acceptable results.

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		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	Cool to 4°C±2°C; preserved to a pH of greater than 12.
	Soil		Cool to 4°C±2°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 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 analysis performed on sample location MW-15S 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.

The laboratory duplicate 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 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-15S/ BD-121511	Cyanide	0.029	0.028	AC

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	
MS/MSD Precision (RPD)					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

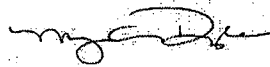
SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
MC6576	12/15/2011	SW846	MW-16D	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D
MC6576	12/15/2011	SW846	MW-16R	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D, Dilutions
MC6576	12/15/2011	SW846	MW-19D	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D
MC6576	12/15/2011	SW846	MW-15S	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D
MC6576	12/15/2011	SW846	BD-121511	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D

- 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: Mary Ann Doyle

SIGNATURE:



DATE: May 4, 2012

PEER REVIEW: Dennis Capria

DATE: May 7, 2012

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

16148

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-16D	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-1	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113821.D	1	12/20/11	AT	n/a	n/a	MSG4580
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: I76631.D

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-16D	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-1	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270G SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76631.D	1	12/23/11	KR	12/22/11	OP27321	MSI2821
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.1	ug/l	
208-96-8	Acenaphthylene	ND	5.1	ug/l	
120-12-7	Anthracene	ND	5.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	ug/l	
218-01-9	Chrysene	ND	5.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	ug/l	
206-44-0	Fluoranthene	ND	5.1	ug/l	
86-73-7	Fluorene	ND	5.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	ug/l	
91-20-3	Naphthalene	ND	5.1	ug/l	
85-01-8	Phenanthrene	ND	5.1	ug/l	
129-00-0	Pyrene	ND	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		30-130%
321-60-8	2-Fluorobiphenyl	79%		30-130%
1718-51-0	Terphenyl-d14	30%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-16D

Lab Sample ID: MC6576-1

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	15.2	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	470	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13755

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18291

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-16D	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-1	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.11	0.010	mg/l	1	12/27/11 16:31	MA	SW846 9012

RL = Reporting Limit

Raw Data: **G113822.D**

Accutest Laboratories

Report of Analysis

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3.2



Client Sample ID:	MW-16R	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-2	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113822.D	1	12/20/11	AT	n/a	n/a	MSG4580
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	59.2	0.50	ug/l	
108-88-3	Toluene	1.8	1.0	ug/l	
100-41-4	Ethylbenzene	16.2	1.0	ug/l	
1330-20-7	Xylene (total)	10.7	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 176632.D S29684.D

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-16R	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-2	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76632.D	1	12/23/11	KR	12/22/11	OP27321	MSI2821
Run #2	S29684.D	10	12/27/11	KR	12/22/11	OP27321	MSS1298

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	21.6	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	52.9	5.0	ug/l	
91-20-3	Naphthalene	528	50	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%	75%	30-130%
321-60-8	2-Fluorobiphenyl	72%	76%	30-130%
1718-51-0	Terphenyl-d14	32%	33%	30-130%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-16R

Lab Sample ID: MC6576-2

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	1020	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13755

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MPI8289

(4) Prep QC Batch: MPI8291

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-16R	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-2	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.19	0.010	mg/l	1	12/27/11 16:34	MA	SW846 9012

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-19D	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-3	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113823.D	1	12/20/11	AT	n/a	n/a	MSG4580
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 176633.D

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-19D	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-3	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846.8270C SW846.3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176633.D	1	12/23/11	KR	12/22/11	OP27321	MSI2821
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	33%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-19D

Lab Sample ID: MC6576-3

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	67.0	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13755

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18291

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: MW-19D
Lab Sample ID: MC6576-3
Matrix: AQ - Ground Water
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.087	0.010	mg/l	1	12/27/11 16:35	MA	SW846.9012

RL = Reporting Limit

Raw Data: **G113824.D**

Accutest Laboratories

Report of Analysis

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Client Sample ID:	MW-15S	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-4	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846.8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113824.D	1	12/20/11	AT	n/a	n/a	MSG4580
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID: MW-155
 Lab Sample ID: MC6576-4
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11
 Date Received: 12/17/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176629.D	1	12/23/11	KR	12/22/11	OP27321	MSI2821
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.1	ug/l	
208-96-8	Acenaphthylene	ND	5.1	ug/l	
120-12-7	Anthracene	ND	5.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	ug/l	
218-01-9	Chrysene	ND	5.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	ug/l	
206-44-0	Fluoranthene	ND	5.1	ug/l	
86-73-7	Fluorene	ND	5.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	ug/l	
91-20-3	Naphthalene	ND	5.1	ug/l	
85-01-8	Phenanthrene	ND	5.1	ug/l	
129-00-0	Pyrene	ND	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis



Client Sample ID: MW-15S

Lab Sample ID: MC6576-4

Matrix: AQ - Ground Water

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	230	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13755

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18291

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.4

Client Sample ID: MW-15S

Lab Sample ID: MC6576-4

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.029	0.010	mg/l	1	12/27/11 16:30	MA	SW846 9012

RL = Reporting Limit

Raw Data: **G113827.D**

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	BD-121511	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-5	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113827.D	1	12/20/11	AT	n/a	n/a	MSG4580
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	BD-121511	Date Sampled:	12/15/11
Lab Sample ID:	MC6576-5	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76634.D	1	12/23/11	KR	12/22/11	OP27321	MSI2821
Run #2 ^a	I76709.D	1	12/28/11	KR	12/22/11	OP27321	MSI2824

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%	71%	30-130%
321-60-8	2-Fluorobiphenyl	79%	84%	30-130%
1718-51-0	Terphenyl-d14	27% ^b	29% ^b	30-130%

(a) Confirmation run for surrogate recoveries.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: BD-121511

Lab Sample ID: MC6576-5

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Barium	235	50	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Chromium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Lead	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	12/19/11	12/21/11 DA	SW846 6010C ²	SW846 3010A ³

(1) Instrument QC Batch: MA13755

(2) Instrument QC Batch: MA13767

(3) Prep QC Batch: MP18289

(4) Prep QC Batch: MP18291

RL = Reporting Limit

Report of Analysis

Client Sample ID: BD-121511

Lab Sample ID: MC6576-5

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/15/11

Date Received: 12/17/11

Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.028	0.010	mg/l	1	12/27/11 16:36	MA	SW846 9012

RL = Reporting Limit



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Accutest Laboratories of New England
495 Technology Center West, Building One
TEL 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Company Name ARADIS	Project Name NG N ALBANY	Billing Information (If different from Report to)		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Street Address 6723 TOWPATH RD	Street 116T BROADWAY	Company Name		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
City SYRACUSE NY 13214	City ALBANY NY	Client Address		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Project Contact MIKE JONES	Project B0036648	Client POC		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Phone # 315 446 9120	Phone # 315 446 9120	Client POC		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Sample(s) Name(s) LENA TERRELL	Project Manager MIKE JONES	Client POC		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Flight ID / Point of Collection		Collection	Date	Time	Sampled by	Matrix	LAB USE ONLY
-1 MW-16D		12-15-11	1015	16T	GW	6	21112
-2 MW-16R		12-15-11	1025	16S	GW	6	21112
-3 MW-19D		12-15-11	1125	16T	GW	6	21112
-4 MW-15S ms/mso		12-15-11	1300	16T	GW	18	6336
-5 BD-124511		12-15-11	-	-	GW	6	61112
Turnaround Time (Business days)		Approved By (Accutest Mgr) / Date:		Date Deliverable Information		Comments / Special Instructions	
☒ Del. 10 Business Days				☐ Commercial "A" (Level 1)		☐ NYASP Category A	
☐ Del. 5 Business Days (By Contract only)				☐ Commercial "B" (Level 2)		☐ NYASP Category B	
☐ 3 Day RUSH				☐ FULLT (Level 244)		☐ State Forms	
☐ 3 Day EMERGENCY				☐ CT RCP		☐ EDD Format	
☐ 2 Day EMERGENCY				☐ MA MCP		☐ Other	
☐ 1 Day EMERGENCY				Commercial "A" = Results Only			
				Commercial "B" = Results + QC Summary			
Emergency & Rush T/A data available via LabFax		Sample Custody must be documented below each time samples change possession, including courier delivery.		Date Time		Date Time	
1 MIKE JONES		1 MIKE JONES		1 MIKE JONES		1 MIKE JONES	
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MC6576: Chain of Custody
Page 1 of 2



Imagine the result

**National Grid – North Albany
Service Center**

Data Usability Summary Report

ALBANY, NEW YORK

Volatile, Semivolatile, Metals and Cyanide Analyses

SDG#MC6577

Analyses Performed By:
Accutest Laboratories
Marlborough, Massachusetts

Report: #16149R
Review Level: Tier III
Project: B0036648.0000.00010

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # MC6577 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-20D	MC6577-1	Water	12/14/2011		X	X		X	X
MW-3	MC6577-2	Water	12/14/2011		X	X		X	X
MW-13	MC6577-3	Water	12/14/2011		X	X		X	X
MW-4	MC6577-4	Water	12/14/2011		X	X		X	X
MW-6D	MC6577-5	Water	12/14/2011		X	X		X	X
MW-17S	MC6577-6	Water	12/14/2011		X	X		X	X
MW-24S	MC6577-7	Water	12/14/2011		X	X		X	X
MW-25S	MC6577-8	Water	12/14/2011		X	X		X	X
TRIP BLANK	MC6577-9	Water	12/14/2011		X				

Note:

1. Miscellaneous parameters include cyanide.
2. Matrix spike/matrix spike duplicate (MS/MSD) was performed on sample location MW-13 for VOCs, SVOCs, Metals and Cyanide.

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. 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	Cool to 4°C±2°C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cool to 4°C±2°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.

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

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 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.

A field duplicate was not collected in association with this sample data group.

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-4	Ethylbenzene	--	691 D	691D

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 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	
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	Cool to 4°C±2°C.
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°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, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
MW-4	CCV%D	Indeno(1,2,3-cd)pyrene	-20.3%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01 ¹	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01 ¹	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 15% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

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 sample locations exhibited acceptable surrogate recoveries.

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.

Sample locations associated with internal standards exhibiting responses outside of the control limits are presented in the following table.

Sample Locations	Internal Standard	Response
MW-4	Perylene-d12	>UL

AC Acceptable

The criteria used to evaluate the internal standard responses are presented in the following table. In the case of an internal standard deviation, the compounds quantitated under the deviant internal standard 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 > 25%	Non-detect	UJ
	Detect	J
< 25%	Non-detect	R
	Detect	J

Note: Sample results were not qualified as rejected (R) due to the deviations listed above.

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-13	Acenaphthene	>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.	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-13	2-Methylnaphthalene

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	UJ
	Detect	J

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 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.

A field duplicate was not collected in association with this sample data group.

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-4	Naphthalene	--	593 D	593 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		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
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		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	Cool to 4°C±2°C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to 4°C±2°C.
SW-846 7470	Water	28 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to 4°C±2°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-13	Arsenic	Detected sample results >RL and <BAL	"UB" at detected sample concentration

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 were 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 (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 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 analysis performed on sample location MW-13 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.

The laboratory duplicate 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 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.

A field duplicate was not collected in association with this sample data group.

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 analysis exhibited acceptable results.

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	Cool to 4°C±2°C; preserved to a pH of greater than 12.
	Soil		Cool to 4°C±2°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 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 analysis performed on sample location MW-13 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.

The laboratory duplicate 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 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.

A field duplicate was not collected in association with this sample data group.

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
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

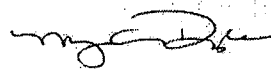
SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
MC6577	12/14/2011	SW846	MW-20D	Water	Yes	Yes	--	Yes	Yes	
MC6577	12/14/2011	SW846	MW-3	Water	Yes	Yes	--	Yes	Yes	
MC6577	12/14/2011	SW846	MW-13	Water	Yes	No	--	No	Yes	SVOC- Matrix Spike %R, RPD Metals-Blank Contamination
MC6577	12/14/2011	SW846	MW-4	Water	Yes	No	--	Yes	Yes	VOC-Dilutions SVOC-CCV%D. Internal Standard, Dilutions
MC6577	12/14/2011	SW846	MW-6D	Water	Yes	No	--	Yes	Yes	SVOC-ICV%RSD,CCV%D
MC6577	12/14/2011	SW846	MW-17S	Water	Yes	Yes	--	Yes	Yes	
MC6577	12/14/2011	SW846	MW-24S	Water	Yes	Yes	--	Yes	Yes	
MC6577	12/14/2011	SW846	MW-25S	Water	Yes	Yes	--	Yes	Yes	
MC6577	12/14/2011	SW846	TRIP BLANK	Water	Yes	Yes	--	Yes	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: Mary Ann Doyle

SIGNATURE:



DATE: May 4, 2012

PEER REVIEW: Dennis Capria

DATE: May 15, 2012

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

16149

Accutest LabLink@120525 12:13 13-Jan-2012

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-20D	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-1	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113950.D	1	12/22/11	AT	n/a	n/a	MSG4585
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-20D	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-1	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176638.D	1	12/23/11	KR	12/21/11	OP27301	MS12821
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN-PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	42%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.1

Client Sample ID: MW-20D

Lab Sample ID: MC6577-1

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/14/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	90.7	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-20D	Date Sampled: 12/14/11
Lab Sample ID: MC6577-1	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	



General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	< 0.010	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3	Date Sampled: 12/14/11
Lab Sample ID: MC6577-2	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846.8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113951.D	1	12/22/11	AT	n/a	n/a	MSG4585
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		Date Sampled: 12/14/11	
Lab Sample ID: MC6577-2		Date Received: 12/17/11	
Matrix: AQ - Ground Water		Percent Solids: n/a	
Method: SW846 8270C SW846 3510C			
Project: North Albany, 1125 Broadway, Albany, NY			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176639.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	83%		30-130%
1718-51-0	Terphenyl-d14	49%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-3

Lab Sample ID: MC6577-2

Matrix: AQ - Ground Water

Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/14/11

Date Received: 12/17/11

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	346	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-3	Date Sampled: 12/14/11
Lab Sample ID: MC6577-2	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	<0.010	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	MW-13	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-3	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113952.D	1	12/22/11	AT	n/a	n/a	MSG4585
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	33.5	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	1.8	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	93%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: S29634.D

Accutest LabLink@120525 12:13 13-Jan-2012

Report of Analysis

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Client Sample ID:	MW-13	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-3	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	S29634.D	1	12/23/11	KR	12/21/11	OP27301	MSS1295
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	55.9 J	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND J	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		30-130%
321-60-8	2-Fluorobiphenyl	52%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.3

Client Sample ID: MW-13

Lab Sample ID: MC6577-3

Matrix: AQ - Ground Water

Date Sampled: 12/14/11

Date Received: 12/17/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.3 ~~UG~~	~~4.0~~	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	119	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-13	Date Sampled: 12/14/11
Lab Sample ID: MC6577-3	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.057	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-4
Lab Sample ID: MC6577-4
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/14/11
Date Received: 12/17/11
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113953.D	1	12/22/11	AT	n/a	n/a	MSG4585
Run #2	G114038.D	10	12/24/11	AT	n/a	n/a	MSG4588

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	41.8	0.50	ug/l	
108-88-3	Toluene	31.3	1.0	ug/l	
100-41-4	Ethylbenzene	691	10	ug/l	
1330-20-7	Xylene (total)	294	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	104%	70-130%
2037-26-5	Toluene-D8	102%	104%	70-130%
460-00-4	4-Bromofluorobenzene	84%	87%	70-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-4	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I76640.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821
Run #2	S29688.D	10	12/27/11	KR	12/21/11	OP27301	MSS1298

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	21.3	5.0	ug/l	
208-96-8	Acenaphthylene	34.1	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	6.5	5.0	ug/l	
86-73-7	Fluorene	34.3	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND J	5.0	ug/l	
91-57-6	2-Methylnaphthalene	21.3	5.0	ug/l	
91-20-3	Naphthalene	593	50	ug/l	
85-01-8	Phenanthrene	34.7	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%	66%	30-130%
321-60-8	2-Fluorobiphenyl	76%	74%	30-130%
1718-51-0	Terphenyl-d14	68%	63%	30-130%

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-4	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-4	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	130	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

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Client Sample ID: MW-4	Date Sampled: 12/14/11
Lab Sample ID: MC6577-4	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

3

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	3.2	0.10	mg/l	10	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Raw Data: G114039.D

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Report of Analysis

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Client Sample ID:	MW-6D	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-5	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G114039.D	1	12/24/11	AT	n/a	n/a	MSG4588
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	21.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	2.1	1.0	ug/l	
1330-20-7	Xylene (total)	2.3	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 176641.D

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Report of Analysis

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Client Sample ID:	MW-6D	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-5	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	176641.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	35.0	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	82%		30-130%
1718-51-0	Terphenyl-d14	57%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: MW-6D

Lab Sample ID: MC6577-5

Matrix: AQ - Ground Water

Date Sampled: 12/14/11

Date Received: 12/17/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	211	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep-QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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3.5



Client Sample ID: MW-6D	Date Sampled: 12/14/11
Lab Sample ID: MC6577-5	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.11	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Raw Data: G113955.D

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Report of Analysis

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Client Sample ID:	MW-17S	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-6	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113955.D	1	12/23/11	AT	n/a	n/a	MSG4585
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17S	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-6	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	176642.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.7	ug/l	
208-96-8	Acenaphthylene	ND	5.7	ug/l	
120-12-7	Anthracene	ND	5.7	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.7	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.7	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.7	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.7	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.7	ug/l	
218-01-9	Chrysene	ND	5.7	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.7	ug/l	
206-44-0	Fluoranthene	ND	5.7	ug/l	
86-73-7	Fluorene	ND	5.7	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.7	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.7	ug/l	
91-20-3	Naphthalene	ND	5.7	ug/l	
85-01-8	Phenanthrene	ND	5.7	ug/l	
129-00-0	Pyrene	ND	5.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	79%		30-130%
1718-51-0	Terphenyl-d14	57%		30-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.6

Client Sample ID:	MW-17S	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-6	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a.
Project:	North Albany, 1125 Broadway, Albany, NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.2	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	102	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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3.6

Client Sample ID: MW-17S	Date Sampled: 12/14/11
Lab Sample ID: MC6577-6	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.033	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Report of Analysis

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Client Sample ID: MW-24S	Date Sampled: 12/14/11
Lab Sample ID: MC6577-7	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113956.D	1	12/23/11	AT	n/a	n/a	MSG4585
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Raw Data: 176643.D

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Client Sample ID:	MW-24S	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-7	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	North Albany, 1125 Broadway, Albany, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	176643.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821

Run #1	Initial Volume	Final Volume
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.7

3

Client Sample ID: MW-24S

Lab Sample ID: MC6577-7

Matrix: AQ - Ground Water

Date Sampled: 12/14/11

Date Received: 12/17/11

Percent Solids: n/a

Project: North Albany, 1125 Broadway, Albany, NY

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	1410	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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3

Client Sample ID: MW-24S	Date Sampled: 12/14/11
Lab Sample ID: MC6577-7	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.035	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Raw Data: **G113957.D**

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Client Sample ID: MW-25S	Date Sampled: 12/14/11
Lab Sample ID: MC6577-8	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G113957.D	1	12/23/11	AT	n/a	n/a	MSG4585
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: I76644.D

Accutest LabLink@120525 12:13 13-Jan-2012

Report of Analysis

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3.00

Client Sample ID: MW-25S
Lab Sample ID: MC6577-8
Matrix: AQ - Ground Water
Method: SW846 8270C SW846 3510C
Project: North Albany, 1125 Broadway, Albany, NY

Date Sampled: 12/14/11
Date Received: 12/17/11
Percent Solids: n/a

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	I76644.D	1	12/24/11	KR	12/21/11	OP27301	MSI2821

Run #1	Initial Volume	Final Volume
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	47%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.8
3

Client Sample ID: MW-25S	Date Sampled: 12/14/11
Lab Sample ID: MC6577-8	Date Received: 12/17/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: North Albany, 1125 Broadway, Albany, NY	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Barium	2630	50	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Cadmium	< 4.0	4.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Lead	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	12/19/11	12/20/11 EAL	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	12/23/11	12/24/11 PY	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA13756

(2) Instrument QC Batch: MA13789

(3) Prep QC Batch: MP18292

(4) Prep QC Batch: MP18331

RL = Reporting Limit

Report of Analysis

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33

Client Sample ID:	MW-25S	Date Sampled:	12/14/11
Lab Sample ID:	MC6577-8	Date Received:	12/17/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	North Albany, 1125 Broadway, Albany, NY		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Cyanide	0.057	0.010	mg/l	1	12/20/11 18:39	MA	SW846 9012

RL = Reporting Limit

Raw Data: **G113948.D**

Accutest LabLink@120525 12:13 13-Jan-2012

Report of Analysis

Page 1 of 1

Client Sample ID: TRIP BLANK	Date Sampled: 12/14/11
Lab Sample ID: MC6577-9	Date Received: 12/17/11
Matrix: AQ - Trip Blank Water	Percent Solids: n/a
Method: SW846 8260B	
Project: North Albany, 1125 Broadway, Albany, NY	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	G113948.D	1	12/22/11	AT	n/a	n/a	MSG4585

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



CHAIN OF CUSTODY
Accutest Laboratories of New England
495 Technology Center West, Building One
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

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Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes	
Company Name MACADIS	Project Name NG N ALBANY	Billing Information (if different from Report to)				Matrix Codes	
Street Address 6723 Townpath Rd	Street 1125 Broadway	Company Name				GW - Drinking Water GW - Ground Water VW - Water SW - Surface Water SO - Soil SL - Sludge CED - Sediment OI - Oil LOI - Other Liquid AIR - Air SOL - Other Solid YIP - Waste FBI - Equipment Wash RFB - Rinse Blank TB - Trip Blank	
City Syracuse NY 13214	City ALBANY NY	Great Address					
Project Contact LEWIS JONES	Project 00036648, 0000, 000000	City					
Phone # 315 446 9120	Client POB 315 263 2167	State					
Sample(s) Name(s) LEWIS JONES	Project Manager MIKE JONES	Zip					
Collection		Number of preserved bottles					
Field ID / Point of Collection	Field	Time	Sampled by	Matrix	# of bottles	Matrix	Matrix
-1 MW-20N	12-14-11	0855	MS	GW	6	2	1
-2 MW-3		1030	MS	GW	6	2	1
-3 MW-13 (ms/msp)		0950	LGW	GW	18	6	3
-4 MW-4		1330	MS	GW	6	2	1
-5 MW-6S		1437	TC	GW	6	2	1
-6 MW-17S		1425	UGW	GW	6	2	1
-7 MW-24S		1525	MS	GW	6	2	1
-8 MW-25S		1650	TC	GW	6	2	1
-9 TAP BLANK			TB	Z	2		
Data Deliverable Information		Comments / Special Instructions					
Turnaround Time (Business days) ☒ Std. 10 Business Days ☐ Std. 5 Business Days (By Contract only) ☐ 3 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY		Approved By (Acctest POB) / Date:					
Emergency & Rush TIA QES available via Labfax		Commercial "A" (Level 1) ☐ Commercial "B" (Level 2) ☐ FULLT (Level 3+) ☐ CT/CP ☐ MA MCP		HYASP Category A ☐ HYASP Category B ☒ State Forms ☐ EDD Format ☐ Other		SYRACUSE SC	
Sample Custody must be documented below each time samples change possession, including courier delivery.							
Received by: Ally Egan	Date/Time: 12-14-11 10:30	Received by: Ally Egan	Date/Time: 12/14/11 10:30	Received by: Ally Egan	Date/Time: 12/14/11 10:30	Received by: Ally Egan	Date/Time: 12/14/11 10:30
Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30
Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30	Received by: Ally Egan	Date/Time: 12/14/11 17:30

MC6577: Chain of Custody
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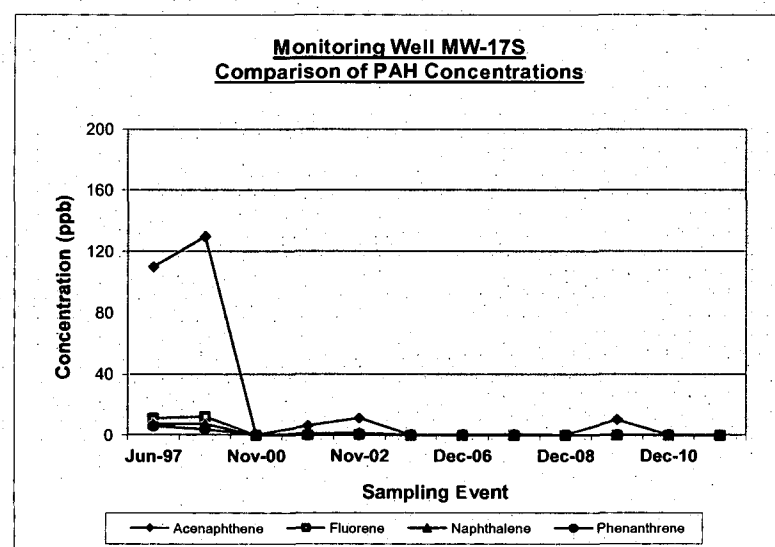
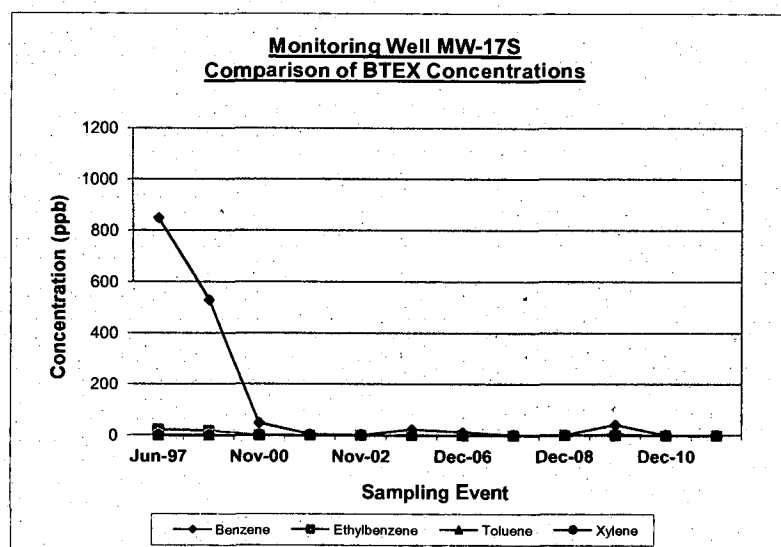
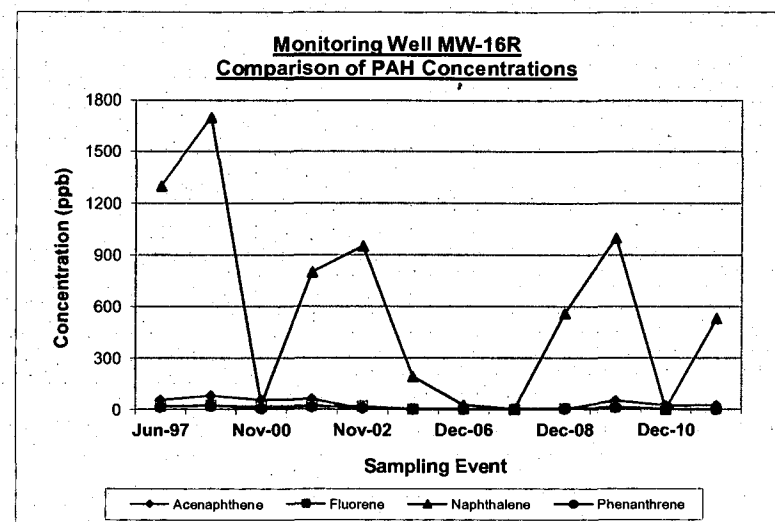
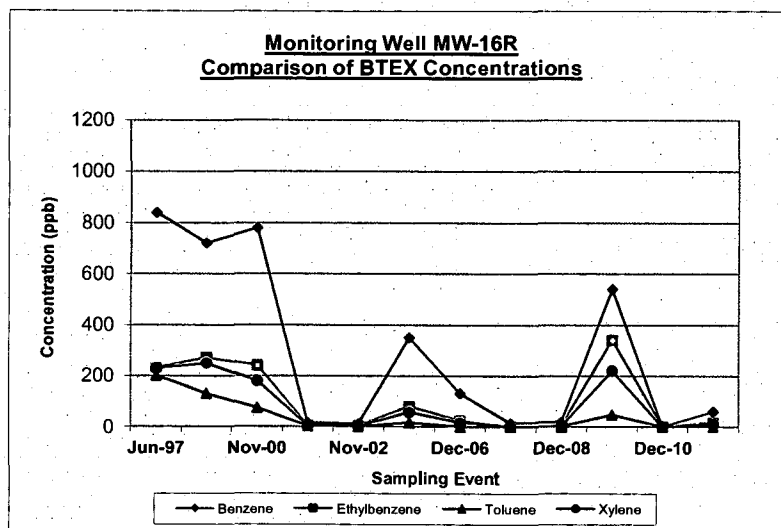
Attachment C

Offsite Groundwater Quality
Comparison Graphs

Attachment C

National Grid North Albany Service Center Albany, New York 2011 Groundwater Sampling Activities

Comparison of Historical Groundwater Analytical Results for Select Offsite Monitoring Wells



Attachment D

NAPL Monitoring Logs

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: 3/10/11
Weather: Sunny/Cloudy 36°

Personnel: EJB ANB
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		-	7.15						
		MW-4		-	3.03						Strong Odor
		MW-8		-	4.83						
		MW-10		-	-						Barrel on Alameda Plk, Massena and Hwy
		MW-13		-	4.00						Still no barrel
		MW-26S		-	~~4.65~~ 3.46						
		MW-27S		-	4.65						
		MW-28S		-	2.85						Casing Broken
Offsite Monitoring Wells											
		MW-15S		-	4.13						
		MW-17S		-	8.83						
		MW-18S	-	-	-	-	-	-	-	-	Destroyed
		MW-23S	-	-	-	-	-	-	-	-	Destroyed
		MW-24S		-	5.80						
		MW-25S		-	-	-					Full of Water

COMMENTS: _____

MONITORING WELL - DNAPL DATA COLLECTION FORM

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date: 3/10/11
Weather: Snow/Partly 36°

Personnel: ES/AMB
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		7.15		23.53						Hard Bottom Odor
		MW-5R		7.02		23.04						Soft Bottom
		MW-6A		-		-						Buried under 6' tall Snow/Ice Bank
		MW-6S		-		-						" "
		MW-7		-		-						Buried under 12' tall Snow/Ice Bank
		MW-13		4.00		17.73						Soft Bottom
		MW-14		-		-						Same as MW-7
		MW-26D		3.46 4.00		8.25	19.02					Soft Bottom, Odor
		MW-27D		7.10		24.52						
		MW-28D		6.63		21.63						Soft Bottom, Odor
		MW-101		-		-						Under Plowed Snow, Ice
		MW-102		-		-						Broken down Vehicles
		MW-103		-		-						
		MW-104		-		-						
		MW-105		3.00		7.06						Very Soft Bottom
Onsite Monitoring Wells												
		MW-16DR		6.50		37.30						Soft Bottom
		MW-16RD		7.13		19.92						Hard Bottom
		MW-17D		-		-						Destroyed
		MW-19D		6.35		24.70						Soft Bottom

COMMENTS:

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: June 23, 2004
Weather: 70's, Partly cloudy (AM)

Personnel: L. Jett
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		—	7.82						blks on bottom of probe (see DNAPL)
		MW-4		—	2.97						Soft bottom, odor, sludge on probe
		MW-8		—	5.14						No J-plug
		MW-10		could not locate - may be under stone/segment in parking lot							
		MW-13		—	4.33						No J-plug
		MW-26S		—	3.59						
		MW-27S		—	6.41						Slight odor
		MW-28S		—	2.87						
Offsite Monitoring Wells											
		MW-15S		—	4.50						
		MW-17S		—	10.27						
		~~MW-18S~~	-	-	-	-	-	-	-	-	Destroyed
		~~MW-23S~~	-	-	-	-	-	-	-	-	Destroyed
		MW-24S		—	7.02						
		MW-25S		—	3.89						Soft bottom, well under pressure

COMMENTS:

MONITORING WELL - DNAPL DATA COLLECTION FORM

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date:
Weather:

June 23, 2011

70's, Partly Cloudy (AM)

Personnel:
Company:

L. J. S. S.
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 Sailer (inches)	Total DNAPL Thickness Removed, as Measured in Sailer (feet)	Amount of DNAPL Bailed (gallons)	Description of DNAPL
Onsite Monitoring Wells												
		MW-2		7.82	-*	23.53						* = blks on bottom of probe, odor
		MW-5R		6.96	23.03	23.03						odor, soft, * = blks on bottom of probe
		MW-6A		10.99	-*	14.91						hard bottom, potential for DNAPL in sed@ bottom
		MW-6S		1.65	-*	6.43						* = potential for DNAPL in sed@ bottom
		MW-7		2.46	-	5.23						soft bottom, PVC casing destroyed @ bottom, blks on probe
		MW-13		4.20	-	17.70						bottom odor
		MW-14		6.90	-	20.97						soft bottom, odor
		MW-26D		4.22	-	18.98						hard bottom
		MW-27D		4.96	-	24.50						hard bottom
		MW-28D		8.09	-	21.62						hard bottom
		MW-101		-NA	-							
		MW-102		-NA	-							
		MW-103		-NA	-							
		MW-104		2.70	-	7.50						Slight odor, soft bottom
		MW-105		-NA	-							
Offsite Monitoring Wells												
		MW-16D		8.30		19.20						soft bottom
		MW-16R		7.52		17.69						hard bottom
		MW-17D		9.90		17.38						soft bottom (sediment filled in bottom, should be deeper)
		MW-19D		7.11		24.69						hard bottom

COMMENTS:

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date: 9/22/11
Weather: Rain

Personnel: ESB and
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			7.83						
		MW-4			3.03						
		MW-8			3.02						
		MW-10		—	—						Strong Odor, Casing Under Water
		MW-13			4.46						PVC Above Casing, No J-Ply
2		MW-26S			4.24						Under Large Puddle, Rain
1		MW-27S			7.32						
1		MW-28S		—	TIC						Full of Water
Offsite Monitoring Wells											
4		MW-15S			4.82						
5		MW-17S			10.36						
		MW-18S	-	-	-	-	-	-	-	-	Destroyed
		MW-23S	-	-	-	-	-	-	-	-	Destroyed
		MW-24S			7.29						
		MW-25S			3.90						Casing Full of Sediment, Pressurized

COMMENTS: _____

MONITORING WELL - DNAPL DATA COLLECTION FORM

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

Date: 9/28/11
Weather: Rain

Personnel: ESS AMB
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		7.83		23.30						Hard Bottom
		MW-5R		4.40		23.03						
2		MW-6A		11.98		14.89						Casing Crumbled
1		MW-6S		1.72		6.45						Casing Crumbled Coal Tar on top
		MW-7		2.30		5.21						Casing Destroyed about 10' of Schedule 40
		MW-13		4.46		17.52						No I-Plum
		MW-14		6.85		26.95						Needs Repair 25' from fence flag
1		MW-26D		4.90		18.98						
2		MW-27D		5.22								
2		MW-28D		7.49		21.62						
		MW-101		-		-						Under Personal UG - Vehicle
		MW-102		-		-						Half Under Jersey Barrier
		MW-103		-		-						Under UG Vehicle - Personal
		MW-104		2.72		7.23						
		MW-105		3.33		6.77						Slight Snow
Onsite Monitoring Wells												
3		MW-16D		8.42		19.85						Casing Crumbling
2		MW-16R		7.97		37.30						Casing Broken
6		MW-17D		9.73		17.35						No Casing Destroyed?
1		MW-19D		7.35		24.70						

COMMENTS:

MONITORING WELL - DNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: 12/12/2011
Weather: Cloudy and cool

Personnel: L. Terrell/M. Skowronek
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		7.84	--	23.33						
		MW-5R		4.71	--	23						Soft Bottom, sed on probe
		MW-6A		10.91	--	14.9						
		MW-6S		1.64	*	7.4						Coal tar material on probe, * not measurable
		MW-7		-	-	-	-	-	-	-	-	Destroyed
		MW-13		4.62	--	17.53						
		MW-14		7.79	*	21.13						yellow oil-like material on probe *NM
		MW-26D		4.95	--	19.03						
		MW-27D		7.8	--	24.53						
		MW-28D		8.11	--	21.67						Soft bottom, sediment on probe
		MW-101		NA								
		MW-102		NA								
		MW-103		NA								
		MW-104		NA								
		MW-105		NA								
Offsite Monitoring Wells												
		MW-16D		8.79	--	17.62						
		MW-16R		8.35	--	37.36						
		MW-17D		-	-	-	-	-	-	-	-	Destroyed
		MW-19D		7.4	--	24.62						

COMMENTS:

MONITORING WELL - LNAPL DATA COLLECTION FORM

NATIONAL GRID NORTH ALBANY SERVICE CENTER ALBANY, NEW YORK

Date: 12/12/2011
Weather: Cloudy and cool

Personnel: L. Terrell/M. Skowronek
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		--	7.84						
		MW-4		--	2.81						Sed on probe, casing fill w/ water with sheen
		MW-8		--	5.13						
		MW-10		--	-						Not accessible due to equipment
		MW-13		--	4.62						
		MW-26S		--	4.14						
		MW-27S		--	5.36						
		MW-28S		--	3.10						
Offsite Monitoring Wells											
		MW-15S		--	4.75						
		MW-17S		--	10.6						
		MW-18S	-	-	-	-	-	-	-	-	Destroyed
		MW-23S	-	-	-	-	-	-	-	-	Destroyed
		MW-24S		--	7.51						
		MW-25S		--	4.55						

COMMENTS:
