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NC DENR
Division of Waste Management - Solid Waste

# Environmental Monitoring Reporting Form

**Notice:** This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

## Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

## Solid Waste Monitoring Data Submittal Information

**Name of entity submitting data (laboratory, consultant, facility owner):**

Joyce Engineering

**Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:**

Name: Van Burbach, Ph.D., PG Phone: (336) 323-0092

E-mail: bburbach@joyceengineering.com

| Facility name: | Facility Address: | Facility Permit # | NC Landfill Rule: (.0500 or .1600) | Actual sampling dates (e.g., October 20-24, 2006) |
|---|---|---|---|---|
| Roaring River Landfill Wilkes County | NC Highway 268 East Roaring River, NC 28669 | 97-04 | .1600 | December 17, 2014 (Soil and Groundwater) |

**Environmental Status: (Check all that apply)**

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

**Type of data submitted: (Check all that apply)**

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☐ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify)
☒ Other(specify) Soil Sampling Data for ASD

**Notification attached?**

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

## Certification

**To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.**

G. VanNess Burbach, Ph.D., PG — Facility Representative Name (Print)

Senior Technical Consultant — Title

(336) 323-0092 — (Area Code) Telephone Number

Signature — Date: 3/3/15

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1349 GEOLOGIST G. VAN NESS BURBACH

2211 West Meadowview Rd. Suite 101, Greensboro, NC 27407

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March 3, 2015

Mr. Ervin Lane
Compliance Hydrogeologist
Division of Waste Management/Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

**RE: Alternate Source Demonstration - Barium**
**Wilkes County Landfills: Roaring River Landfill, Permit No. 97-04**
**JOYCE Project No. 356.1501.11, Task No. 01**

Dear Ervin:

On behalf of Wilkes County, Joyce Engineering is presenting this Alternate Source Demonstration (ASD) pursuant to the requirements of Title 15A, Charpter 13, Subchapter 13B, Section .1634, (g) (2) of the North Carolina Division of Solid Waste Management/Solid Waste Section Regulations. This ASD addresses the North Carolina Groundwater Quality (NC 2L) Standard exceedance for barium that was detected during the October 2014 sampling event at the Wilkes County Roaring River Landfill, Permit No. 97-04.

*If you wish to have a hard copy of the report, drawings, or appendices, we will be happy to provide it upon your request.* Please feel free to contact me or Alex Everhart at (336) 323-0092 if you have any questions regarding this report.

Sincerely,
**JOYCE ENGINEERING**

Van Burbach P.G.
Senior Technical Consultant

Enclosures
C: Kent Brandon - Wilkes County, Solid Waste Director (2 copies)

***PREPARED FOR:***

WILKES COUNTY DEPARTMENT OF SOLID WASTE
9219 ELKIN HIGHWAY
ROARING RIVER, NORTH CAROLINA 27298

# ROARING RIVER LANDFILL
# PERMIT NO. 97-04

# ALTERNATE SOURCE DEMONSTRATION
# BARIUM IN GROUNDWATER

**MARCH 2015**

***PREPARED BY:***


JOYCE ENGINEERING

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**Alternate Source Demonstration**
**Barium in Groundwater**
**Roaring River Landfill**
**Wilkes County, North Carolina**

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**Alternate Source Demonstration**
**Barium in Groundwater**
**Roaring River Landfill**
**Wilkes County, North Carolina**

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# 1.0 INTRODUCTION

## 1.1 Site Information

The Wilkes County Roaring River Landfill is owned and operated by Wilkes County under Permit No. 97-04. The landfill property is located near the town of Roaring River, North Carolina. The site is located on a group of knolls rising over 150 feet above the floodplain of the Yadkin River. The property boundary and disposal area are indicated on an enlarged portion of the USGS 7 ½ minute topographic map for Ronda, North Carolina (Figure 1). The landfill facility boundary includes most of the area between the disposal cells and the Yadkin River.

The approximately 145-acre site was originally investigated for suitability as a solid waste management facility in 1989, and the facility began accepting waste in the Subtitle D lined landfill in 1993. A leachate lagoon is located southwest of the approximately 12-acre lined landfill area.

## 1.2 Site Geology

The site is located at the boundary of the Inner Piedmont Belt and Blue Ridge Belt in the Brevard Fault Zone. In the vicinity of the site, the Brevard Zone is a five-mile wide, east-northeast trending fault zone with a complex structural and metamorphic history. Finely interlayered gneiss and schist within the zone are amphibolite facies, with peak metamorphism as high as the kyanite zone for pelitic assemblages. Typically, the more highly-strained and faulted parts of the zone have experienced retrograde metamorphism to greenschist facies. Rocks in the Brevard Zone have undergone various degrees of both ductile and brittle deformation. Espenshade and others mapped four continuous faults that either bound the zone or separate rock units consistently over long distances. These faults contain both mylonitic and cataclastic rock, and exhibit the greatest degree of retrograde metamorphism. Two of these faults cross on or near the site. Bedrock at the site and in the Brevard Zone generally is more highly fractured than rock typical of most Piedmont and Mountain sites.

## 1.3 Regulatory Status

Wilkes County completes groundwater monitoring at the Roaring River Landfill in accordance with the North Carolina Solid Waste Management Regulations (NCSWMR) § 1633 (Detection Monitoring Program). The facility currently monitors groundwater for the NC Appendix I constituents and leachate for parameters listed under Section 2.2 Leachate Monitoring Program. Statistical analyses of the laboratory data have been prepared in accordance with the required compliance demonstration Rule .1632 (g) and (h) of the NCSWMR.

## 2.0 FACILITY MONITORING PROGRAM

### 2.1 Groundwater Monitoring Program

Eleven active groundwater monitoring wells comprise the monitoring network at the Roaring River Landfill. The current compliance network consists of the following monitoring wells: MW-13 (facility background well), MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-12S, MW-12D, MW-17, and MW-18.

| Monitoring Well | Date Installed | Classification | Monitoring Program | Total Depth from TOC (ft) | Lithology of Screened Interval |
|---|---|---|---|---|---|
| *MW-2* | 1/03/91 | Abandoned | - | 81.50 | Saprolite |
| *MW-2R* | 4/08/02 | Abandoned | - | 116.00 | Bedrock |
| *MW-5* | 8/12/93 | Compliance | Detection | 38.11 | Saprolite |
| *MW-6* | 8/13/93 | Compliance | Detection | 37.60 | Saprolite |
| *MW-7* | 8/11/93 | Compliance | Detection | 41.77 | Saprolite |
| *MW-8* | 8/11/93 | Compliance | Detection | 58.50 | Bedrock |
| *MW-9* | 8/12/93 | Compliance | Detection | 37.57 | Saprolite |
| *MW-10* | 9/02/98 | Compliance | Detection | 76.75 | Bedrock |
| *MW-11S* | 9/03/98 | Abandoned | - | 42.00 | Bedrock |
| *MW-11D* | 9/03/98 | Abandoned | - | 100.00 | Bedrock |
| *MW-12S* | 3/07/00 | Compliance | Detection | 104.00 | Partially Weathered Rock |
| *MW-12D* | 3/07/00 | Compliance | Detection | 134.00 | Partially Weathered Rock |
| *MW-13* | 2/05/01 | Background | Detection | 84.00 | Partially Weathered Rock |
| *MW-17* | 8/26/03 | Compliance | Detection | 24.63 | Saprolite |
| *MW-18* | 8/26/03 | Compliance | Detection | 46.85 | Saprolite |

## 3.0 ALTERNATE SOURCE DEMONSTRATION FIELD ACTIVITIES

### 3.1 Groundwater Sampling

On October 13-14, 2014 personnel from Joyce Engineering (JOYCE) completed the second semiannual monitoring of the Wilkes County Roaring River Landfill. Based on the data from the second semiannual monitoring event, JOYCE determined a verification sampling event was required for the detections of barium above its NC 2L in MW-6. The verification sampling event was performed on November 18-19, 2014, and the laboratory data package was received on December 3, 2014, and reviewed as outlined in section 3.3 of this report. The sampling on November 18-19, 2014 confirmed the presence of barium in MW-6 above the NC 2L standard. Based on the results of the verification sampling event JOYCE determined that an alternate source demonstration would be performed.

On December 17, 2014, personnel from JOYCE purged and sampled monitoring well MW-6 as part of the alternate source demonstration for barium.

The monitoring well was purged and sampled using disposable bailers during the December 2014 resampling event. Measurements of temperature, pH, specific conductivity, and turbidity

were recorded prior to purging, after each purge volume, and during sampling. Prior to sampling, laboratory-supplied containers were prepared with the following information:

- Monitoring well number (completed by laboratory/field personnel),
- Date and time of sample collection (completed by laboratory/field personnel),
- Initials of sampling personnel (completed by laboratory/field personnel),
- Project name and number (completed by the laboratory/field personnel),
- Chemical preservative (completed by the laboratory/field personnel); and
- Requested chemical analysis (completed by the laboratory/field personnel).

Groundwater samples from monitoring well MW-6 were collected directly from the bailer in the provided laboratory container approximately 3 hours after the final purge volume. Immediately after collection, the samples were placed in a laboratory provided cooler and chilled on ice. The groundwater samples from MW-6 were analyzed for total barium and lab-filtered dissolved barium. Field Logs are included in Appendix 1.

### 3.2 Soil Sampling

On December 17, 2014, personnel from Joyce Engineering (JOYCE) sampled the site soil from three soil sample locations; SS-1, SS-2, and SS-3 using a hand-auger. SS-1 was collected from a location north (upgradient of the landfill as a background sample for the facility. SS-2 and SS-3 were collected from locations near monitoring well MW-6. The depth of the soil samples ranged from 2 feet to 8 feet below the ground surface as shown in Table 3. The three soil samples were analyzed for total barium. The location s of the soil samples are shown on Drawing 2.

Prior to collecting samples, all field equipment, including hand augers, were properly decontaminated using the following procedure:

- Wash with Alconox detergent solution,
- Rinse with distilled water,
- Rinse with weak nitric acid solution
- Rinse with distilled water, and
- Air dry.

JOYCE personnel wore disposable nitrile gloves when handling the samples. Soil samples were placed in clean, laboratory-provided glassware. Immediately after collection, the samples were placed in a laboratory-provided cooler and chilled on ice. Field Logs are included in Appendix 1.

### 3.3 Laboratory Analysis and JOYCE Quality Control

The December 2014 groundwater and soil samples were submitted to Pace Analytical Services, Inc. of Huntersville, North Carolina under chain-of-custody control for analysis. JOYCE requested a Level II data package for the final laboratory reports. The samples were received by the laboratory on December 18, 2014, in good condition, properly preserved, and within the hold times for each analytical method.

Upon receipt of the laboratory data package, the data was reviewed by JOYCE personnel for the following:

- General typographical errors,
- Correct analyses performed and within method specified hold times,
- Biased data results based on Matrix Spike, Matrix Spike Duplicate, and Laboratory Control Samples,
- Blank qualified data (B-flags),
- Detections above the NC 2L Groundwater Standards or Groundwater Water Protection Standards (GWPS); and
- Detections that are above historical levels.

## 4.0 HYDROGEOLOGICAL CONDITIONS

Surface water at the site flows to the south-southwest in three site drainage features to the Yadkin River, which borders the southeastern facility boundary. Regional groundwater flow in the vicinity of the facility is also generally to the south-southwest and discharges to the Yadkin River. Groundwater beneath the site flows in two interconnected aquifers, a surficial aquifer and a fractured bedrock aquifer. Most of the groundwater flowing in these aquifers discharges either to the alluvial sediment of the Yadkin River floodplain, or to the lowermost reaches of the three site surface drainage features before reaching the river.

The historical groundwater elevations are summarized in Table 1. The groundwater elevation contours shown on Drawing 1 are based on data from the October 13, 2014, sampling event.

Based on calculations from the most recent sampling event, the average estimated linear groundwater flow velocity for the site is approximately 0.25 ft/day (Table 2). This falls within the range of historical estimates for groundwater flow velocities at this site.

## 5.0 SOURCE EVALUATION

### 5.1 Barium is Naturally Occurring

Barium, like most metals, is found in rocks, soil and sediment of the North Carolina Mountains and Piedmont as a naturally occurring element. It commonly occurs as the barite or barium sulfate (BaSO4) and witherite (BaCO3) minerals. Barite and witherite are not water soluble but, can be suspended in groundwater in particulate form, conversely barium salts can be dissolved in groundwater. In either case, barium will be detected through total metals analyses of a groundwater sample.

*Appendix B* shows a plate from *A Geochemical Atlas of North Carolina*, published by the North Carolina Geological Survey (Rid, 1993). The plate shows the occurrence of barium of sediment samples from all over the state, including several samples within 10 miles of the Roaring River Landfill. Many of the samples were found to contain barium in the range of 102-5,603 parts per

million (ppm, mg/kg). This data illustrates how ubiquitous naturally-occurring barium is in this area.

Table 4 summarized the soil sample analytical results. The analytical results for soil samples SS-2 and SS-3, taken in the vicinity of MW-6, confirm the presence of barium. Soil sample SS-1, the background soil sample for the site, contained 44,000 ppb (µg/kg) of barium. Nearly twenty nine times the concentration detected in the groundwater from MW-6, 1500 ppb (µg/kg). Soil sample SS-2 contained 113,000 ppb (µg/L) and SS-3 contained 93,500 ppb (µg/kg) of barium. These concentrations strongly support the contention that the barium detected in the groundwater at the Roaring River Landfill is naturally occurring. The complete laboratory analytical report and chain-of-custody for the soil samples are included in *Appendix B.*

## 5.2 Statistical Methods and Results

The background data for inorganic constituents were evaluated using the Shapiro-Wilk Test, Parametric Prediction Limits, Parametric Tolerance Intervals, Aitchison's Adjustment, Non-Parametric Prediction Limits, and Poisson Prediction Limits as appropriate. Background data, tests for normality, outliers, Aitchison's adjustment, tolerance interval, or prediction limits are used, as appropriate, based on the background data. The statistical test by which downgradient data are compared to facility background data is based upon the nature of the data and the number of data values that are less than the laboratory limit of detection. All statistical tests are evaluated at the 0.05 level of significance, 95% confidence level, and are conducted as one-tailed tests.

Barium was detected at a quantified concentration above its NC 2L standard in MW-6; additionally, it was determined to be a statistically significant increases (SSI). The statistical analysis for barium is presented in Appendix D and summarized in the table below. There were no other quantified detections of any inorganic constituents above their NC-2L or GWPS in any downgradient wells during the October 2014 event.

| Constituent | Data Distribution | Statistical Method used to Establish Background | Background Concentration | NC 2L or GWPS* | GPS | GPS Exceedances |
|---|---|---|---|---|---|---|
| Barium | 76% ND | Nonparametric Prediction Limit | 850 µg/L | 700 µg/L | 850 µg/L | MW-6 |

While the recent barium detections in MW-6 are greater than the background for the site, the highest concentration is less than a factor of two higher and within the range that can be naturally occurring.

## 5.3 pH of Groundwater in MW-6

The pH of groundwater is often a factor in the sorption or leaching of minerals in soil. This provides essential understanding to collid and solute transport of materials in groundwater. Metals tend to dissolve in groundwater at lower pH levels. When comparing the overall decreasing pH during the last six groundwater monitoring events to the overall increasing trend

in barium (see trend charts in Appendix D) it provides evidence that the barium detections are naturally occurring. Furthermore, the pH of leachate from the facility is very high, so the decreasing pH in MW-6 supports the contentions that the barium detected in MW-6 is not due to leachate impact.

### 5.4 No Leachate Impact

There is no substantial evidence of leachate impact to the groundwater in the vicinity of MW-6. The analytical results from the December 2014 second semiannual sampling event found a significantly lower concentration of barium in the leachate than in the groundwater or in the December 2014 soil samples (see Tables 7, 10 & 11). There were no organic constituents detected at quantified concentrations in the leachate and no detections in any of the monitoring wells across the site therefore, it is unlikely that the exceedances of barium are from leachate impact on the groundwater. The lack of any other evidence suggesting leachate impact to groundwater in this area supports the contention that the barium detected in MW-6 was not due to a release from the landfill.

### 5.5 SHALLOW WELL WITH HIGH TURBIDIDTY

MW-6 is a shallow well which typically has less than 5 feet of water and, which in drought conditions, is frequently dry. During the October 2014 sampling and the November 2014 and December 2014 resampling events the water column was only 2.60, 1.73, and 1.10 feet, respectively. In all three cases only one well volume of water could be purged before the well went dry, and at the end of purging, the turbidity was over >1000 ntu. The well has to be left for several hours after purging before a sample can be collected. This low volume and high turbidity can contribute significantly to the concentrations of total metals and dissolved metals in the water samples. The fact that the concentration of dissolved barium was 31% lower than the concentration of total barium in the December 2014 sample indicates that high turbidity is a significant factor, which supports the contention that the barium in MW-6 is naturally occurring.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Conclusions

This *Alternate Source Demonstration* provides evidence that the barium detected in the groundwater at the Wilkes County Roaring River Landfill is naturally occurring. Soil sampling data, historical groundwater data, and geochemical data all indicate a natural source. Furthermore the lack of any organic exceedances or other evidence of leachate impact to MW-6 supports that the landfill is not the source of the barium exceedance.

### 6.2 Recommendations

Based on the results of this demonstration, we recommend that the recent as well as any future detections of barium in the groundwater or surface water at the Wilkes County Roaring River Landfill be considered naturally occurring and not exceedances of the groundwater standards.

The Roaring River Landfill should continue with the routine Detection Monitoring program as outlined in Title 15A NCAC 13B .1633.

## 7.0 REFERENCES


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# Tables

# TABLE 1

## Summary of Historical Groundwater Elevations

| Location | Background | | | Downgradient | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 |
| **TOC Elevation** | 1115.00 | 1118.10 | 1067.26 | 996.15 | 981.01 | 984.08 | 984.46 | 971.89 | 1024.10 | 1052.79 | 1052.89 | 986.68 | 1026.49 |
| **Well Depth** | 81.50 | 116.00 | 84.00 | 38.11 | 37.60 | 41.77 | 58.50 | 37.57 | 76.75 | 104.00 | 134.00 | 24.63 | 46.85 |
| **Oct-94** | 1042.13 | NI | NI | 966.74 | 949.27 | 947.37 | 948.60 | 943.17 | NI | NI | NI | NI | NI |
| **Apr-95** | 1042.19 | NI | NI | 966.73 | 949.01 | 946.65 | 948.07 | 943.08 | NI | NI | NI | NI | NI |
| **Oct-95** | 1041.70 | NI | NI | 967.05 | 948.73 | 946.67 | 947.85 | 943.24 | NI | NI | NI | NI | NI |
| **Apr-96** | 1043.10 | NI | NI | 968.15 | 950.20 | 947.21 | 948.46 | 943.34 | NI | NI | NI | NI | NI |
| **Nov-96** | 1040.56 | NI | NI | 967.40 | 949.28 | 946.75 | 947.96 | 943.36 | NI | NI | NI | NI | NI |
| **Mar-97** | 1041.55 | NI | NI | 968.14 | 951.06 | 947.61 | 948.99 | 944.23 | NI | NI | NI | NI | NI |
| **Sep-97** | 1039.38 | NI | NI | 966.55 | 948.88 | 947.07 | 951.62 | 943.81 | NI | NI | NI | NI | NI |
| **Mar-98** | 1037.72 | NI | NI | 969.55 | 949.61 | 946.98 | 948.34 | 944.19 | NI | NI | NI | NI | NI |
| **Sep-98** | 1042.12 | NI | NI | 967.92 | 950.09 | 947.36 | 948.57 | 943.43 | 956.95 | NI | NI | NI | NI |
| **Oct-98** | 1040.53 | NI | NI | 967.13 | 948.76 | 946.77 | 947.98 | 943.37 | 956.08 | NI | NI | NI | NI |
| **Nov-98** | 1039.10 | NI | NI | 966.53 | 947.76 | 946.33 | 947.68 | 943.64 | 955.13 | NI | NI | NI | NI |
| **Dec-98** | 1038.41 | NI | NI | 966.20 | 947.24 | 946.08 | 947.35 | 942.29 | 954.56 | NI | NI | NI | NI |
| **Feb-99** | 1036.80 | NI | NI | 968.43 | 947.79 | 946.31 | 947.61 | 943.77 | 953.18 | NI | NI | NI | NI |
| **Apr-99** | Dry | NI | NI | 967.89 | 948.44 | 946.36 | 947.61 | 943.34 | 952.93 | NI | NI | NI | NI |
| **Sep-99** | Dry | NI | NI | 965.54 | 946.43 | 945.33 | 946.50 | 942.86 | NA | NI | NI | NI | NI |
| **Apr-00** | Dry | NI | NI | 965.71 | 945.72 | 945.34 | 947.85 | 943.31 | 951.29 | 958.39 | 958.38 | NI | NI |
| **Sep-00** | Dry | NI | NI | 964.15 | 945.49 | 945.20 | 946.52 | 943.43 | 949.79 | 956.37 | 956.58 | NI | NI |
| **Mar-01** | Dry | NI | NM | 964.30 | 944.87 | 944.86 | 946.21 | 943.49 | 948.39 | 954.38 | 954.56 | NI | NI |
| **Oct-01** | Dry | NI | 1011.26 | 960.32 | 944.79 | 944.15 | 945.46 | 943.49 | 947.56 | 954.05 | 953.23 | NI | NI |
| **Apr-02** | Dry | 1018.99 | 1007.27 | 961.64 | 946.59 | 944.28 | 945.71 | 943.38 | 947.40 | 952.78 | 949.37 | NI | NI |
| **Nov-02** | AB | 1032.21 | 1010.05 | 961.81 | 946.92 | 943.07 | 946.25 | 943.90 | 947.40 | 949.98 | 946.52 | NI | NI |
| **May-03** | AB | 1037.34 | 1008.78 | 964.50 | 951.47 | 946.87 | 948.19 | 944.07 | 947.43 | 951.89 | 944.49 | NI | NI |
| **Nov-03** | AB | 1041.84 | NM | 962.60 | 950.27 | 946.77 | 948.05 | 943.42 | 948.66 | 955.89 | 954.78 | NS | NS |
| **Apr-04** | AB | 1041.41 | NM | 963.52 | 948.59 | 946.70 | 947.51 | 943.88 | 948.54 | 954.92 | 954.11 | 967.57 | 995.90 |
| **Oct-04** | AB | 1041.53 | NM | 962.11 | 947.33 | 945.43 | 945.76 | 943.68 | 950.62 | 954.06 | 954.41 | 967.30 | 995.49 |
| **May-05** | AB | 1041.82 | NM | 963.19 | 949.53 | 946.57 | 946.85 | 943.96 | 948.89 | 954.14 | 954.73 | 967.46 | 987.81 |
| **Oct-05** | AB | 1042.35 | NM | 960.87 | 945.83 | 945.05 | 945.27 | 943.51 | 948.62 | 954.36 | 953.60 | 967.19 | 993.87 |
| **29-Jun-06** | AB | 1030.65 | NM | 958.18 | 943.61 | 944.08 | 944.52 | 946.31 | 948.21 | 952.45 | 952.55 | 963.04 | 991.49 |
| **07-Dec-06** | AB | 1039.79 | NM | 959.85 | Dry | 944.43 | 944.76 | 943.76 | Dry | 951.34 | 951.34 | Dry | 992.24 |
| **28-Jun-07** | AB | 1040.52 | NM | 959.61 | Dry | 944.40 | 944.82 | 942.93 | 947.61 | 951.35 | 951.38 | 966.53 | 979.73 |
| **19-Dec-07** | AB | 1038.71 | NM | 958.68 | Dry | 942.46 | 942.74 | 941.34 | 947.61 | 949.72 | 930.89 | 966.68 | 979.73 |
| **28-Apr-08** | AB | 1067.25 | NM | 959.42 | Dry | 942.67 | 943.02 | 941.66 | 947.42 | 949.95 | 949.97 | 966.79 | 993.45 |
| **30-Dec-08** | AB | 1037.69 | NM | 958.27 | Dry | 942.39 | NS | 942.20 | 947.41 | 950.11 | 944.41 | 967.03 | 990.66 |
| **24-Jun-09** | AB | 1038.56 | NM | 958.47 | 946.16 | 944.79 | NS | 944.39 | 947.57 | 951.65 | 943.56 | 962.69 | 994.60 |
| **16-Dec-09** | AB | 1041.43 | NM | 960.52 | 950.67 | 952.89 | NS | 944.70 | 947.37 | 952.90 | 940.66 | 967.30 | 996.27 |
| **22-Jun-10** | AB | 1045.29 | NM | 959.14 | 950.08 | 946.27 | NS | 944.20 | 947.61 | 955.62 | 936.47 | 966.86 | 995.72 |
| **01-Nov-10** | AB | AB | 1012.67 | 958.94 | 947.98 | 945.57 | NS | 944.20 | 947.62 | 950.81 | 950.87 | 966.85 | 994.96 |
| **11-Apr-11** | AB | AB | 1012.21 | 960.16 | 947.96 | 945.46 | NS | 944.81 | 947.58 | 950.19 | 949.84 | 967.38 | 996.18 |
| **17-Oct-11** | AB | AB | 1011.17 | Dry | 944.73 | 943.17 | NS | 941.77 | Dry | 950.14 | 949.15 | 966.68 | 979.84 |
| **09-Apr-12** | AB | AB | 1010.38 | Dry | 944.46 | 943.39 | NS | 942.51 | Dry | 950.15 | 949.00 | 967.22 | Dry |
| **16-Oct-12** | AB | AB | 1009.93 | Dry | 944.17 | 943.19 | NS | 942.61 | Dry | 950.79 | 950.89 | 966.68 | Dry |
| **15-Apr-13** | AB | AB | 1011.54 | 959.46 | 947.25 | 944.28 | NS | 944.49 | 947.52 | 949.10 | 949.24 | 967.50 | 995.28 |
| **07-Oct-13** | AB | AB | 1014.11 | - | 948.82 | 945.27 | NS | 942.44 | - | 949.19 | 949.24 | 965.59 | 993.87 |
| **28-Apr-14** | AB | AB | 1014.18 | - | 950.33 | 946.48 | NS | 944.49 | - | 951.17 | 951.25 | 967.23 | 996.68 |
| **13-Oct-14** | AB | AB | 1012.83 | - | 946.01 | 944.39 | NS | 942.87 | - | 950.65 | 951.01 | 966.44 | 993.72 |

**Notes:**

1. Dry = Monitoring well was considered to be dry and no water level measured.
2. AB = Monitoring well was abandoned.
3. NI = Monitoring well was not installed.
4. NS = Monitoring well was not sampled.
5. NA = Not available.
6. Shaded cells indicated the deepest the water level meter could reach.

# TABLE 2

## Estimated Hydraulic Gradients and Average Linear Velocities

| GRADIENT CALCULATION SEGMENT | FLOW LINE LENGTH (feet) | FLOW DIRECTION | October-14 | | | | |
|---|---|---|---|---|---|---|---|
| | | | GROUNDWATER ELEVATION (feet) | HORIZONTAL GRADIENT i (ft/ft) | HYDRAULIC CONDUCTIVITY K (ft/day) | EFFECTIVE POROSITY n | LINEAR VELOCITY V (ft/day) |
| $i_1$ | 896 | WSW | 1030<br>970 | 0.067 | 5.5E-01 | 0.16 | 0.23 |
| $i_2$ | 1342 | SSW | 1030<br>950 | 0.060 | 5.5E-01 | 0.16 | 0.21 |
| $i_3$ | 976 | SSE | 1040<br>950 | 0.092 | 5.5E-01 | 0.16 | 0.32 |
| | | | Average | 0.073 | | Average | 0.25 |

**Notes:**

1. Linear flow velocities in plain type = $Ki/n_e$.
2. Effective porosity is based on average specific yields calculated using the Johnson (1967) textural classification triangle from the Design Hydrogeologic Report and Groundwater Monitoring Plan prepared by Joyce Engineering, Inc. in April 2004.
3. Hydraulic conductivity is based on a geomean of individual well slug tests performed for wells at the site.
4. Gradient calculation segments were obtained from Drawing No. 1.

**Table 3**
**Summary of Soil Characteristics**

| | | Location | | |
|---|---|---|---|---|
| | | **SS-1** | **SS-2** | **SS-3** |
| **Soil Moisture** | | 10.80% | 20.70% | 18.80% |
| **Depth** | | | | |
| 0.0 | 0.5 | Red-orange silty sand with weather rock and abundant mica | Top soil, organic matter | Brown silty topsoil and coble size rocks |
| 0.5 | 1.0 | Brown-red silty coarse sand | Red clayey silt | Orange clayey sandy silt |
| 1.0 | 1.5 | | Red-Brown clayey silty sand | |
| 1.5 | 2.0 | Brown-silty sand with large weathered rock fragments | Red-brown sandy silt, small amount of clay and mica | |
| 2.0 | 2.5 | Auger Refusal at 2.0 | Orange silty clay | |
| 2.5 | 3.0 | | Orange silty clay with white and black weathered rock | |
| 3.0 | 3.5 | | | |
| 3.5 | 4.0 | | | |
| 4.0 | 4.5 | | Yellow silty clay with white weathered rock | |
| 4.5 | 5.0 | | | Orange-yellow sandy silt to silty sand with white and black veins of weathered minerals, increasing rock |
| 5.0 | 5.5 | | Orange clayey silt with white, black and yellow weathered rock | |
| 5.5 | 6.0 | | | |
| 6.0 | 6.5 | | | |
| 6.5 | 7.0 | | | |
| 7.0 | 7.5 | | | |
| 7.5 | 8.0 | | | Orange-yellow sandy silt, white silty-sand and weathered rock |
| 8.0 | - | | Final depth at 8.0 | Auger refusal at 8.0 |

Notes:
Depth measured in feet.

## Table 4: Barium Concentrations in Soil

| | Soil Samples | | |
|---|---|---|---|
| | **S-1** | **S-2** | **S-3** |
| Sample Depth | 2.0 | 8.0 | 8.0 |
| Soil Sampling Event: December 17, 2014 | | | |
| Barium (total) | 44.0 | 113 | 93.5 |
| % Moisture | 10.8% | 20.7% | 18.8% |

Concentrations in milligrams per kilogram (mg/kg) = parts per million.
Sample Depth in feet.

# Table 5

## Barium Detections in MW-6

| Analyte | Sample Collection Date | DL | QL | MW-6 | | Field Blank | |
|---|---|---|---|---|---|---|---|
| **Inorganic Compounds** | | | | | | | |
| Barium | Oct-05 | NR | 500 | ND | | ND | |
| NC 2L = 700 µg/L (1/01/10) | 29-Jun-06 | NR | 500 | --- | | | |
| | 07-Dec-06 | NR | 100 | --- | | | |
| | 28-Jun-07 | 1.1 | 100 | --- | | | |
| | 19-Dec-07 | 1.1 | 100 | --- | | | |
| | 28-Apr-08 | 1.1 | 100 | --- | | 5.1 | |
| | 30-Dec-08 | 1.1 | 100 | --- | | 24.9 | J |
| | 24-Jun-09 | 1.1 | 100 | 101 | | 33.2 | J |
| | 16-Dec-09 | 1.1 | 100 | 57.5 | J | 1.2 | J |
| | 22-Jun-10 | 1.1 | 100 | 118 | | 9.2 | J |
| | 02-Nov-10 | 1.1 | 100 | 113 | | 3.5 | J |
| | 12-Apr-11 | 0.20 | 100 | 122 | | 1.7 | J |
| | 18-Oct-11 | 5.0 | 100 | 129 | | 15.7 | J |
| | 10-Apr-12 | 5.0 | 100 | 262 | | 13.2 | J |
| | 16-Oct-12 | 5.0 | 100 | --- | | ND | |
| | 16-Apr-13 | 5.0 | 100 | 625 | | 15.8 | J |
| | 08-Oct-13 | 5.0 | 100 | 377 | | ND | |
| | 29-Apr-14 | 5.0 | 100 | 430 | | ND | |
| | 14-Oct-14 | 5.0 | 100 | **1050** | | ND | |
| Resample | 19-Nov-14 | 5.0 | 100 | **1200** | | ND | |
| Resample | 17-Dec-14 | 5.0 | 100 | **1550** | | ND | |
| Dissolved | 17-Dec-14 | 2.5 | 100 | **1070** | | --- | |

**NOTES:**
**NOTES:**
All concentrations are reported in micrograms per liter (ug/L).
Values in parentheses represent duplicate sample results.
MW = Groundwater monitoring well.
DL = Laboratory detection limit.
QL = Laboratory reporting limit (NC SWSL {or lower} June 2007 - present).
ND = Not detected above laboratory reporting limit.
--- = Not sampled and/or not reported
NC 2L = North Carolina 2 L Standard.
GWPS = Groundwater Protection Standards.
Detections above the NC 2L/GWPS are in **bold**.

## Table 6

## Barium Exceedances in MW-6

| Analyte | Sample Collection Date | DL | QL | MW-6 | Field Blank |
|---|---|---|---|---|---|
| **Inorganic Compounds** | | | | | |
| Barium | 14-Oct-14 | 5.0 | 100 | **1050** | ND |
| NC 2L = 700 µg/L (1/01/10) | 19-Nov-14 | 5.0 | 100 | **1200** | ND |
| | 17-Dec-14 | 5.0 | 100 | **1550** | ND |

**NOTES:**
**NOTES:**
All concentrations are reported in micrograms per liter (ug/L).
Values in parentheses represent duplicate sample results.
MW = Groundwater monitoring well.
DL = Laboratory detection limit.
QL = Laboratory reporting limit (NC SWSL {or lower} June 2007 - present).
ND = Not detected above laboratory reporting limit.
--- = Not sampled and/or not reported
NC 2L = North Carolina 2 L Standard.
GWPS = Groundwater Protection Standards.
Detections above the NC 2L/GWPS are in **bold**.

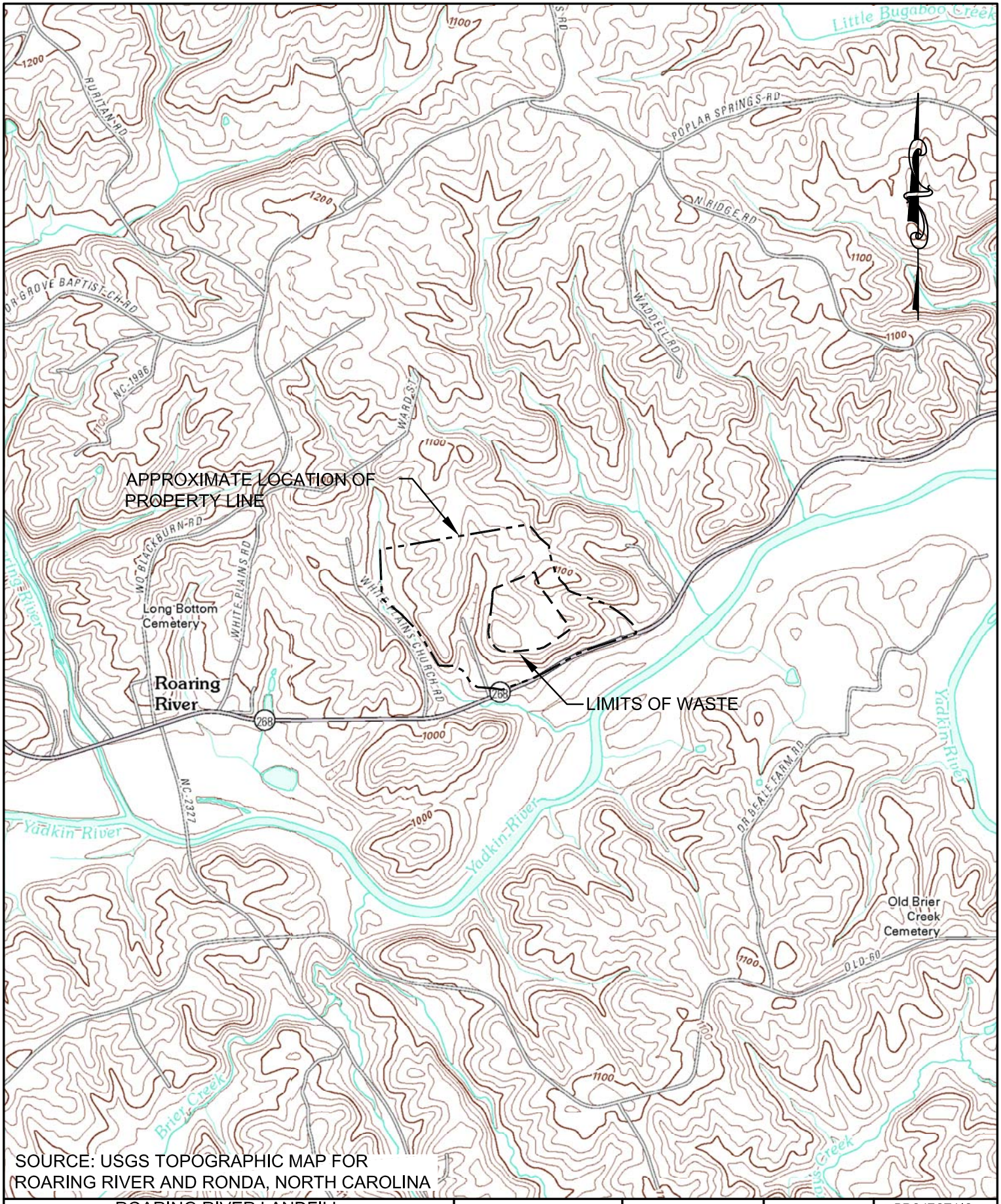
# Table 7

## Barium Detections in Leachate

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| **Inorganic Compounds** | | | | | | | |
| Barium | 07-Dec-06 | NR | 100 | 103 | | ND | |
| | 28-Jun-07 | 1.1 | 100 | 57.1 | J | 5.1 | |
| | 19-Dec-07 | 1.1 | 100 | 97.0 | B | 24.9 | J |
| | 28-Apr-08 | 1.1 | 100 | 113 | | 33.2 | J |
| | 30-Dec-08 | 1.1 | 100 | 80.0 | J | 1.2 | J |
| | 24-Jun-09 | NR | 500 | ND | | 9.2 | J |
| | 16-Dec-09 | 1.1 | 100 | 177 | | 3.5 | J |
| | 22-Jun-10 | 1.1 | 100 | 55.8 | J | 1.7 | J |
| | 02-Nov-10 | 1.1 | 100 | 55.5 | B | 15.7 | J |
| | 12-Apr-11 | 0.20 | 100 | 67.8 | J | 13.2 | J |
| | 18-Oct-11 | 5.0 | 100 | 117 | | ND | |
| | 10-Apr-12 | 5.0 | 100 | 91.1 | J | 15.8 | J |
| | 16-Oct-12 | 5.0 | 100 | 157 | | ND | |
| | 16-Apr-13 | 5.0 | 100 | 102 | | ND | |
| | 08-Oct-13 | 5.0 | 100 | 92.1 | J | ND | |
| | 28-Apr-14 | 5.0 | 100 | 92.9 | J | ND | |
| | 13-Oct-14 | 5.0 | 100 | 148 | | ND | |

**NOTES:**
All concentrations are reported in micrograms per liter (ug/L).
DL = Laboratory detection limit.
QL = Laboratory reporting limit (NC SWSL {or lower} June 2007 - present).
ND = Not detected above laboratory reporting limit.

# Figure




SOURCE: USGS TOPOGRAPHIC MAP FOR ROARING RIVER AND RONDA, NORTH CAROLINA

| | | | | |
|---|---|---|---|---|
| ROARING RIVER LANDFILL<br>WILKES COUNTY, NORTH CAROLINA | JOYCE ENGINEERING<br>2211 W. MEADOWVIEW ROAD<br>GREENSBORO, NC 27407<br>PHONE: (336) 323-0092 | DESIGNED ACE<br>DRAWN HRW<br>CHECKED ACE<br>APPROVED GVB<br>DATE 6/10/14 | SCALE<br>1" = 2000' | PROJECT NO.<br>356 |
| SITE LOCATION MAP | | © 2014 Joyce Engineering, Inc. All rights reserved. | NC CORP LIC: C-0782 | FIGURE NO.<br>1 |

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# Drawings

## LEGEND

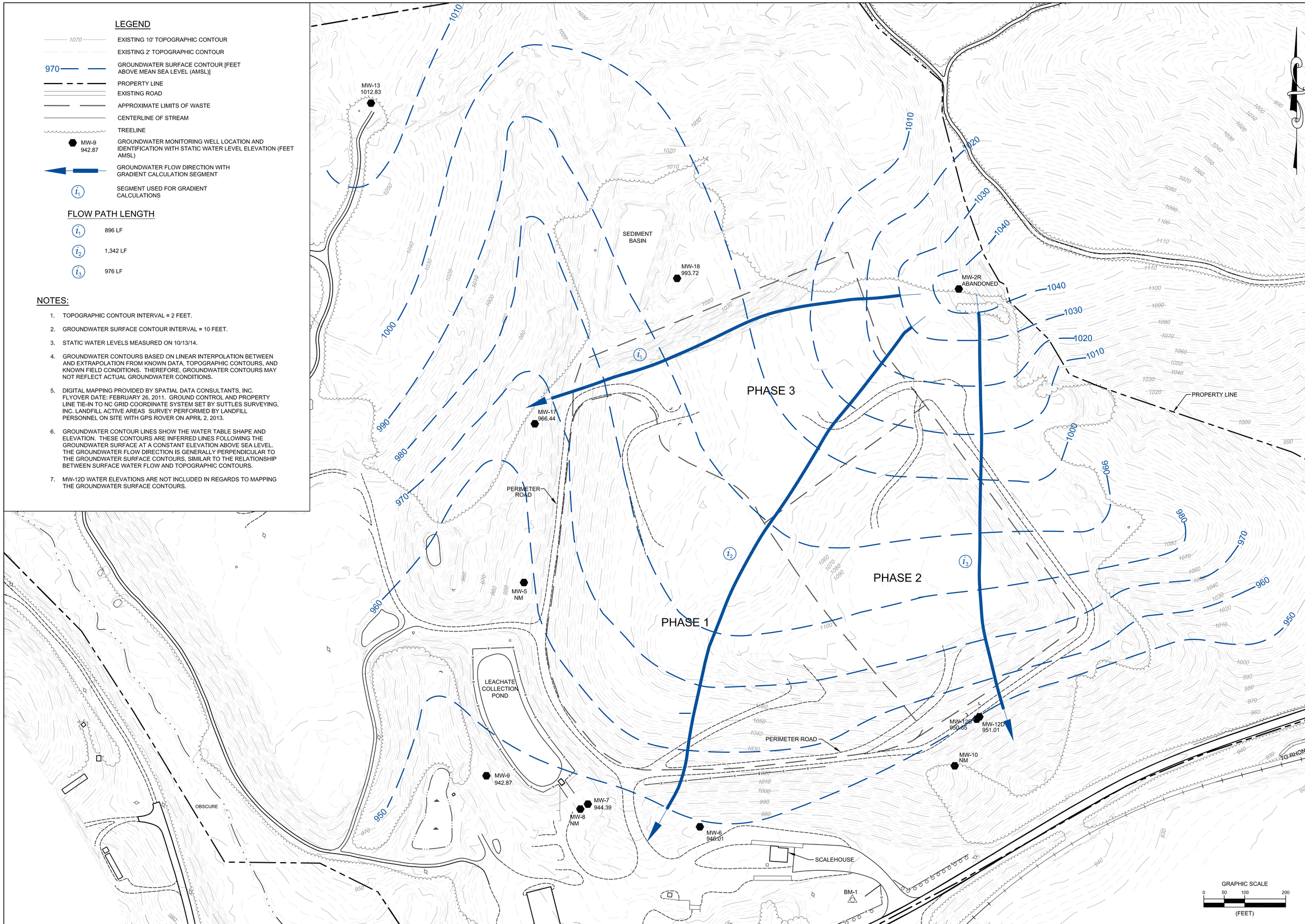
- 1070 — EXISTING 10' TOPOGRAPHIC CONTOUR
- EXISTING 2' TOPOGRAPHIC CONTOUR
- 970 — GROUNDWATER SURFACE CONTOUR [FEET ABOVE MEAN SEA LEVEL (AMSL)]
- PROPERTY LINE
- EXISTING ROAD
- APPROXIMATE LIMITS OF WASTE
- CENTERLINE OF STREAM
- TREELINE
- MW-9 942.87 — GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION WITH STATIC WATER LEVEL ELEVATION (FEET AMSL)
- GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- $i_1$ — SEGMENT USED FOR GRADIENT CALCULATIONS

## FLOW PATH LENGTH

- $i_1$ — 896 LF
- $i_2$ — 1,342 LF
- $i_3$ — 976 LF

## NOTES:

1. TOPOGRAPHIC CONTOUR INTERVAL = 2 FEET.
2. GROUNDWATER SURFACE CONTOUR INTERVAL = 10 FEET.
3. STATIC WATER LEVELS MEASURED ON 10/13/14.
4. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS. THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS.
5. DIGITAL MAPPING PROVIDED BY SPATIAL DATA CONSULTANTS, INC. FLYOVER DATE: FEBRUARY 26, 2011. GROUND CONTROL AND PROPERTY LINE TIE-IN TO NC GRID COORDINATE SYSTEM SET BY SUTTLES SURVEYING, INC. LANDFILL ACTIVE AREAS SURVEY PERFORMED BY LANDFILL PERSONNEL ON SITE WITH GPS ROVER ON APRIL 2, 2013.
6. GROUNDWATER CONTOUR LINES SHOW THE WATER TABLE SHAPE AND ELEVATION. THESE CONTOURS ARE INFERRED LINES FOLLOWING THE GROUNDWATER SURFACE AT A CONSTANT ELEVATION ABOVE SEA LEVEL. THE GROUNDWATER FLOW DIRECTION IS GENERALLY PERPENDICULAR TO THE GROUNDWATER SURFACE CONTOURS, SIMILAR TO THE RELATIONSHIP BETWEEN SURFACE WATER FLOW AND TOPOGRAPHIC CONTOURS.
7. MW-12D WATER ELEVATIONS ARE NOT INCLUDED IN REGARDS TO MAPPING THE GROUNDWATER SURFACE CONTOURS.




| DATE | REVISIONS AND RECORD OF ISSUE | NO | BY | CK | APP |
|---|---|---|---|---|---|

DESIGNED AC
DRAWN RWH
CHECKED ACE
APPROVED GVB
DATE 11/06/14

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JOYCE ENGINEERING
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PHONE: (336) 323-0092
NC CORP LIC: C-0782

ROARING RIVER LANDFILL
WILKES COUNTY, NORTH CAROLINA

POTENTIOMETRIC SURFACE CONTOUR MAP
OCTOBER 13, 2014
PERMIT NO. 97-04

PROJECT NO. 356

SCALE AS NOTED

DRAWING NO. 1

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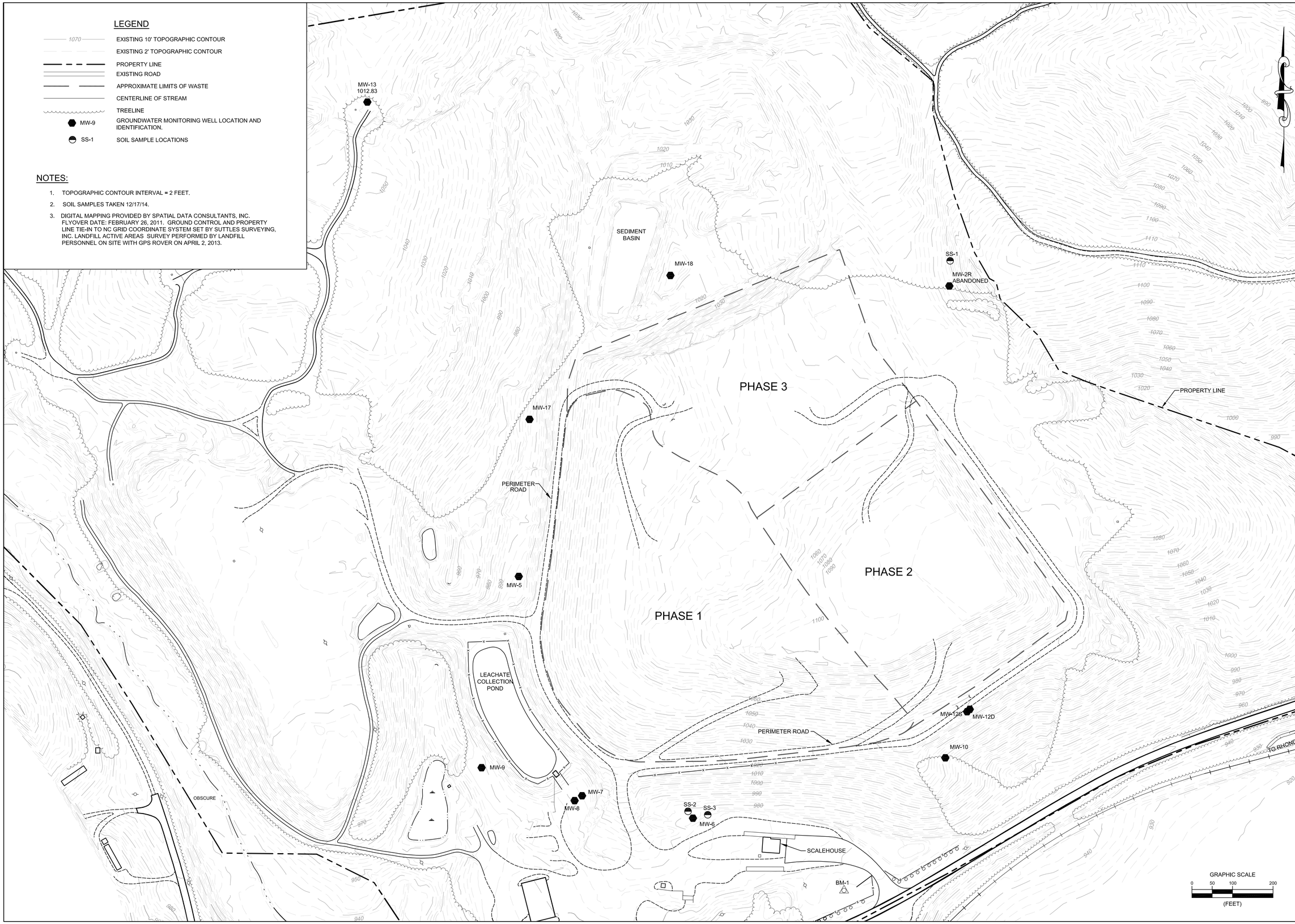
## LEGEND

| | |
|---|---|
| 1070 | EXISTING 10' TOPOGRAPHIC CONTOUR |
| | EXISTING 2' TOPOGRAPHIC CONTOUR |
| | PROPERTY LINE |
| | EXISTING ROAD |
| | APPROXIMATE LIMITS OF WASTE |
| | CENTERLINE OF STREAM |
| | TREELINE |
| MW-9 | GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION. |
| SS-1 | SOIL SAMPLE LOCATIONS |

## NOTES:

1. TOPOGRAPHIC CONTOUR INTERVAL = 2 FEET.
2. SOIL SAMPLES TAKEN 12/17/14.
3. DIGITAL MAPPING PROVIDED BY SPATIAL DATA CONSULTANTS, INC. FLYOVER DATE: FEBRUARY 26, 2011. GROUND CONTROL AND PROPERTY LINE TIE-IN TO NC GRID COORDINATE SYSTEM SET BY SUTTLES SURVEYING, INC. LANDFILL ACTIVE AREAS SURVEY PERFORMED BY LANDFILL PERSONNEL ON SITE WITH GPS ROVER ON APRIL 2, 2013.




| DATE | REVISIONS AND RECORD OF ISSUE | NO | BY | CK | APP |
|---|---|---|---|---|---|

| | |
|---|---|
| DESIGNED | ALF |
| DRAWN | RWH |
| CHECKED | ACE |
| APPROVED | GVB |
| DATE | 1/22/15 |

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PHONE: (336) 323-0092
NC CORP LIC: C-0782

ROARING RIVER LANDFILL
WILKES COUNTY, NORTH CAROLINA

SOIL SAMPLE LOCATION MAP
DECEMBER 17, 2014
PERMIT NO. 97-04

PROJECT NO.
356

SCALE
AS NOTED

DRAWING NO.
2

L:\Wilkes\dwg\2015\SOIL LOCATION MAP - ASD\SOIL LCATION MAP 2015.dwg Layout=Layout1

# Appendix A
# Historical Tables

# TABLE 8

## Summary of Historical Groundwater Constituents

| Analyte | Sample Collection Date | DL | QL | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 | Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANICS** | | | | | | | | | | | | | | | | | |
| Antimony | 28-Jun-07 | 1.2 | 6.0 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | 2.4 B (2.9 B) | ND | --- | 4.5 |
| GWPS = 1.4 µg/L (10/23/07) | 19-Dec-07 | 1.2 | 6.0 | --- | 2.0 J | --- | --- | --- | --- | ND | ND (1.2 J) | --- | --- | 3.1 J | ND | --- | ND |
| | 28-Apr-08 | 1.2 | 6.0 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | 1.3 J | ND | ND | ND |
| | 30-Dec-08 | 1.2 | 6.0 | --- | ND | --- | --- | --- | --- | --- | ND (ND) | --- | --- | ND | ND | ND | ND |
| | 24-Jun-09 | 1.2 | 6.0 | --- | 3.2 B | --- | --- | 1.9 B | ND | --- | 1.6 B | --- | --- | 2.4 (4.6 B) B | --- | 1.6 B | 3.1 J |
| | 16-Dec-09 | 1.2 | 6.0 | --- | 1.8 B | --- | --- | ND | ND | --- | 3.9 (ND) B | --- | --- | ND | 1.9 B | ND | 1.4 J |
| | 22-Jun-10 | 1.2 | 6.0 | --- | 5.0 B | --- | --- | 1.7 B | **13.0** | --- | 1.0 B | --- | --- | 5.6 B | 5.6 (3.2 B) B | 1.1 B | 1.8 J |
| Resample | 14-Sep-10 | 2.6 | 6.0 | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | --- | ND |
| GWPS = 1 µg/L (8/1/10) | 02-Nov-10 | 1.2 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | 1.9 (1.8 J) J | ND | ND | ND |
| | 12-Apr-11 | 2.6 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 5.0 | 6.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 6.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 6.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.0 | 6.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Arsenic | 24-Jun-09 | 5.5 | 10.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | 5.6 (ND) J | --- | ND | ND |
| NC 2L = 50 µg/L (10/23/07) | 16-Dec-09 | 5.5 | 10.0 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | --- | --- | ND | --- | ND | ND |
| NC 2L = 10 µg/L (1/01/10) | 22-Jun-10 | 5.5 | 10.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | ND | ND (ND) | ND | ND |
| | 02-Nov-10 | 5.5 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 2.7 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | 2.7 J | ND | ND | ND |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | 6.0 J | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | 7.9 J | --- | ND | --- | --- | 5.8 J | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | ND | ND | ND | ND | --- | 5.1 J | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Barium | Apr-94 | NR | 250 | 398 | NI | NI | ND | 444 | 3480 | ND | 1600 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 500 | 850 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 500 | 730 | NI | NI | ND | ND | 701 | ND | 516 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 500 | ND | NI | NI | ND | ND | 1630 | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 500 | ND | NI | NI | ND | ND | 1650 | ND | ND | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 500 | ND | NI | NI | ND | ND | 1660 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 500 | ND | NI | NI | ND | ND | 1440 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 500 | ND | NI | NI | ND | ND | 745 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 500 | 508 | NI | NI | ND | ND | 937 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 500 | ND | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 500 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 500 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 500 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Sep-00 | NR | 500 | --- | NI | NI | ND | 665 | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Mar-01 | NR | 500 | --- | NI | --- | ND | ND | ND | ND | ND | --- | ND (ND) | ND | NI | NI | ND |
| | Jun-01 | NR | 500 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 500 | --- | NI | --- | ND | ND | 526 | ND | ND | --- | ND | ND | NI | NI | ND |
| | Apr-02 | NR | 500 | --- | ND | --- | ND | ND | 554 | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 500 | --- | ND | --- | ND | ND | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Nov-03 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 500 | --- | ND | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 500 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 500 | --- | ND | --- | --- | --- | 563 | ND | ND | --- | --- | ND | ND | 649 | ND |
| | 07-Dec-06 | NR | 100 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 1.1 | 100 | --- | 11.2 B | --- | 139 | --- | 560 | 9.8 B | 58.4 J | --- | --- | 12.3 B (16.5 B) | 118 | --- | 5.1 |
| NC 2L = 2,000 µg/L (10/23/07) | 19-Dec-07 | 1.1 | 100 | --- | 7.6 B | --- | --- | --- | --- | 9.8 B | 60.5 (60.3 B) B | --- | --- | 3.0 B | 104 B | --- | 24.9 J |
| | 28-Apr-08 | 1.1 | 100 | --- | 11.7 B | --- | 221 | --- | --- | 6.6 (13.5 B) B | 47.5 B | --- | --- | 7.6 B | 90.1 B | 204 | 33.2 J |
| | 30-Dec-08 | 1.1 | 100 | --- | 12.9 J | --- | --- | --- | --- | --- | 430 ( 448) | --- | --- | 11.2 J | 86.5 J | 601 | 1.2 J |
| | 24-Jun-09 | 1.1 | 100 | --- | 9.2 B | --- | --- | 101 | 344 | --- | 154 | --- | --- | 9.2 (6.0 B) B | --- | 56.3 J | 9.2 J |
| | 16-Dec-09 | 1.1 | 100 | --- | 7.7 B | --- | --- | 57.5 J | 308 | --- | 103 (103) | --- | --- | 8.1 B | 55.6 J | 68.1 J | 3.5 J |
| NC 2L = 700 µg/L (1/01/10) | 22-Jun-10 | 1.1 | 100 | --- | 4.8 B | --- | --- | 118 | 507 | --- | 62.2 J | --- | --- | 7.8 B | 49.7 (55.3 J) J | 55.4 J | 1.7 J |
| | 02-Nov-10 | 1.1 | 100 | --- | --- | 5.7 B | --- | 113 | 407 | --- | 72.1 B | --- | --- | 10.2 (6.8 B) B | 44.2 B | 36.0 B | 15.7 J |
| | 12-Apr-11 | 0.20 | 100 | --- | --- | 5.5 B | --- | 122 | 413 | --- | 151 | --- | --- | 18.7 B | 46.7 B | 39.2 B | 13.2 J |
| | 18-Oct-11 | 5.0 | 100 | --- | --- | ND | --- | 129 | --- | --- | 58.0 J | --- | --- | 12.6 J | 61.8 J | --- | ND |
| | 10-Apr-12 | 5.0 | 100 | --- | --- | ND | --- | 262 | 339 | --- | 64.8 B | --- | --- | 15.2 B | 52.9 B | --- | 15.8 J |
| | 16-Oct-12 | 5.0 | 100 | --- | --- | ND | --- | --- | --- | --- | 87.9 J | --- | --- | 6.0 J | 46.3 J | --- | ND |
| | 16-Apr-13 | 5.0 | 100 | --- | --- | ND | --- | 625 | 331 | --- | 154 | --- | --- | 12.9 J | 46.0 J | 45.6 J | ND |
| | 08-Oct-13 | 5.0 | 100 | --- | --- | 5.9 J | --- | 377 | 484 | --- | 67.6 J | --- | --- | 6.5 J | 63.1 J | 41.6 J | ND |
| | 29-Apr-14 | 5.0 | 100 | --- | --- | 63 J | 151 | 430 | 545 | --- | 125 | --- | --- | 12.9 J | 82.9 J | 37.4 J | ND |
| | 14-Oct-14 | 5.0 | 100 | --- | --- | ND | --- | **1050** | 478 | --- | 63.6 J | --- | --- | 21.8 J | 66.5 J | 44.6 J | ND |
| Resample | 19-Nov-14 | 5.0 | 100 | --- | --- | --- | --- | **1200** | --- | --- | --- | --- | --- | --- | --- | --- | ND |
| Resample | 17-Dec-14 | 5.0 | 100 | --- | --- | --- | --- | **1550** | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Beryllium | Apr-94 | NR | 5 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | --- |
| | Oct-94 | NR | 2 | 28 | NI | NI | ND | ND | 6 | ND | 4 | NI | NI | NI | NI | NI | --- |
| | Apr-95 | NR | 2 | 6 | NI | NI | 3 | 2 | 2 | ND | 6 | NI | NI | NI | NI | NI | --- |
| | Oct-95 | NR | 2 | 2 | NI | NI | 4 | 2 | 4 | ND | 2 | NI | NI | NI | NI | NI | --- |
| | Apr-96 | NR | 2 | ND | NI | NI | 5 | 3 | 5 | 3 | 3 | NI | NI | NI | NI | NI | --- |
| | Nov-96 | NR | 2 | 4 | NI | NI | 4 | ND | 4 | ND | 3 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 2 | ND | NI | NI | 3 | ND | 3 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 2 | 13 | NI | NI | 4 | ND | 4 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 2 | 8 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 2 | 4 | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 2 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 2 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 2 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Sep-00 | NR | 2 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | 7 (ND) | NI | NI | ND |
| | Mar-01 | NR | 2 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND (ND) | ND | NI | NI | ND |
| | Oct-01 | NR | 2 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Apr-02 | NR | 2 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 2 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Nov-03 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 2 | --- | ND | --- | ND | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 2 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 2 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 5 | ND |
| | 07-Dec-06 | NR | 1 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.2 | 1.0 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | ND | --- | ND |
| GWPS = 4 µg/L (10/23/07) | 19-Dec-07 | 0.2 | 1.0 | --- | ND | --- | --- | --- | --- | ND | 0.3 (ND) J | --- | --- | ND | ND | --- | ND |
| | 28-Apr-08 | 0.2 | 1.0 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | ND | 0.3 J | 1.5 | ND |
| | 30-Dec-08 | 0.2 | 1.0 | --- | 0.6 J | --- | --- | --- | --- | --- | 0.4 (1.6) J | --- | --- | ND | 0.3 J | 3.0 | ND |
| | 24-Jun-09 | 0.2 | 1.0 | --- | ND | --- | --- | 0.5 J | ND | --- | 1.4 | --- | --- | ND (ND) | --- | 0.3 J | ND |
| | 16-Dec-09 | 0.2 | 1.0 | --- | ND | --- | --- | ND | ND | --- | 0.6 (0.5 J) J | --- | --- | ND | 0.2 J | 0.5 J | ND |
| | 22-Jun-10 | 0.2 | 1.0 | --- | ND | --- | --- | 0.3 J | ND | --- | ND | --- | --- | ND | ND (ND) | 0.3 J | ND |
| | 02-Nov-10 | 0.2 | 1.0 | --- | --- | 0.3 J | --- | 0.4 J | 0.2 J | --- | 0.6 J | --- | --- | ND (ND) | 0.5 J | 0.5 J | ND |
| | 12-Apr-11 | 0.10 | 1.0 | --- | --- | ND | --- | ND | ND | --- | 0.78 J | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 1.0 | 1.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 1.0 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 1.0 | 1.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 1.0 | 1.0 | --- | --- | ND | --- | 1.2 | ND | --- | 1.2 | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 1.0 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 1.0 | 1.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 1.0 | 1.0 | --- | --- | ND | --- | 1.7 | ND | --- | ND | --- | --- | ND | ND | ND | ND |

# TABLE 8

## Summary of Historical Groundwater Constituents

| Analyte | Sample Collection Date | DL | QL | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 | Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium | Apr-94 | NR | 2 | 2 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 1 | 2 | NI | NI | ND | 1 | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 1 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 1 | 2 | NI | NI | 1 | 1 | ND | ND | 1 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 1 | 12 | NI | NI | 1 | 2 | 4 | ND | 3 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 1 | 17 | NI | NI | 3 | 2 | 9 | ND | 7 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 1 | 18 | NI | NI | 2 | 8 | 12 | ND | 5 | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 1 | 13 | NI | NI | 12 | ND | 3 | 1 | 1 | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 1 | 2 | NI | NI | ND | ND | ND | 3 | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 1 | 2 | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 1 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 1 | --- | NI | NI | 3.7 | ND | ND | ND | ND | --- | --- | --- | NI | NI | ND |
| | Apr-00 | NR | 1 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Sep-00 | NR | 1 | --- | NI | NI | ND | 2 | ND | ND | 3 | 2 | 4 | 4 (ND) | NI | NI | ND |
| | Mar-01 | NR | 1 | --- | NI | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Oct-01 | NR | 1 | --- | NI | --- | 3 | ND | 2 | ND | 2 | --- | 1 | 1 | NI | NI | ND |
| | Apr-02 | NR | 1 | --- | 2 | --- | ND | ND | ND | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 1 | --- | ND | --- | ND | ND | --- | ND | ND | --- | --- | 3 | NI | NI | ND |
| | May-03 | NR | 1 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Nov-03 | NR | 1 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | 24 | --- | --- | ND |
| | Jan-04 | NR | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ND | --- | --- | ND |
| | Apr-04 | NR | 1 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 1 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 1 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 1 | --- | 1 | --- | ND | ND | ND | ND | ND | --- | ND | 1 | ND | ND | ND |
| | Oct-05 | NR | 1 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 1 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 6 | ND |
| | 07-Dec-06 | NR | 1 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.2 | 1.0 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (0.3 J) | ND | --- | ND |
| NC 2L = 1.75 µg/L (10/23/07) | 19-Dec-07 | 0.2 | 1.0 | --- | 0.2 J | --- | --- | --- | --- | 1.4 | ND (1.3) | --- | --- | 1.2 | 0.6 J | --- | ND |
| | 28-Apr-08 | 0.2 | 1.0 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | 0.5 J | ND | 0.2 J | ND |
| | 30-Dec-08 | 0.2 | 1.0 | --- | 1.7 B | --- | --- | --- | --- | --- | 1.7 (1.3 B) B | --- | --- | 1.2 B | 0.5 B | 0.3 B | 0.6 J |
| | 24-Jun-09 | 0.2 | 1.0 | --- | ND | --- | --- | 0.3 B | 0.3 B | --- | 0.7 B | --- | --- | **6.6 (15.9)** | --- | 0.8 B | 0.2 J |
| Resample | 24-Sep-09 | 0.50 | 1.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ND | --- | --- | ND |
| | 16-Dec-09 | 0.20 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | --- | --- | ND | ND | ND | ND |
| NC 2L = 2 µg/L (1/01/10) | 22-Jun-10 | 0.2 | 1.0 | --- | ND | --- | --- | 0.4 J | 0.6 J | --- | 0.3 J | --- | --- | 0.5 J | ND (0.2 J) | 0.8 J | ND |
| | 02-Nov-10 | 0.2 | 1.0 | --- | --- | 0.2 J | --- | 0.4 J | 0.5 J | --- | 0.3 J | --- | --- | ND (0.5 J) | 0.2 J | 0.3 J | ND |
| | 12-Apr-11 | 0.50 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 1.0 | 1.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 1.0 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 1.0 | 1.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 1.0 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 1.0 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 1.0 | 1.0 | --- | --- | ND | **3.3** | ND | ND | --- | ND | --- | --- | ND | 1.2 | ND | ND |
| | 14-Oct-14 | 1.0 | 1.0 | --- | --- | ND | --- | 1.5 | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Chromium | Apr-94 | NR | 20 | 48 | NI | NI | ND | ND | ND | ND | 57 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 10 | 406 | NI | NI | ND | ND | 25 | ND | 26 | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 10 | 248 | NI | NI | 14 | 10 | 18 | ND | 64 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 10 | 10 | NI | NI | 22 | 141 | 34 | ND | 34 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 10 | 160 | NI | NI | 20 | 23 | 32 | ND | 32 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 10 | 175 | NI | NI | 27 | 17 | 40 | ND | 46 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 10 | 116 | NI | NI | 10 | 46 | 35 | 11 | 23 | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 10 | 127 | NI | NI | 37 | ND | 14 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 10 | 40 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 10 | 42 | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 10 | --- | NI | NI | ND | ND | ND | ND | 11 | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 10 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 10 | --- | NI | NI | ND | 14 | ND | ND | ND | 14 | 23 | 32 (58) | NI | NI | ND |
| | Sep-00 | NR | 10 | --- | NI | NI | ND | 15 | ND | ND | 11 | 13 | 19 | 32 (26) | NI | NI | ND |
| | Jun-01 | NR | 10 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | 15 | NI | NI | NA |
| | Oct-01 | NR | 10 | --- | NI | --- | ND | --- | ND | ND | ND | --- | 16 | 42 | NI | NI | ND |
| | Apr-02 | NR | 10 | --- | ND | --- | ND | --- | 10 | ND | 21 | --- | --- | 14 (14) | NI | NI | ND |
| | Nov-02 | NR | 10 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 10 | --- | ND | --- | 13 | 17 | ND | ND | ND | --- | 34 | ND | NI | NI | ND |
| | Nov-03 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 10 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | 12 | ND | ND | ND | ND | ND |
| | May-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 10 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 23 | ND |
| | 07-Dec-06 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.70 | 10.0 | --- | 1.1 B | --- | 2.9 B | --- | 2.7 B | 2.9 B | 1.3 B | --- | --- | 3.0 B (3.4 B) | 5.0 B | --- | 5.2 |
| NC 2L = 50 µg/L (10/23/07) | 19-Dec-07 | 0.7 | 10.0 | --- | ND | --- | --- | --- | --- | ND | 1.6 (1.8 J) J | --- | --- | 0.8 J | 2.2 J | --- | ND |
| | 28-Apr-08 | 0.7 | 10.0 | --- | ND | --- | 14 | --- | --- | ND (ND) | 1.0 B | --- | --- | 1.4 B | 2.6 B | 7.0 B | 2.0 J |
| | 30-Dec-08 | 0.7 | 10.0 | --- | 2.3 J | --- | --- | --- | --- | --- | 3.6 (5.4 J) J | --- | --- | 1.5 J | 2.3 J | 14.0 | ND |
| | 24-Jun-09 | 0.7 | 10.0 | --- | 1.1 J | --- | --- | 1.8 J | 1.7 J | --- | 0.8 J | --- | --- | 1.9 (0.8 J) J | --- | 1.3 | ND |
| | 16-Dec-09 | 0.7 | 10.0 | --- | 0.9 J | --- | --- | 1.6 J | 1.5 J | --- | 1.8 (1.7 J) J | --- | --- | 2.1 J | 1.6 J | 3.4 J | ND |
| NC 2L = 10 µg/L (1/01/10) | 22-Jun-10 | 0.7 | 10.0 | --- | ND | --- | --- | 2.8 J | ND | --- | ND | --- | --- | 3.0 J | 2.3 (1.5 J) J | 1.5 J | ND |
| | 02-Nov-10 | 0.7 | 10.0 | --- | --- | ND | --- | 2.8 J | 9.6 J | --- | 1.7 J | --- | --- | 0.8 (1.6 J) J | 0.9 J | ND | ND |
| | 12-Apr-11 | 0.40 | 10.0 | --- | --- | 0.81 J | --- | 1.5 J | 1.3 J | --- | 2.0 J | --- | --- | 3.0 J | 0.94 J | 1.2 J | ND |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | 6.0 J | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | **18.1** | **11.8** | ND | ND | --- | ND | --- | --- | ND | 5.4 J | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Cobalt | Apr-94 | NR | 50 | 68 | NI | NI | ND | ND | ND | ND | 220 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 10 | 174 | NI | NI | ND | ND | ND | ND | 32 | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 10 | 148 | NI | NI | ND | ND | ND | ND | 78 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 10 | ND | NI | NI | 20 | 74 | 21 | ND | 53 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 10 | 78 | NI | NI | 27 | 14 | 20 | ND | 48 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 10 | 93 | NI | NI | 23 | 11 | 23 | ND | 67 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 10 | 60 | NI | NI | ND | 24 | 23 | ND | 26 | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 10 | 77 | NI | NI | 24 | ND | ND | ND | 10 | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 10 | 66 | NI | NI | 11 | ND | 11 | ND | 14 | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 10 | 57 | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 10 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 10 | --- | NI | NI | ND | ND | ND | ND | ND | --- | --- | --- | NI | NI | ND |
| | Apr-00 | NR | 10 | --- | NI | NI | 23 | 14 | ND | ND | 16 | 16 | 61 | 12 (21) | NI | NI | ND |
| | Sep-00 | NR | 10 | --- | NI | NI | 21 | 15 | ND | ND | 17 | 12 | 57 | ND (ND) | NI | NI | ND |
| | Mar-01 | NR | 10 | --- | NI | --- | 14 | --- | ND | ND | 11 | --- | 34 (47) | ND | NI | NI | ND |
| | Jun-01 | NR | 10 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 10 | --- | NI | --- | ND | --- | ND | ND | ND | --- | 49 | ND | NI | NI | ND |
| | Apr-02 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | 12 | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 10 | --- | ND | --- | 13 | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 10 | --- | 13 | --- | 15 | 16 | ND | ND | 10 | --- | 68 | ND | NI | NI | ND |
| | Nov-03 | NR | 10 | --- | ND | --- | ND | 17 | ND | ND | ND | --- | 20 | ND | --- | --- | ND |
| | Apr-04 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 10 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | 10 | ND | ND | ND | ND | ND |
| | May-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 10 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 18 | ND |
| | 07-Dec-06 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.7 | 10.0 | --- | ND | --- | 20.1 | --- | 5.0 J | ND | 1.3 J | --- | --- | 1 .0 J (1.8 J) | 2.7 J | --- | ND |
| GWPS = 70 µg/L (10/23/07) | 19-Dec-07 | 0.7 | 10.0 | --- | ND | --- | --- | --- | --- | ND | 2.8 (2.8 J) J | --- | --- | ND | 1.3 J | --- | ND |
| | 28-Apr-08 | 0.7 | 10.0 | --- | 1.0 J | --- | 28.9 | --- | --- | 0.9 (ND) J | 1.9 J | --- | --- | ND | 1.6 J | 8.3 J | ND |
| | 30-Dec-08 | 0.7 | 10.0 | --- | 2.4 J | --- | --- | --- | --- | --- | 4.3 (7.1 J) J | --- | --- | ND | 2.0 J | 16.8 | ND |
| | 24-Jun-09 | 0.7 | 10.0 | --- | ND | --- | --- | 2.8 J | 1.5 J | --- | 2.2 J | --- | --- | ND (ND) | --- | 1.4 | ND |
| | 16-Dec-09 | 0.7 | 10.0 | --- | 2.4 J | --- | --- | 1.4 J | 1.2 J | --- | 4.6 (3.0 J) J | --- | --- | ND | ND | 2.6 J | ND |
| | 22-Jun-10 | 0.7 | 10.0 | --- | ND | --- | --- | 4.0 J | 0.9 J | --- | ND | --- | --- | ND | ND (1.2 J) | 2.8 J | ND |
| GWPS = 1 µg/L (10/1/10) | 02-Nov-10 | 0.7 | 10.0 | --- | --- | ND | --- | 3.3 J | 1.3 J | --- | 4.2 J | --- | --- | ND (ND) | ND | 1.2 J | ND |
| | 12-Apr-11 | 0.60 | 10.0 | --- | --- | ND | --- | 0.83 J | ND | --- | 2.2 J | --- | --- | 1.5 J | ND | 0.64 J | ND |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | **10.7** | **38.2** | 5.4 J | ND | --- | ND | --- | --- | ND | 5.3 J | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |

# TABLE 8

## Summary of Historical Groundwater Constituents

| Analyte | Sample Collection Date | DL | QL | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 | Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper | Apr-94 | NR | 10 | 85 | NI | NI | ND | 28 | 31 | ND | 80 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 200 | 282 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 200 | 208 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 200 | 225 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 200 | ND | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 200 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 200 | --- | NI | NI | ND | ND | ND | ND | ND | --- | --- | --- | NI | NI | ND |
| | Apr-00 | NR | 200 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND (ND) | NI | NI | ND |
| | Sep-00 | NR | 200 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Mar-01 | NR | 200 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND (ND) | ND | NI | NI | ND |
| | Jun-01 | NR | 200 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 200 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Apr-02 | NR | 200 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 200 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Nov-03 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 200 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 200 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 200 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | ND | ND |
| | 07-Dec-06 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 2.0 | 10.0 | --- | 7.6 B | --- | 9.2 B | --- | 7.6 B | 9.1 B | 4.7 B | --- | --- | 15.8 B (16.3 B) | 8.1 B | --- | 5.2 |
| NC 2L = 1,000 µg/L (10/23/07) | 19-Dec-07 | 2.0 | 10.0 | --- | 3.0 B | --- | --- | --- | --- | ND | 2.1 (3.8 B) B | --- | --- | 2.4 B | 2.3 B | --- | 2.6 J |
| | 28-Apr-08 | 2.0 | 10.0 | --- | 3.6 B | --- | 8.6 B | --- | --- | ND (4.0 B) | ND | --- | --- | 4.4 B | 3.2 B | 16.8 B | 5.8 J |
| | 30-Dec-08 | 2.0 | 10.0 | --- | 5.9 J | --- | --- | --- | --- | --- | 3.3 (3.1 J) J | --- | --- | 5.2 J | 3.2 J | 29.9 | ND |
| | 24-Jun-09 | 2.0 | 10.0 | --- | 2.0 B | --- | --- | 3.1 B | 3.0 B | --- | 2.6 B | --- | --- | 6.2 (10.2 B) B | --- | 3.7 B | 2.2 J |
| | 16-Dec-09 | 2.0 | 10.0 | --- | ND | --- | --- | ND | 1.7 J | --- | 1.4 (ND) J | ND | --- | 5.6 J | ND | ND | ND |
| | 22-Jun-10 | 2.0 | 10.0 | --- | ND | --- | --- | 4.5 J | 5.2 J | --- | 2.0 J | --- | --- | 9.3 J | 2.3 (2.3 J) J | 5.3 J | ND |
| | 02-Nov-10 | 2.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | 9.3 (3.0 J) J | ND | ND | ND |
| | 12-Apr-11 | 0.30 | 10.0 | --- | --- | 0.35 B | --- | 1.1 B | 1.2 B | --- | 3.5 J | --- | --- | 5.5 J | 0.43 B | 0.45 B | 0.30 J |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | 8.5 J | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | 7.0 J | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | 5.9 J | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | 5.4 J | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | 10.9 | 18.3 | ND | ND | --- | ND | --- | --- | ND | 5.0 J | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Lead | Apr-94 | NR | 5 | 38 | NI | NI | 15 | 34 | 39 | 5 | 116 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 10 | 106 | NI | NI | ND | ND | 22 | ND | 24 | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 10 | 82 | NI | NI | 14 | ND | 16 | ND | 48 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 10 | 12 | NI | NI | 28 | 37 | 33 | ND | 30 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 10 | 38 | NI | NI | 20 | 24 | 32 | ND | 28 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 10 | 46 | NI | NI | 27 | 15 | 35 | ND | 37 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 10 | 32 | NI | NI | ND | 45 | 31 | ND | 18 | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 10 | 43 | NI | NI | 37 | 12 | 26 | ND | 16 | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 10 | 67 | NI | NI | ND | 13 | ND | ND | 26 | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 10 | 34 | NI | NI | ND | 11 | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 10 | --- | NI | NI | ND | ND | ND | ND | ND | --- | --- | --- | NI | NI | ND |
| | Apr-00 | NR | 10 | --- | NI | NI | ND | 17 | ND | ND | ND | ND | 24 | 14 (27) | NI | NI | ND |
| | Sep-00 | NR | 10 | --- | NI | NI | ND | 27 | ND | ND | 10 | ND | 31 | 11 (7) | NI | NI | ND |
| | Mar-01 | NR | 10 | --- | NI | --- | ND | --- | ND | ND | ND | --- | 11 (15) | ND | NI | NI | ND |
| | Jun-01 | NR | 10 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | 10 | NI | NI | NA |
| | Oct-01 | NR | 10 | --- | NI | --- | ND | --- | ND | ND | ND | --- | 24 | ND | NI | NI | ND |
| | Apr-02 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 10 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 10 | --- | ND | --- | ND | 20 | ND | ND | ND | --- | 30 | ND | NI | NI | ND |
| | Nov-03 | NR | 10 | --- | ND | --- | ND | 21 | ND | ND | ND | --- | 11 | ND | --- | --- | ND |
| | Apr-04 | NR | 10 | --- | ND | --- | ND | 12 | ND | ND | ND | --- | ND | ND | 10 | ND | ND |
| | May-04 | NR | 10 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 10 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 10 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 34 | ND |
| | 07-Dec-06 | NR | 10 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 2.0 | 10.0 | --- | ND | --- | 2.0 J | --- | 4.0 J | ND | ND | --- | --- | ND | 1.9 J | --- | ND |
| NC 2L = 15 µg/L (10/23/07) | 19-Dec-07 | 2.0 | 10.0 | --- | ND | --- | --- | --- | --- | 2.3 J | 2.9 (3.7 J) J | --- | --- | 2.7 J | 2.0 J | --- | ND |
| | 28-Apr-08 | 2.0 | 10.0 | --- | 2.0 B | --- | 10.2 B | --- | --- | 1.7 (ND) B | 3.4 B | --- | --- | 3.1 B | 4.8 B | 11.5 B | 3.8 J |
| | 30-Dec-08 | 2.0 | 10.0 | --- | 5.2 J | --- | --- | --- | --- | --- | 4.4 (6.0 J) J | --- | --- | 3.8 J | ND | **26.8** | ND |
| Resample | 12-Mar-09 | 2.0 | 10.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 20.8 B | 5.2 J |
| | 24-Jun-09 | 2.0 | 10.0 | --- | ND | --- | --- | 2.6 J | 3.3 J | --- | 3.8 J | --- | --- | 1.3 (2.4 J) J | --- | ND | ND |
| | 16-Dec-09 | 2.0 | 10.0 | --- | ND | --- | --- | 3.4 J | ND | --- | ND (ND) | --- | --- | ND | ND | 8.3 J | ND |
| | 22-Jun-10 | 2.0 | 10.0 | --- | ND | --- | --- | 8.8 J | 3.7 B | --- | 3.1 B | --- | --- | 1.6 B | ND (2.3 B) | 4.4 B | 1.3 J |
| | 02-Nov-10 | 2.0 | 10.0 | --- | --- | ND | --- | 2.5 J | ND | --- | ND | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 4.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Nickel | Apr-94 | NR | 50 | 53 | NI | NI | ND | ND | ND | ND | 65 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 50 | 323 | NI | NI | ND | ND | 57 | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 50 | 254 | NI | NI | ND | ND | ND | ND | 94 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 50 | ND | NI | NI | ND | 132 | 83 | ND | 58 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 50 | 150 | NI | NI | ND | ND | 78 | ND | 56 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 50 | 180 | NI | NI | 77 | ND | 100 | ND | 100 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 50 | 107 | NI | NI | ND | ND | 55 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 50 | 129 | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 50 | ND | NI | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 50 | ND | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 50 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 50 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Sep-00 | NR | 50 | --- | NI | NI | ND | ND | ND | ND | ND | ND | ND | ND | NI | NI | ND |
| | Mar-01 | NR | 50 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND (ND) | ND | NI | NI | ND |
| | Jun-01 | NR | 50 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 50 | --- | NI | --- | ND | --- | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Apr-02 | NR | 50 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 50 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Nov-03 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 50 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 50 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | ND | ND |
| | 07-Dec-06 | NR | 50 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.6 | 50.0 | --- | 1.8 B | --- | 8.2 B | --- | 5.6 B | 3.0 B | 4.0 B | --- | --- | 4.3 B (4.5 B) | 4.6 B | --- | 5.0 |
| NC 2L = 100 µg/L (10/23/07) | 19-Dec-07 | 0.6 | 50.0 | --- | 1.8 J | --- | --- | --- | --- | 6.0 J | 4.4 (6.8 J) J | --- | --- | ND | 1.4 J | --- | ND |
| | 28-Apr-08 | 0.6 | 50.0 | --- | 1.0 B | --- | 8.9 B | --- | --- | ND (0.7 B) | 2.1 B | --- | --- | 3.2 B | 1.4 B | 8.0 B | 1.9 J |
| | 30-Dec-08 | 0.6 | 50.0 | --- | 2.2 B | --- | --- | --- | --- | --- | 5.3 (7.6 J) J | --- | --- | 2.3 B | 2.0 B | 16.9 J | 0.7 J |
| | 24-Jun-09 | 0.6 | 50.0 | --- | ND | --- | --- | 1.6 B | 1.5 B | --- | 10.6 B | --- | --- | 1.2 (2.5 B) B | --- | 1.8 B | 2.4 J |
| | 16-Dec-09 | 0.6 | 50.0 | --- | ND | --- | --- | ND | 1.0 B | --- | 5.8 (5.2 J) J | --- | --- | 2.5 B | ND | 2.5 B | 0.7 J |
| | 22-Jun-10 | 0.6 | 50.0 | --- | ND | --- | --- | ND | 2.2 J | --- | 2.3 J | --- | --- | ND | ND (ND) | ND | ND |
| | 02-Nov-10 | 0.6 | 50.0 | --- | --- | 2.3 J | --- | 3.1 J | 3.4 J | --- | 5.4 J | --- | --- | ND (1.3 J) | 1.6 J | 1.7 J | ND |
| | 12-Apr-11 | 1.7 | 50.0 | --- | --- | ND | --- | 1.7 B | 2.0 B | --- | 12.1 B | --- | --- | ND | ND | ND | 4.4 J |
| | 18-Oct-11 | 5.0 | 50.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 50.0 | --- | --- | ND | --- | 7.0 J | 9.2 J | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 50.0 | --- | --- | ND | --- | --- | --- | --- | 7.1 J | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 50.0 | --- | --- | ND | --- | 7.8 J | ND | --- | 12.8 J | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 50.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 50.0 | --- | --- | 10.9 J | 21.9 J | ND | 5.0 J | --- | 10.9 J | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.0 | 50.0 | --- | --- | ND | --- | 12.6 J | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Selenium | 29-Apr-14 | 10.0 | 10.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | 10.8 | ND | ND | ND |
| | 14-Oct-14 | 10.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| NC 2L = 20 µg/L (10/23/07) | | | | | | | | | | | | | | | | | |

# TABLE 8

## Summary of Historical Groundwater Constituents

| Analyte | Sample Collection Date | DL | QL | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 | Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 16-Dec-09 | 1.1 | 10.0 | --- | 1.1 J | --- | --- | 1.2 J | 1.2 J | --- | ND (ND) | --- | --- | ND | ND | 1.8 J | ND |
| NC 2L = 20 µg/L (1/01/10) | 22-Jun-10 | 1.1 | 10.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | **26.4** | ND (ND) | ND | ND |
| Resample | 13-Sep-10 | 0.1 | 10.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 0.11 J | --- | --- | ND |
| | 02-Nov-10 | 1.1 | 10.0 | --- | --- | ND | --- | ND | ND | --- | 1.8 J | --- | --- | ND (ND) | 2.4 J | ND | ND |
| | 12-Apr-11 | 0.10 | 10.0 | --- | --- | 0.14 B | --- | 0.25 B | 0.81 B | --- | 0.11 B | --- | --- | 0.22 B | 0.27 B | ND | 0.21 J |
| | 18-Oct-11 | 5.0 | 10.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 10.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.0 | 10.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Thallium | 28-Apr-08 | 2.7 | 5.5 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | 4.0 J | ND | ND | ND |
| GWPS = 0.28 µg/L (10/23/07) | 30-Dec-08 | 2.7 | 5.5 | --- | ND | --- | --- | --- | --- | --- | 5.0 (4.5 B) B | --- | --- | ND | ND | ND | 2.4 J |
| | 24-Jun-09 | 2.7 | 5.5 | --- | ND | --- | --- | 2.9 J | ND | --- | ND | --- | --- | ND (ND) | --- | ND | ND |
| | 16-Dec-09 | 2.7 | 5.5 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | --- | --- | ND | ND | 4.2 J | ND |
| | 22-Jun-10 | 2.7 | 5.5 | --- | ND | --- | --- | ND | 4.3 J | --- | ND | --- | --- | 3.5 J | ND (ND) | ND | ND |
| GWPS = 0.2 µg/L (10/1/10) | 02-Nov-10 | 2.7 | 5.5 | --- | --- | ND | --- | ND | 3.0 J | --- | 3.5 J | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 3.0 | 5.5 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 5.4 | 5.5 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 5.4 | 5.5 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 5.4 | 5.5 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | **6.9** | **7.6** | --- | ND |
| Resample | 20-Nov-12 | 5.4 | 5.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.4 | 5.5 | --- | --- | **7.4** | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.4 | 5.5 | --- | --- | ND | --- | ND | **9.7** | --- | **5.8** | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.4 | 5.5 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 5.4 | 5.5 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Vanadium | Apr-94 | NR | 80 | ND | --- | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 40 | 138 | --- | NI | ND | ND | ND | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 40 | 205 | --- | NI | ND | ND | 89 | ND | 89 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 40 | ND | --- | NI | ND | 122 | 150 | ND | ND | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 40 | 148 | --- | NI | ND | 50 | 147 | ND | ND | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 40 | 156 | --- | NI | 40 | ND | 184 | ND | 59 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 40 | 101 | --- | NI | ND | 97 | 152 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 40 | 125 | --- | NI | 49 | ND | 77 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 40 | 43 | --- | NI | ND | ND | 42 | ND | ND | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 40 | 44 | --- | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 40 | --- | --- | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 40 | --- | --- | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 40 | --- | --- | NI | ND | ND | ND | ND | ND | ND | ND | ND (70) | NI | NI | ND |
| | Sep-00 | NR | 40 | --- | --- | NI | ND | 41 | ND | ND | ND | ND | ND | 77 (ND) | NI | NI | ND |
| | Mar-01 | NR | 40 | --- | --- | --- | ND | --- | ND | ND | ND | --- | ND (ND) | ND | NI | NI | ND |
| | Jun-01 | NR | 40 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 40 | --- | --- | --- | ND | --- | ND | ND | ND | --- | ND | ND | NI | NI | ND |
| | Apr-02 | NR | 40 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | ND (40) | NI | NI | ND |
| | Nov-02 | NR | 40 | --- | ND | --- | ND | --- | --- | ND | ND | --- | --- | 49 | NI | NI | ND |
| | May-03 | NR | 40 | --- | ND | --- | ND | 47 | ND | ND | ND | --- | 58 | 41 | NI | NI | ND |
| | Nov-03 | NR | 40 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 40 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | May-04 | NR | 40 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 40 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 40 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | Oct-05 | NR | 40 | --- | ND | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 40 | --- | ND | --- | --- | --- | ND | ND | ND | --- | --- | ND | ND | 51 | ND |
| | 07-Dec-06 | NR | 25 | --- | ND | --- | ND | --- | 27 | ND | ND | --- | --- | ND | --- | ND | ND |
| | 28-Jun-07 | 0.4 | 25.0 | --- | ND | --- | ND | --- | 17.4 J | ND | ND | --- | --- | 27.7 (27.5) | 7.6 J | --- | ND |
| GWPS = 3.5 µg/L (10/23/07) | 19-Dec-07 | 0.4 | 25.0 | --- | 2.3 J | --- | --- | --- | --- | ND | 1.2 (1.8 J) J | --- | --- | 9.0 J | 3.3 J | --- | ND |
| | 28-Apr-08 | 0.4 | 25.0 | --- | 1.9 J | --- | 8.8 J | --- | --- | ND (ND) | 0.5 J | --- | --- | 12.5 J | 5.2 J | 14.2 J | ND |
| | 30-Dec-08 | 0.4 | 25.0 | --- | 4.7 J | --- | --- | --- | --- | --- | 7.0 (3.5 J) J | --- | --- | 9.6 J | 4.9 J | **32.1** | ND |
| Resample | 12-Mar-09 | 0.4 | 25.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 20.4 J | ND |
| | 24-Jun-09 | 0.4 | 25.0 | --- | 1.4 J | --- | --- | 3.0 J | 7.9 J | --- | ND | --- | --- | 15.7 (16.1 J) J | --- | 1.1 J | ND |
| | 16-Dec-09 | 0.4 | 25.0 | --- | 1.6 B | --- | --- | 1.2 B | 5.3 J | --- | 1.1 (ND) B | --- | --- | 22.1 J | 1.7 B | 2.6 B | 0.8 J |
| | 22-Jun-10 | 0.4 | 25.0 | --- | ND | --- | --- | 5.6 J | 1.6 J | --- | ND | --- | --- | **26.3** | ND (1.3 J) | 1.7 J | ND |
| Resample | 13-Sep-10 | 0.2 | 25.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 11.5 J | --- | --- | ND |
| GWPS = 0.3 µg/L (10/1/10) | 02-Nov-10 | 0.4 | 25.0 | --- | --- | 2.5 J | --- | 3.6 J | ND | --- | 2.0 J | --- | --- | 9.8 (8.8 J) J | 0.6 J | ND | ND |
| | 12-Apr-11 | 0.20 | 25.0 | --- | --- | 1.9 J | --- | 1.3 J | 3.4 J | --- | 1.4 J | --- | --- | 15.9 J | 0.39 J | ND | ND |
| | 18-Oct-11 | 5.0 | 25.0 | --- | --- | ND | --- | 6.8 J | --- | --- | ND | --- | --- | 6.4 J | ND | --- | ND |
| | 10-Apr-12 | 5.0 | 25.0 | --- | --- | ND | --- | 15.3 J | 19.7 J | --- | ND | --- | --- | 6.4 J | ND | --- | ND |
| | 16-Oct-12 | 5.0 | 25.0 | --- | --- | ND | --- | --- | --- | --- | 5.9 J | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 5.0 | 25.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 5.0 | 25.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 5.0 | 25.0 | --- | --- | 23.4 J | 16.1 J | ND | 7.6 J | --- | ND | --- | --- | ND | 10.2 J | ND | ND |
| | 14-Oct-14 | 5.0 | 25.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Zinc | Apr-94 | NR | 20 | 213 | NI | NI | 54 | 114 | 597 | 62 | 678 | NI | NI | NI | NI | NI | NA |
| | Oct-94 | NR | 50 | 995 | NI | NI | ND | 93 | 234 | ND | 211 | NI | NI | NI | NI | NI | NA |
| | Apr-95 | NR | 50 | 821 | NI | NI | 106 | 52 | 160 | ND | 451 | NI | NI | NI | NI | NI | NA |
| | Oct-95 | NR | 50 | ND | NI | NI | 162 | 384 | 359 | ND | 306 | NI | NI | NI | NI | NI | NA |
| | Apr-96 | NR | 50 | 622 | NI | NI | 152 | 104 | 354 | 90 | 304 | NI | NI | NI | NI | NI | NA |
| | Nov-96 | NR | 50 | 546 | NI | NI | 203 | 110 | 426 | 136 | 412 | NI | NI | NI | NI | NI | ND |
| | Mar-97 | NR | 50 | 313 | NI | NI | 80 | 144 | 378 | 128 | 189 | NI | NI | NI | NI | NI | ND |
| | Sep-97 | NR | 50 | 382 | NI | NI | 309 | 140 | 246 | 418 | 187 | NI | NI | NI | NI | NI | ND |
| | Mar-98 | NR | 50 | 267 | NI | NI | 70 | ND | 162 | 246 | 57 | NI | NI | NI | NI | NI | ND |
| | Sep-98 | NR | 50 | 256 | NI | NI | 130 | 121 | 174 | 108 | 123 | --- | NI | NI | NI | NI | ND |
| | Mar-99 | NR | 50 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Sep-99 | NR | 50 | --- | NI | NI | ND | ND | ND | ND | ND | --- | NI | NI | NI | NI | ND |
| | Apr-00 | NR | 50 | --- | NI | NI | ND | ND | 112 | ND | 77 | ND | 55 | ND (64) | NI | NI | ND |
| | Sep-00 | NR | 50 | --- | NI | NI | ND | 111 | ND | ND | 53 | ND | ND | ND | NI | NI | ND |
| | Mar-01 | NR | 50 | --- | NI | --- | ND | --- | ND | ND | ND | --- | 63 (92) | ND | NI | NI | ND |
| | Jun-01 | NR | 50 | --- | NI | --- | --- | --- | --- | --- | --- | --- | --- | ND | NI | NI | NA |
| | Oct-01 | NR | 50 | --- | NI | --- | 59 | --- | ND | ND | ND | --- | 84 | ND | NI | NI | ND |
| | Apr-02 | NR | 50 | --- | ND | --- | ND | --- | 141 | ND | 98 | --- | --- | ND (ND) | NI | NI | ND |
| | Nov-02 | NR | 50 | --- | ND | --- | 62 | --- | --- | ND | ND | --- | --- | ND | NI | NI | ND |
| | May-03 | NR | 50 | --- | ND | --- | 62 | 84 | 88 | ND | 71 | --- | 138 | ND | NI | NI | ND |
| | Nov-03 | NR | 50 | --- | ND | --- | 58 | ND | ND | ND | ND | --- | ND | ND | --- | --- | ND |
| | Apr-04 | NR | 50 | --- | ND | --- | 179 | ND | 73 | ND | ND | --- | 71 | ND | ND | ND | ND |
| | May-04 | NR | 50 | --- | --- | --- | --- | --- | --- | ND | --- | --- | --- | --- | --- | --- | ND |
| | Oct-04 | NR | 50 | --- | ND | --- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | May-05 | NR | 50 | --- | ND | --- | ND | ND | 65 | ND | ND | --- | ND | ND | ND | 50 | ND |
| | Oct-05 | NR | 50 | --- | 138 | --- | ND | ND | ND | ND | ND | --- | ND | ND | ND | ND | ND |
| | 29-Jun-06 | NR | 50 | --- | ND | --- | --- | --- | 81 | ND | ND | --- | --- | ND | ND | 200 | ND |
| | 07-Dec-06 | NR | 10 | --- | ND | --- | ND | --- | 120 | ND | 43 (55) | --- | --- | ND | --- | 39 | ND |
| | 28-Jun-07 | 2.7 | 10.0 | --- | 12.4 | --- | 53.6 | --- | 91.8 | 14.9 | 50.8 | --- | --- | 21.4 (27.7) | 43.5 | --- | ND |
| NC 2L = 1,050 µg/L (10/23/07) | 19-Dec-07 | 2.7 | 10.0 | --- | 15.0 B | --- | --- | --- | --- | 18.9 B | 44.0 (59.0) | --- | --- | 8.9 B | 32.5 | --- | 5.4 J |
| | 28-Apr-08 | 2.7 | 10.0 | --- | 15.5 | --- | 52.1 | --- | --- | 40.8 (43.9) | ND | --- | --- | 7.2 J | 11.4 | 155 | ND |
| | 30-Dec-08 | 2.7 | 10.0 | --- | ND | --- | --- | --- | --- | --- | 94.6 (82.6) | --- | --- | 19.6 | 25.8 | 163 | ND |
| | 24-Jun-09 | 2.7 | 10.0 | --- | 45.5 B | --- | --- | 19.8 B | 60.7 B | --- | 93.2 B | --- | --- | 54.5 (15.2 B) B | --- | 61.6 B | 61.8 |
| | 16-Dec-09 | 2.7 | 10.0 | --- | 7.7 B | --- | --- | 14.5 B | 35.4 B | --- | 57.6 (50.7) | --- | --- | 12.3 B | 22.6 B | 28.0 B | 9.0 J |
| NC 2L = 1,000 µg/L (1/01/10) | 22-Jun-10 | 2.7 | 10.0 | --- | ND | --- | --- | 25.4 | 66.5 | --- | 37.0 | --- | --- | 15.4 B | 21.8 (28.4) B | 33.5 | 4.9 J |
| | 02-Nov-10 | 2.7 | 10.0 | --- | --- | 23.3 B | --- | 22.0 B | 42.4 B | --- | 41.9 B | --- | --- | 7.0 (8.3 B) B | 23.3 B | 15.0 B | 15.4 |
| | 12-Apr-11 | 0.40 | 10.0 | --- | --- | 3.7 B | --- | 10.6 B | 33.2 B | ND | 75.6 B | --- | --- | 17.3 B | 15.5 B | 11.6 B | 22.5 |
| | 18-Oct-11 | 10.0 | 10.0 | --- | --- | ND | --- | 31.8 | --- | --- | 26.7 | --- | --- | ND | 19.6 | --- | ND |
| | 10-Apr-12 | 10.0 | 10.0 | --- | --- | ND | --- | 41.0 | 40.9 | --- | 34.8 | --- | --- | ND | 20.1 | --- | ND |
| | 16-Oct-12 | 10.0 | 10.0 | --- | --- | ND | --- | --- | --- | --- | 43.2 | --- | --- | ND | 17.4 | --- | ND |
| | 16-Apr-13 | 10.0 | 10.0 | --- | --- | ND | --- | 52.5 | 30.1 | --- | 108 | --- | --- | 14.6 | 17.6 | 15.9 | ND |
| | 08-Oct-13 | 10.0 | 10.0 | --- | --- | ND | --- | 36.7 | 45.2 | --- | 28.6 | --- | --- | ND | 22.9 | 16.3 | ND |
| | 29-Apr-14 | 10.0 | 10.0 | --- | --- | 19.0 | 71.6 | 37.1 | 55.7 | --- | 67.2 | --- | --- | ND | 26.8 | 11.9 | ND |
| | 14-Oct-14 | 10.0 | 10.0 | --- | --- | ND | --- | 89.3 | 29.0 | --- | 26.9 | --- | --- | ND | 24.3 | 13.8 | ND |

# TABLE 8

## Summary of Historical Groundwater Constituents

| Analyte | Sample Collection Date | DL | QL | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 | Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Organics** | | | | | | | | | | | | | | | | | |
| Benzene | 28-Jun-07 | 0.1 | 1.0 | --- | ND | --- | ND | --- | ND | ND | ND | --- | --- | 0.6 (0.6 J) J | ND | --- | ND |
| NC 2L = 1 µg/L (10/23/07) | 19-Dec-07 | 0.1 | 1.0 | --- | ND | --- | --- | --- | --- | ND | ND (ND) | --- | --- | ND | ND | --- | ND |
| | 28-Apr-08 | 0.1 | 1.0 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | 0.64 J | ND | ND | ND |
| | 30-Dec-08 | 0.1 | 1.0 | --- | ND | --- | --- | --- | --- | --- | ND (ND) | --- | --- | ND | ND | ND | ND |
| | 24-Jun-09 | 0.1 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | ND (ND) | --- | ND | ND |
| | 16-Dec-09 | 0.1 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | ND | --- | 0.1 J | ND | ND | ND |
| | 22-Jun-10 | 0.1 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | 0.6 J | ND (ND) | ND | ND |
| | 02-Nov-10 | 0.1 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 0.25 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 0.25 | 1.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 0.25 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 0.25 | 1.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 0.25 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 0.25 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 0.25 | 1.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 0.25 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Carbon Disulfide | 28-Jun-07 | 0.5 | 100 | --- | ND | --- | ND | --- | ND | 2.7 J | ND | --- | --- | 1.1 J (3.3 J) | ND | --- | ND |
| NC 2L = 700 µg/L (10/23/07) | 19-Dec-07 | 0.5 | 100 | --- | 0.65 J | --- | --- | --- | --- | ND | ND (ND) | --- | --- | 1.29 J | ND | --- | ND |
| | 28-Apr-08 | 0.5 | 100 | --- | ND | --- | ND | --- | --- | ND (ND) | ND | --- | --- | ND | ND | ND | 0.54 J |
| | 30-Dec-08 | 0.5 | 100 | --- | ND | --- | --- | --- | --- | --- | 2.0 (0.5 J) J | --- | --- | 1.0 J | 0.7 J | ND | ND |
| | 24-Jun-09 | 0.5 | 100 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | ND (ND) | --- | ND | ND |
| | 16-Dec-09 | 0.5 | 100 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | --- | --- | ND | ND | ND | ND |
| | 22-Jun-10 | 0.5 | 100 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | ND | ND (ND) | ND | ND |
| | 02-Nov-10 | 0.5 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 1.2 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 1.2 | 100 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 1.2 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 1.2 | 100 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 1.2 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 1.2 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 1.2 | 100 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 1.2 | 100 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| Chloromethane | 24-Jun-09 | 0.1 | 1.0 | --- | ND | --- | --- | 0.4 J | ND | --- | ND | --- | --- | ND (ND) | --- | ND | ND |
| NC 2L = 2.6 µg/L (10/23/07) | 16-Dec-09 | 0.1 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND (ND) | --- | --- | ND | ND | ND | ND |
| NC 2L = 3 µg/L (1/01/10) | 22-Jun-10 | 0.1 | 1.0 | --- | ND | --- | --- | ND | ND | --- | ND | --- | --- | ND | ND (ND) | ND | ND |
| | 02-Nov-10 | 0.1 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND (ND) | ND | ND | ND |
| | 12-Apr-11 | 0.11 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 18-Oct-11 | 0.11 | 1.0 | --- | --- | ND | --- | ND | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 10-Apr-12 | 0.11 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Oct-12 | 0.11 | 1.0 | --- | --- | ND | --- | --- | --- | --- | ND | --- | --- | ND | ND | --- | ND |
| | 16-Apr-13 | 0.11 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 08-Oct-13 | 0.11 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 29-Apr-14 | 0.11 | 1.0 | --- | --- | ND | ND | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |
| | 14-Oct-14 | 0.11 | 1.0 | --- | --- | ND | --- | ND | ND | --- | ND | --- | --- | ND | ND | ND | ND |

**NOTES:**
All concentrations are reported in micrograms per liter (ug/L).
Values in parentheses represent duplicate sample results.
MW = Groundwater monitoring well.
DL = Laboratory detection limit.
QL = Laboratory reporting limit (NC SWSL {or lower} June 2007 - present).
ND = Not detected above laboratory reporting limit.
--- = Not sampled and/or not reported
January 2004 results represent a resampling event. Sample was analyzed by ENCO Laboratories.
May 2004 results for MW-8 were analyzed by ENCO Laboratories. Well was damaged during regular sampling event.
NC 2L = North Carolina 2 L Standard.
GWPS = Groundwater Protection Standards.
Detections above the NC 2L/GWPS are highlighted.
MW-8 was damaged prior to the April 04 sampling event and no sample could be obtained; therefore, a sample was obtained during May 04 after well repairs were made.
MW-2 was replaced with MW-2R prior to the April 2002 sampling event
MW-2R was replaced with MW-13 prior to the November 2010 sampling event.
NI= Not installed

# TABLE 9

## Summary of Historical Groundwater Field Parameters

| Analyte | Sample Collection Date | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | Sep-98 | 5.20 | --- | --- | 5.10 | 5.70 | 5.90 | 4.90 | 5.30 | --- | --- | --- | --- | --- |
| (S.U.) | Mar-99 | --- | --- | --- | 4.06 | 5.04 | 6.08 | 6.01 | 5.41 | --- | --- | --- | --- | --- |
| | Sep-99 | --- | --- | --- | 4.64 | 5.37 | 6.61 | 5.89 | 5.01 | --- | --- | --- | --- | --- |
| | Apr-00 | --- | --- | --- | 6.04 | 5.21 | 5.09 | 5.63 | 5.44 | 4.99 | 5.67 | 5.76 | --- | --- |
| | Sep-00 | --- | --- | --- | 6.16 | 5.63 | 5.94 | 5.37 | 5.39 | 4.98 | 10.63 | 10.59 | --- | --- |
| | Mar-01 | --- | --- | --- | 4.80 | --- | 5.20 | 5.10 | 4.70 | --- | 4.50 | 11.70 | --- | --- |
| | Oct-01 | --- | --- | --- | 5.25 | --- | 5.38 | 5.15 | 5.39 | --- | 5.28 | 10.59 | --- | --- |
| | Apr-02 | --- | 6.76 | --- | 4.96 | --- | 5.09 | 5.33 | 5.02 | --- | --- | 11.01 | --- | --- |
| | Nov-02 | --- | 6.22 | 6.33 | 5.48 | --- | --- | 6.03 | 5.82 | --- | --- | 10.22 | --- | --- |
| | May-03 | --- | 5.43 | --- | 6.11 | 5.93 | 6.11 | 5.82 | 6.42 | --- | 6.18 | 10.01 | --- | --- |
| | Nov-03 | --- | 6.44 | --- | 5.03 | --- | 5.83 | 5.27 | 5.03 | --- | 4.04 | 8.98 | --- | --- |
| | Jan-04 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 12.23 | --- | --- |
| | Apr-04 | --- | 7.31 | --- | 5.49 | 5.37 | 5.97 | --- | 5.36 | --- | 6.30 | 10.93 | 5.25 | 5.17 |
| | May-04 | --- | --- | --- | --- | --- | --- | 5.90 | --- | --- | --- | --- | --- | --- |
| | Oct-04 | --- | 7.11 | --- | 5.73 | 5.44 | 5.61 | 6.06 | 5.22 | 5.77 | 6.49 | 10.44 | 5.37 | 5.11 |
| | May-05 | --- | 7.30 | --- | 5.21 | 5.05 | 5.65 | 6.03 | 5.41 | --- | 6.08 | 10.35 | 5.18 | 4.95 |
| | Oct-05 | --- | 7.00 | --- | 5.93 | 7.10 | 7.22 | 7.43 | 6.02 | --- | 7.69 | 10.35 | 5.87 | 5.44 |
| | 29-Jun-06 | --- | 7.27 | --- | --- | --- | 6.39 | 6.65 | 5.87 | --- | --- | 9.94 | 5.73 | 5.64 |
| | 07-Dec-06 | --- | 6.70 | --- | 5.12 | --- | 5.80 | 6.23 | 4.88 | --- | --- | 6.72 | --- | 6.72 |
| | 28-Jun-07 | --- | 6.99 | --- | 6.16 | --- | 5.80 | 5.79 | 5.36 | --- | --- | 9.98 | 5.24 | --- |
| | 27-Dec-07 | --- | 6.68 | --- | --- | --- | --- | 5.97 | 5.39 | --- | --- | 8.29 | 5.49 | --- |
| | 28-Apr-08 | --- | 6.88 | --- | 5.12 | --- | --- | 5.56 | 5.21 | --- | --- | 10.29 | 4.90 | 4.96 |
| | 30-Dec-08 | --- | 6.77 | --- | --- | --- | --- | --- | 5.17 | --- | --- | 9.19 | 5.77 | 5.69 |
| Resample | 12-Mar-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 6.22 |
| | 24-Jun-09 | --- | 6.83 | --- | --- | 6.11 | 6.27 | --- | 5.63 | --- | --- | 9.36 | --- | 5.77 |
| Resample | 24-Sep-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.73 | --- | --- |
| | 16-Dec-09 | --- | 6.62 | --- | --- | 6.23 | 6.47 | --- | 5.93 | --- | --- | 10.04 | 5.73 | 5.88 |
| | 22-Jun-10 | --- | 6.72 | --- | --- | 6.19 | 6.44 | --- | 6.11 | --- | --- | 10.39 | 5.01 | 5.89 |
| Resample | 14-Sep-10 | --- | --- | --- | --- | --- | 6.76 | --- | --- | --- | --- | 8.57 | --- | --- |
| | 02-Nov-10 | --- | --- | 5.99 | --- | 5.98 | 5.69 | --- | 6.74 | --- | --- | 8.99 | 5.91 | 6.01 |
| | 12-Apr-11 | --- | --- | 6.47 | --- | 6.82 | 5.90 | --- | 5.19 | --- | --- | 8.09 | 5.60 | 5.88 |
| | 18-Oct-11 | --- | --- | 6.60 | --- | 5.47 | --- | --- | 5.60 | --- | --- | 7.05 | 6.71 | --- |
| | 10-Apr-12 | --- | --- | 6.54 | --- | 7.23 | --- | --- | 6.75 | --- | --- | 6.39 | 5.81 | --- |
| | 16-Oct-12 | --- | --- | 6.98 | --- | --- | --- | --- | 5.52 | --- | --- | 8.72 | 5.86 | --- |
| | 16-Apr-13 | --- | --- | 6.25 | --- | 4.96 | 6.05 | --- | 5.19 | --- | --- | 6.53 | 5.69 | 5.81 |
| | 08-Oct-13 | --- | --- | 6.27 | --- | 4.53 | 5.35 | --- | 4.69 | --- | --- | 7.05 | 4.77 | 5.01 |
| | 28-Apr-14 | --- | --- | 7.17 | 6.24 | 5.87 | 6.05 | --- | 5.97 | --- | --- | 7.45 | 6.06 | 6.94 |
| | 14-Oct-14 | --- | --- | 7.00 | --- | 4.77 | 5.50 | --- | 5.59 | --- | --- | 7.55 | 6.21 | 6.20 |
| Temperature | Sep-98 | 20 | --- | --- | 22 | 23 | 19 | 19 | 22 | --- | --- | --- | --- | --- |
| (°C) | Mar-99 | --- | --- | --- | 15.7 | 15.6 | 16.1 | 14.8 | 15.9 | --- | --- | --- | --- | --- |
| | Sep-99 | --- | --- | --- | 18 | 19 | 19 | 17 | 18 | --- | --- | --- | --- | --- |
| | Apr-00 | --- | --- | --- | 11.4 | 14.2 | 12.6 | 12.5 | 12.7 | 12.1 | 12.8 | 12.8 | --- | --- |
| | Sep-00 | --- | --- | --- | 16.4 | 19.3 | 17.6 | 17.9 | 17.2 | 17.8 | 18.4 | 17.9 | --- | --- |
| | Mar-01 | --- | --- | --- | 17 | --- | 17 | 17 | 16 | --- | 17 | 14 | --- | --- |
| | Oct-01 | --- | --- | --- | 20 | --- | 19 | 21 | 20 | --- | 19 | 19 | --- | --- |
| | Apr-02 | --- | 17 | --- | 16 | --- | 15 | 14 | 15 | --- | --- | 13 | --- | --- |
| | Nov-02 | --- | 16 | 16 | 15 | --- | --- | 16 | 16 | --- | --- | 16 | --- | --- |
| | May-03 | --- | 16 | --- | 17 | 16 | 17 | 17 | 18 | --- | 19 | 17 | --- | --- |
| | Nov-03 | --- | 17 | --- | 17 | 18 | 17 | 17 | 17 | --- | 17 | 16 | --- | --- |
| | Jan-04 | --- | --- | 18 | --- | --- | --- | --- | --- | --- | --- | 13 | --- | --- |
| | Apr-04 | --- | 19 | --- | 19 | 19 | 19 | --- | 20 | --- | 18 | 19 | 19 | 22 |
| | May-04 | --- | --- | --- | --- | --- | --- | 20 | --- | --- | --- | --- | --- | --- |
| | Oct-04 | --- | 17 | --- | 18 | 16 | 16 | 17 | 18 | 17 | 17 | 16 | 17 | 16 |
| | May-05 | --- | 20 | --- | 25 | 17 | 17 | 17 | 18 | --- | 18 | 18 | 21 | 21 |
| | Oct-05 | --- | 13.4 | --- | 14.9 | 14.7 | 16.4 | 16.7 | 16.5 | --- | 15.6 | 14.7 | 16.9 | 15.8 |
| | 29-Jun-06 | --- | 27.3 | --- | --- | --- | 22.5 | 25.3 | 23.1 | --- | --- | 21.4 | 21.9 | 21.7 |
| | 07-Dec-06 | --- | 13.0 | --- | 14.1 | --- | 12.8 | 12.2 | 15.0 | --- | --- | 14.1 | --- | 13.0 |
| | 28-Jun-07 | --- | 20.9 | --- | 21 | --- | 19.4 | 20.1 | 20.6 | --- | --- | 22.0 | 20.6 | --- |
| | 27-Dec-07 | --- | 9.9 | --- | --- | --- | --- | 11.1 | 12.4 | --- | --- | 12.8 | 11.7 | --- |
| | 28-Apr-08 | --- | 16.4 | --- | 16.3 | --- | --- | 15.5 | 15.8 | --- | --- | 15.5 | 15.6 | 16.0 |
| | 30-Dec-08 | --- | 10.8 | --- | --- | --- | --- | --- | 9.9 | --- | --- | 12.4 | 14.8 | 11.4 |
| Resample | 12-Mar-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 11.9 |
| | 24-Jun-09 | --- | 16.1 | --- | --- | 17.2 | 16.4 | --- | 15.9 | --- | --- | 16.2 | --- | 16.7 |
| Resample | 24-Sep-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 18.2 | --- | --- |
| | 16-Dec-09 | --- | 13.1 | --- | --- | 13.4 | 13.8 | --- | 13.7 | --- | --- | 13.2 | 13.4 | 13.7 |
| | 22-Jun-10 | --- | 18.4 | --- | --- | 16.9 | 17.6 | --- | 17.7 | --- | --- | 18.3 | 17.9 | 17.4 |
| Resample | 14-Sep-10 | --- | --- | --- | --- | --- | 15.2 | --- | --- | --- | --- | 19.4 | --- | --- |
| | 02-Nov-10 | --- | --- | 13.9 | --- | 13.70 | 14.6 | --- | 13.3 | --- | --- | 14.6 | 13.1 | 13.3 |
| | 12-Apr-11 | --- | --- | 14.6 | --- | 15.4 | 14.5 | --- | 15.4 | --- | --- | 15.7 | 14.3 | 15.0 |
| | 18-Oct-11 | --- | --- | 13.8 | --- | 14.1 | --- | --- | 14.5 | --- | --- | 15.3 | 13.8 | --- |
| | 10-Apr-12 | --- | --- | 13.5 | --- | 13.3 | --- | --- | 13.6 | --- | --- | 13.2 | 12.8 | --- |
| | 16-Oct-12 | --- | --- | 15.4 | --- | --- | --- | --- | 15.9 | --- | --- | 17.4 | 16.1 | --- |
| | 16-Apr-13 | --- | --- | 15.3 | --- | 16.10 | 16.30 | --- | 16.3 | --- | --- | 16.7 | 15.5 | 15.8 |
| | 08-Oct-13 | --- | --- | 14.2 | --- | 14.6 | 15.1 | --- | 14.8 | --- | --- | 15.3 | 14.1 | 14.2 |
| | 28-Apr-14 | --- | --- | 15.2 | 14.7 | 14.6 | 15.10 | --- | 14.60 | --- | --- | 15.8 | 14.1 | 14.3 |
| | 14-Oct-14 | --- | --- | 15.4 | --- | 16.4 | 15.8 | --- | 15.4 | --- | --- | 16.7 | 14.3 | 16.5 |

# TABLE 9

## Summary of Historical Groundwater Field Parameters

| Analyte | Sample Collection Date | MW-2 | MW-2R | MW-13 | MW-5 | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | MW-12S | MW-12D | MW-17 | MW-18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductivity | Sep-98 | 69 | --- | --- | 46 | 23 | 127 | 69 | 46 | --- | --- | --- | --- | --- |
| (uohms/cm) | Mar-99 | --- | --- | --- | 292 | 23 | 50 | 60 | 44 | --- | --- | --- | --- | --- |
| | Sep-99 | --- | --- | --- | 778 | 96 | 523 | 499 | 103 | --- | --- | --- | --- | --- |
| | Apr-00 | --- | --- | --- | 807 | 186 | 623 | 581 | 296 | 191 | 293 | 241 | --- | --- |
| | Sep-00 | --- | --- | --- | 810 | 196 | 655 | 523 | 309 | 282 | 277 | 204 | --- | --- |
| | Mar-01 | --- | --- | --- | 180 | --- | 40 | 30 | 20 | --- | 1400 | 1700 | --- | --- |
| | Oct-01 | --- | --- | --- | 20 | --- | 110 | 40 | 80 | --- | 100 | 1500 | --- | --- |
| | Apr-02 | --- | 30 | --- | 240 | --- | 30 | 90 | 30 | --- | --- | 1900 | --- | --- |
| | Nov-02 | --- | 110 | 60 | 180 | --- | --- | 160 | 80 | --- | --- | 2100 | --- | --- |
| | May-03 | --- | 190 | --- | 240 | 220 | 70 | 90 | 180 | --- | 210 | 1840 | --- | --- |
| | Nov-03 | --- | 90 | --- | 120 | 110 | 60 | 80 | 30 | --- | 2000 | 4200 | --- | --- |
| | Jan-04 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1518 | --- | --- |
| | Apr-04 | --- | 210 | --- | 36 | <30 | 69 | --- | 31 | --- | 178 | 1010 | <30 | <30 |
| | May-04 | --- | --- | --- | --- | --- | --- | 33 | --- | --- | --- | --- | --- | --- |
| | Oct-04 | --- | 210 | --- | 180 | 260 | 90 | 60 | 140 | 310 | 230 | 1960 | 120 | 180 |
| | May-05 | --- | 105 | --- | 25 | 25 | 76 | 39 | 39 | --- | 14 | 404 | 27 | 18 |
| | Oct-05 | --- | 110.3 | --- | 34.2 | 39.9 | 90.8 | 38.6 | 30.5 | --- | 193.7 | 327 | 38.9 | 18.9 |
| | 29-Jun-06 | --- | 95.7 | --- | --- | --- | 50.8 | 35.8 | 67.6 | --- | --- | 396 | 30.1 | 12.4 |
| | 07-Dec-06 | --- | 240 | --- | 38.2 | --- | 85.3 | 78.2 | 57.1 | --- | --- | 324 | --- | 93.7 |
| | 28-Jun-07 | --- | 210 | --- | 50.6 | --- | 113 | 53.3 | 41.9 | --- | --- | 586 | 36.4 | --- |
| | 27-Dec-07 | --- | 141 | --- | --- | --- | --- | 55.1 | 38.3 | --- | --- | 336 | <30 | --- |
| | 28-Apr-08 | --- | 177 | --- | 37 | --- | --- | 54 | 36 | --- | --- | 465 | 33 | <30 |
| | 30-Dec-08 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Resample | 12-Mar-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 11.7 |
| | 24-Jun-09 | --- | 147 | --- | --- | 21.5 | 91.8 | --- | 45.1 | --- | --- | 371 | --- | 19.2 |
| Resample | 24-Sep-09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 300 | --- | --- |
| | 16-Dec-09 | --- | 161 | --- | --- | 19 | 107 | --- | 47 | --- | --- | 361 | 26 | 14 |
| | 22-Jun-10 | --- | 159 | --- | --- | 59.2 | 226 | --- | 798 | --- | --- | 346 | 51.1 | 48.0 |
| Resample | 14-Sep-10 | --- | --- | --- | --- | --- | 204 | --- | --- | --- | --- | 406 | --- | --- |
| | 02-Nov-10 | --- | --- | 86.1 | --- | 30.6 | 188 | --- | 38.4 | --- | --- | 39.8 | 30.60 | 21.2 |
| | 12-Apr-11 | --- | --- | 109.4 | --- | 50.1 | 168.6 | --- | 64.3 | --- | --- | 391 | 30.7 | 32.6 |
| | 18-Oct-11 | --- | --- | 106.2 | --- | 55.1 | --- | --- | 50.7 | --- | --- | 372 | 47.0 | --- |
| | 10-Apr-12 | --- | --- | 90.7 | --- | 123.0 | --- | --- | 52.9 | --- | --- | 362 | 36.9 | --- |
| | 16-Oct-12 | --- | --- | 91.2 | --- | --- | --- | --- | 48.3 | --- | --- | 358 | 30.1 | --- |
| | 16-Apr-13 | --- | --- | 92.9 | --- | 190.5 | 152.40 | --- | 48.6 | --- | --- | 398 | 31.0 | 28.8 |
| | 08-Oct-13 | --- | --- | 109.6 | --- | 180.2 | 183 | --- | 51.8 | --- | --- | 399 | 32.5 | 28.6 |
| | 28-Apr-14 | --- | --- | 237 | 83.1 | 182.0 | 175.0 | --- | 54.2 | --- | --- | 386 | 30.9 | 25.7 |
| | 14-Oct-14 | --- | --- | 97 | --- | 255.0 | 177.0 | --- | 49.6 | --- | --- | 462 | 36.1 | 29.5 |
| Turbidity | 12-Apr-11 | --- | --- | 11.05 | --- | 37.1 | 957 | --- | 55.3 | --- | --- | 52.1 | 5.51 | 8.23 |
| (NTU) | 18-Oct-11 | --- | --- | 75.6 | --- | 32.6 | --- | --- | 18.30 | --- | --- | 11.1 | 38.50 | --- |
| | 10-Apr-12 | --- | --- | 15.5 | --- | 99.0 | 607 | --- | 20.3 | --- | --- | 11.33 | 31.8 | --- |
| | 16-Oct-12 | --- | --- | 3.40 | --- | --- | --- | --- | 22.9 | --- | --- | 4.61 | 6.48 | --- |
| | 16-Apr-13 | --- | --- | 10.61 | --- | 19.8 | 26.3 | --- | 12.65 | --- | --- | 19.36 | 18.97 | 25.0 |
| | 08-Oct-13 | --- | --- | 3.40 | --- | 8.30 | 7.10 | --- | 6.24 | --- | --- | 4.17 | 10.47 | 7.26 |
| | 28-Apr-14 | --- | --- | 43.4 | 124 | 17.5 | 37.4 | --- | 3.65 | --- | --- | 9.04 | 52.2 | 22.1 |
| | 14-Oct-14 | --- | --- | 10.04 | --- | 38.5 | 30.2 | --- | 7.12 | --- | --- | 5.25 | 15.7 | 3.1 |

**Notes:**
MW = groundwater monitoring well
--- = not measured and/or not reported
Jan-04 data are from a resampling event.
MW-8 was damaged prior to the April 04 sampling event and no sample could be obtained; therefore, a sample was obtained during May 04 after well repairs were made.

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| **Inorganic Compounds** | | | | | | | |
| Antimony | 19-Dec-07 | 1.2 | 6.0 | 3.2 | J | ND | |
| | 28-Apr-08 | 1.2 | 6.0 | 2.3 | J | ND | |
| | 30-Dec-08 | 1.2 | 6.0 | ND | | ND | |
| | 24-Jun-09 | NR | 30 | ND | | 3.1 | J |
| | 16-Dec-09 | 1.2 | 6.0 | ND | | 1.4 | J |
| | 22-Jun-10 | 1.2 | 6.0 | 1.2 | B | 1.8 | J |
| | 02-Nov-10 | 1.2 | 6.0 | ND | | ND | |
| | 12-Apr-11 | 2.6 | 6.0 | ND | | ND | |
| | 18-Oct-11 | 5.0 | 6.0 | ND | | ND | |
| | 10-Apr-12 | 5.0 | 6.0 | ND | | ND | |
| | 16-Oct-12 | 5.0 | 6.0 | ND | | ND | |
| | 16-Apr-13 | 5.0 | 6.0 | ND | | ND | |
| | 08-Oct-13 | 5.0 | 6.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 6.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 6.0 | 7.7 | | ND | |
| Arsenic | 10-Apr-12 | 5.0 | 10.0 | 6.8 | J | ND | |
| | 16-Oct-12 | 5.0 | 10.0 | ND | | ND | |
| | 16-Apr-13 | 5.0 | 10.0 | 5.6 | J | ND | |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 10.0 | ND | | ND | |
| Barium | 07-Dec-06 | NR | 100 | 103 | | ND | |
| | 28-Jun-07 | 1.1 | 100 | 57.1 | J | 5.1 | |
| | 19-Dec-07 | 1.1 | 100 | 97.0 | B | 24.9 | J |
| | 28-Apr-08 | 1.1 | 100 | 113 | | 33.2 | J |
| | 30-Dec-08 | 1.1 | 100 | 80.0 | J | 1.2 | J |
| | 24-Jun-09 | NR | 500 | ND | | 9.2 | J |
| | 16-Dec-09 | 1.1 | 100 | 177 | | 3.5 | J |
| | 22-Jun-10 | 1.1 | 100 | 55.8 | J | 1.7 | J |
| | 02-Nov-10 | 1.1 | 100 | 55.5 | B | 15.7 | J |
| | 12-Apr-11 | 0.20 | 100 | 67.8 | J | 13.2 | J |
| | 18-Oct-11 | 5.0 | 100 | 117 | | ND | |
| | 10-Apr-12 | 5.0 | 100 | 91.1 | J | 15.8 | J |
| | 16-Oct-12 | 5.0 | 100 | 157 | | ND | |
| | 16-Apr-13 | 5.0 | 100 | 102 | | ND | |
| | 08-Oct-13 | 5.0 | 100 | 92.1 | J | ND | |
| | 28-Apr-14 | 5.0 | 100 | 92.9 | J | ND | |
| | 13-Oct-14 | 5.0 | 100 | 148 | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Beryllium | 02-Nov-10 | 0.20 | 1.0 | 0.3 | J | ND | |
| | 12-Apr-11 | 0.10 | 1.0 | ND | | ND | |
| | 18-Oct-11 | 1.0 | 1.0 | ND | | ND | |
| | 10-Apr-12 | 1.0 | 1.0 | ND | | ND | |
| | 16-Oct-12 | 1.0 | 1.0 | ND | | ND | |
| | 16-Apr-13 | 1.0 | 1.0 | ND | | ND | |
| | 08-Oct-13 | 1.0 | 1.0 | ND | | ND | |
| | 28-Apr-14 | 1.0 | 1.0 | ND | | ND | |
| | 13-Oct-14 | 1.0 | 1.0 | ND | | ND | |
| Chromium | 28-Jun-07 | 0.70 | 10.0 | 8.3 | B | 5.2 | |
| | 19-Dec-07 | 0.7 | 10.0 | 2.7 | J | ND | |
| | 28-Apr-08 | 0.7 | 10.0 | 6.6 | B | 2.0 | J |
| | 30-Dec-08 | 0.7 | 10.0 | 7.4 | J | ND | |
| | 24-Jun-09 | NR | 10 | ND | | ND | |
| | 16-Dec-09 | 0.7 | 10.0 | 6.9 | J | ND | |
| | 22-Jun-10 | 0.7 | 10.0 | 2.0 | J | ND | |
| | 02-Nov-10 | 0.7 | 10.0 | 3.0 | J | ND | |
| | 12-Apr-11 | 0.40 | 10.0 | 4.1 | J | ND | |
| | 18-Oct-11 | 5.0 | 10.0 | ND | | ND | |
| | 10-Apr-12 | 5.0 | 10.0 | 7.1 | J | ND | |
| | 16-Oct-12 | 5.0 | 10.0 | 5.7 | J | ND | |
| | 16-Apr-13 | 5.0 | 10.0 | 7.7 | J | ND | |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 10.0 | 5.2 | J | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Cobalt | May-05 | NR | 10 | 10 | | ND | |
| | Oct-05 | NR | 10 | 12 | | ND | |
| | 29-Jun-06 | NR | 10 | 12 | | ND | |
| | 07-Dec-06 | NR | 10 | 13 | | ND | |
| | 28-Jun-07 | 0.7 | 10.0 | 14.7 | | ND | |
| | 19-Dec-07 | 0.7 | 10.0 | 8.7 | J | ND | |
| | 28-Apr-08 | 0.7 | 10.0 | 16.6 | | ND | |
| | 30-Dec-08 | 0.7 | 10.0 | 20.4 | | ND | |
| | 24-Jun-09 | NR | 10 | 15 | | ND | |
| | 16-Dec-09 | 0.7 | 10.0 | 12.1 | | ND | |
| | 22-Jun-10 | 0.7 | 10.0 | 9.1 | J | ND | |
| | 02-Nov-10 | 0.7 | 10.0 | 20.2 | | ND | |
| | 12-Apr-11 | 0.60 | 10.0 | 18.7 | | ND | |
| | 18-Oct-11 | 5.0 | 10.0 | 11.9 | | ND | |
| | 10-Apr-12 | 5.0 | 10.0 | 14.2 | | ND | |
| | 16-Oct-12 | 5.0 | 10.0 | 9.7 | J | ND | |
| | 16-Apr-13 | 5.0 | 10.0 | 15.6 | | ND | |
| | 08-Oct-13 | 5.0 | 10.0 | 7.6 | J | ND | |
| | 28-Apr-14 | 5.0 | 10.0 | 9.1 | J | ND | |
| | 13-Oct-14 | 5.0 | 10.0 | 11.5 | | ND | |
| Copper | 28-Jun-07 | 2.0 | 10.0 | 10.1 | B | 5.2 | |
| | 19-Dec-07 | 2.0 | 10.0 | 4.4 | B | 2.6 J | |
| | 28-Apr-08 | 2.0 | 10.0 | 18.2 | B | 5.8 | J |
| | 30-Dec-08 | 2.0 | 10.0 | 16.2 | | ND | |
| | 24-Jun-09 | NR | 200 | ND | | 2.2 | J |
| | 16-Dec-09 | 2.0 | 10.0 | 2.4 | J | ND | |
| | 22-Jun-10 | 2.0 | 10.0 | 4.2 | J | ND | |
| | 02-Nov-10 | 2.0 | 10.0 | 5.7 | J | ND | |
| | 12-Apr-11 | 0.30 | 10.0 | 4.4 | J | 0.30 | J |
| | 18-Oct-11 | 5.0 | 10.0 | ND | | ND | |
| | 10-Apr-12 | 5.0 | 10.0 | ND | | ND | |
| | 16-Oct-12 | 5.0 | 10.0 | ND | | ND | |
| | 16-Apr-13 | 5.0 | 10.0 | ND | | ND | |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 10.0 | ND | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank |
|---|---|---|---|---|---|---|
| Lead | 30-Dec-08 | 2.0 | 10.0 | 3.0 | J | ND |
| | 24-Jun-09 | NR | 10 | ND | | ND |
| | 16-Dec-09 | 2.0 | 10.0 | ND | | ND |
| | 22-Jun-10 | 2.0 | 10.0 | ND | | ND |
| | 02-Nov-10 | 2.0 | 10.0 | 2.4 | J | ND |
| | 12-Apr-11 | 4.0 | 10.0 | ND | | ND |
| | 18-Oct-11 | 5.0 | 10.0 | ND | | ND |
| | 10-Apr-12 | 5.0 | 10.0 | ND | | ND |
| | 16-Oct-12 | 5.0 | 10.0 | ND | | ND |
| | 16-Apr-13 | 5.0 | 10.0 | ND | | ND |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND |
| | 13-Oct-14 | 5.0 | 10.0 | ND | | ND |
| Manganese | 07-Dec-06 | NR | 5 | 848 | | ND |
| | 28-Jun-07 | 0.2 | NR | 9.9 | | NA |
| | 19-Dec-07 | 0.2 | NR | 333 | | NA |
| | 28-Apr-08 | 0.2 | NR | 362 | | NA |
| | 30-Dec-08 | 0.2 | NR | 628 | | NA |
| | 24-Jun-09 | NR | 10 | 398 | | NA |
| | 16-Dec-09 | 0.2 | NR | 1180 | | NA |
| | 22-Jun-10 | 0.2 | NR | 311 | | NA |
| | 02-Nov-10 | 0.2 | NR | 160 | | NA |
| | 12-Apr-11 | 0.30 | 50.0 | 313 | | ND |
| | 18-Oct-11 | 5.0 | 50.0 | 415 | | ND |
| | 10-Apr-12 | 5.0 | 50.0 | 258 | | ND |
| | 16-Oct-12 | 5.0 | 50.0 | 408 | | ND |
| | 16-Apr-13 | 5.0 | 50.0 | 353 | | ND |
| | 08-Oct-13 | 5.0 | 50.0 | 247 | | ND |
| | 28-Apr-14 | 5.0 | 50.0 | 548 | | ND |
| | 13-Oct-14 | 5.0 | 50.0 | 246 | | --- |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank |
|---|---|---|---|---|---|---|
| Mercury | 16-Dec-09 | 0.01 | 0.2 | 0.11 | J | NA |
| | 22-Jun-10 | 0.01 | 0.2 | 0.04 | J | NA |
| | 02-Nov-10 | 0.01 | 0.2 | 0.07 | J | NA |
| | 12-Apr-11 | 0.10 | 0.20 | ND | | ND |
| | 18-Oct-11 | 0.10 | 0.20 | ND | | ND |
| | 10-Apr-12 | 0.10 | 0.20 | ND | | ND |
| | 16-Oct-12 | 0.10 | 0.20 | ND | | ND |
| | 16-Apr-13 | 0.10 | 0.20 | ND | | ND |
| | 08-Oct-13 | 0.10 | 0.20 | ND | | ND |
| | 28-Apr-14 | 0.10 | 0.20 | ND | | ND |
| | 13-Oct-14 | 0.10 | 0.20 | ND | | --- |
| Molybdenum | 22-Jun-10 | 1.3 | 10.0 | 1.6 | J | NA |
| | 02-Nov-10 | 1.3 | 10.0 | 245 | | NA |
| | 12-Apr-11 | 1.1 | 5.0 | ND | | ND |
| | 18-Oct-11 | 5.0 | 5.0 | ND | | ND |
| | 10-Apr-12 | 5.0 | 5.0 | ND | | ND |
| | 16-Oct-12 | 5.0 | 5.0 | ND | | ND |
| | 16-Apr-13 | 5.0 | 5.0 | ND | | ND |
| | 08-Oct-13 | 5.0 | 5.0 | ND | | ND |
| | 28-Apr-14 | 5.0 | 5.0 | ND | | ND |
| | 13-Oct-14 | 5.0 | 5.0 | ND | | --- |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Nickel | 28-Jun-07 | 0.6 | 50.0 | 60.5 | | 5.0 | |
| | 19-Dec-07 | 0.6 | 50.0 | 45.9 | J | ND | |
| | 28-Apr-08 | 0.6 | 50.0 | 45.2 | | 1.9 | J |
| | 30-Dec-08 | 0.6 | 50.0 | 41.3 | J | 0.7 | J |
| | 24-Jun-09 | NR | 50 | ND | | 2.4 | J |
| | 16-Dec-09 | 0.6 | 50.0 | 51.2 | | 0.7 | J |
| | 22-Jun-10 | 0.6 | 50.0 | 35.8 | J | ND | |
| | 02-Nov-10 | 0.6 | 50.0 | 49.4 | J | ND | |
| | 12-Apr-11 | 1.7 | 50.0 | 42.3 | J | 4.4 | J |
| | 18-Oct-11 | 5.0 | 50.0 | 51.5 | | ND | |
| | 10-Apr-12 | 5.0 | 50.0 | 50.5 | | ND | |
| | 16-Oct-12 | 5.0 | 50.0 | 47.1 | J | ND | |
| | 16-Apr-13 | 5.0 | 50.0 | 48.3 | J | ND | |
| | 08-Oct-13 | 5.0 | 50.0 | 19.2 | J | ND | |
| | 28-Apr-14 | 5.0 | 50.0 | 19.4 | J | ND | |
| | 13-Oct-14 | 5.0 | 50.0 | 47.6 | J | ND | |
| Selenium | 28-Apr-08 | 6.3 | 10.0 | 13.4 | | ND | |
| | 30-Dec-08 | 6.3 | 10.0 | ND | | ND | |
| | 24-Jun-09 | NR | 20 | ND | | 6.3 | J |
| | 16-Dec-09 | 6.3 | 10.0 | 6.5 | J | ND | |
| | 22-Jun-10 | 6.3 | 10.0 | ND | | ND | |
| | 02-Nov-10 | 6.3 | 10.0 | ND | | ND | |
| | 12-Apr-11 | 3.8 | 10.0 | ND | | ND | |
| | 18-Oct-11 | 10.0 | 10.0 | ND | | ND | |
| | 10-Apr-12 | 10.0 | 10.0 | ND | | ND | |
| | 16-Oct-12 | 10.0 | 10.0 | ND | | ND | |
| | 16-Apr-13 | 10.0 | 10.0 | ND | | ND | |
| | 08-Oct-13 | 10.0 | 10.0 | ND | | ND | |
| | 28-Apr-14 | 10.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 10.0 | 10.0 | ND | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Silver | 19-Dec-07 | 1.1 | 10.0 | 1.4 | B | 1.5 J | |
| | 28-Apr-08 | 1.1 | 10.0 | ND | | ND | |
| | 30-Dec-08 | 1.1 | 10.0 | ND | | ND | |
| | 24-Jun-09 | NR | 10 | ND | | ND | |
| | 16-Dec-09 | 1.1 | 10.0 | ND | | ND | |
| | 22-Jun-10 | 1.1 | 10.0 | ND | | ND | |
| | 02-Nov-10 | 1.1 | 10.0 | ND | | ND | |
| | 12-Apr-11 | 0.10 | 10.0 | 0.29 | B | 0.21 | J |
| | 18-Oct-11 | 5.0 | 10.0 | ND | | ND | |
| | 10-Apr-12 | 5.0 | 10.0 | ND | | ND | |
| | 16-Oct-12 | 5.0 | 10.0 | ND | | ND | |
| | 16-Apr-13 | 5.0 | 10.0 | ND | | ND | |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 10.0 | ND | | ND | |
| Vanadium | 19-Dec-07 | 0.4 | 25.0 | 0.5 | J | ND | |
| | 28-Apr-08 | 0.4 | 25.0 | 1.8 | J | ND | |
| | 30-Dec-09 | 0.4 | 25.0 | 9.8 | J | ND | |
| | 24-Jun-09 | NR | 40 | ND | | ND | |
| | 16-Dec-09 | 0.4 | 25.0 | 5.9 | J | 0.8 | J |
| | 22-Jun-10 | 0.4 | 25.0 | 1.2 | J | ND | |
| | 02-Nov-10 | 0.4 | 25.0 | ND | | ND | |
| | 12-Apr-11 | 0.20 | 25.0 | ND | | ND | |
| | 18-Oct-11 | 5.0 | 25.0 | ND | | ND | |
| | 10-Apr-12 | 5.0 | 25.0 | ND | | ND | |
| | 16-Oct-12 | 5.0 | 25.0 | ND | | ND | |
| | 16-Apr-13 | 5.0 | 25.0 | ND | | ND | |
| | 08-Oct-13 | 5.0 | 25.0 | ND | | ND | |
| | 28-Apr-14 | 5.0 | 25.0 | ND | | ND | |
| | 13-Oct-14 | 5.0 | 25.0 | ND | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Zinc | 07-Dec-06 | NR | 10 | 48 | | ND | |
| | 28-Jun-07 | 2.7 | 10.0 | 31.1 | | ND | |
| | 19-Dec-07 | 2.7 | 10.0 | 20.1 | B | 5.4 J | |
| | 28-Apr-08 | 2.7 | 10.0 | 134 | | ND | |
| | 30-Dec-08 | 2.7 | 10.0 | 44.5 | | ND | |
| | 24-Jun-09 | NR | 50 | ND | | 61.8 | B |
| | 16-Dec-09 | 2.7 | 10.0 | 30.4 | B | 9.0 | J |
| | 22-Jun-10 | 2.7 | 10.0 | 46.2 | | 4.9 | J |
| | 02-Nov-10 | 2.7 | 10.0 | 43.9 | B | 15.4 | |
| | 12-Apr-11 | 0.40 | 10.0 | 11.4 | B | 22.5 | |
| | 18-Oct-11 | 10.0 | 10.0 | 11.5 | | ND | |
| | 10-Apr-12 | 10.0 | 10.0 | 16.3 | | ND | |
| | 16-Oct-12 | 10.0 | 10.0 | 11.7 | | ND | |
| | 16-Apr-13 | 10.0 | 10.0 | 21.4 | | ND | |
| | 08-Oct-13 | 10.0 | 10.0 | 31.2 | | ND | |
| | 28-Apr-14 | 10.0 | 10.0 | ND | | ND | |
| | 13-Oct-14 | 10.0 | 10.0 | 11.5 | | ND | |
| **Organic Compounds** | | | | | | | |
| Acetone | 28-Apr-08 | 1.2 | 100 | 21.5 | J | ND | |
| | 30-Dec-08 | 1.2 | 100 | ND | | ND | |
| | 24-Jun-09 | NR | 100 | ND | | ND | |
| | 16-Dec-09 | 1.2 | 100 | ND | | ND | |
| | 22-Jun-10 | 1.2 | 100 | ND | | ND | |
| | 02-Nov-10 | 1.2 | 100 | ND | | ND | |
| | 12-Apr-11 | 2.2 | 100 | 6.3 | J | ND | |
| | 18-Oct-11 | 2.2 | 100 | 6.6 | B | 2.2 | J |
| | 10-Apr-12 | 2.2 | 100 | 12.1 | J | 6.0 | J |
| | 16-Oct-12 | 10.0 | 100 | ND | | ND | |
| | 16-Apr-13 | 10.0 | 100 | 17.1 | B | 62.2 | J |
| | 08-Oct-13 | 10.0 | 100 | ND | | ND | |
| | 28-Apr-14 | 10.0 | 100 | ND | | ND | |
| | 13-Oct-14 | 10.0 | 100 | ND | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank |
|---|---|---|---|---|---|---|
| Benzene | 30-Dec-08 | 0.1 | 1.0 | 0.3 | J | ND |
| | 24-Jun-09 | NR | 5 | ND | | ND |
| | 16-Dec-09 | 0.1 | 1.0 | 0.7 | J | ND |
| | 22-Jun-10 | 0.1 | 1.0 | ND | | ND |
| | 02-Nov-10 | 0.1 | 1.0 | ND | | ND |
| | 12-Apr-11 | 0.25 | 1.0 | ND | | ND |
| | 18-Oct-11 | 0.25 | 1.0 | ND | | ND |
| | 10-Apr-12 | 0.25 | 1.0 | ND | | ND |
| | 16-Oct-12 | 0.25 | 1.0 | ND | | ND |
| | 16-Apr-13 | 0.25 | 1.0 | ND | | ND |
| | 08-Oct-13 | 0.25 | 1.0 | ND | | ND |
| | 28-Apr-14 | 0.25 | 1.0 | ND | | ND |
| | 13-Oct-14 | 0.25 | 1.0 | ND | | ND |
| Bromomethane | 16-Apr-13 | 0.29 | 10.0 | 5.4 | J | ND |
| | 08-Oct-13 | 0.29 | 10.0 | ND | | ND |
| | 28-Apr-14 | 0.29 | 10.0 | ND | | ND |
| | 13-Oct-14 | 0.29 | 10.0 | ND | | ND |
| 2-Butanone | 16-Dec-09 | 0.9 | 100 | 16.4 | J | ND |
| | 22-Jun-10 | 0.9 | 100 | ND | | ND |
| | 02-Nov-10 | 0.9 | 100 | ND | | ND |
| | 12-Apr-11 | 0.96 | 100 | ND | | ND |
| | 18-Oct-11 | 0.96 | 100 | ND | | ND |
| | 10-Apr-12 | 0.96 | 100 | ND | | ND |
| | 16-Oct-12 | 0.96 | 100 | ND | | ND |
| | 16-Apr-13 | 0.96 | 100 | ND | | ND |
| | 08-Oct-13 | 0.96 | 100 | ND | | ND |
| | 28-Apr-14 | 0.96 | 100 | ND | | ND |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank |
|---|---|---|---|---|---|---|
| Chloromethane | 12-Apr-11 | 0.11 | 1.0 | 0.18 | J | ND |
| | 18-Oct-11 | 0.11 | 1.0 | 0.21 | J | ND |
| | 10-Apr-12 | 0.11 | 1.0 | ND | | ND |
| | 16-Oct-12 | 0.11 | 1.0 | ND | | ND |
| | 16-Apr-13 | 0.11 | 1.0 | 2.2 | | ND |
| | 08-Oct-13 | 0.11 | 1.0 | ND | | ND |
| | 28-Apr-14 | 0.11 | 1.0 | ND | | ND |
| | 13-Oct-14 | 0.11 | 1.0 | 0.39 | J | ND |
| Ethylbenzene | 16-Dec-09 | 0.3 | 1.0 | 1.1 | | ND |
| | 22-Jun-10 | 0.1 | 1.0 | ND | | ND |
| | 02-Nov-10 | 0.1 | 1.0 | ND | | ND |
| | 12-Apr-11 | 0.30 | 1.0 | ND | | ND |
| | 18-Oct-11 | 0.30 | 1.0 | ND | | ND |
| | 10-Apr-12 | 0.30 | 1.0 | ND | | ND |
| | 16-Oct-12 | 0.30 | 1.0 | ND | | ND |
| | 16-Apr-13 | 0.30 | 1.0 | ND | | ND |
| | 08-Oct-13 | 0.30 | 1.0 | ND | | ND |
| | 28-Apr-14 | 0.30 | 1.0 | ND | | ND |
| | 13-Oct-14 | 0.30 | 1.0 | ND | | ND |
| Methylene Chloride | 16-Apr-13 | 0.97 | 1.0 | 2.7 | B | 2.6 |
| | 08-Oct-13 | 0.97 | 1.0 | ND | | ND |
| | 28-Apr-14 | 0.97 | 1.0 | ND | | ND |
| | 13-Oct-14 | 0.97 | 1.0 | ND | | 2.8 |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank | |
|---|---|---|---|---|---|---|---|
| Toluene | 28-Apr-08 | 0.3 | 1.0 | 0.41 | J | ND | |
| | 30-Dec-08 | 0.3 | 1.0 | 1.3 | B | 1.1 | B |
| | 24-Jun-09 | NR | 5 | ND | | ND | |
| | 16-Dec-09 | 0.3 | 1.0 | 4.1 | | ND | |
| | 22-Jun-10 | 0.3 | 1.0 | ND | | ND | |
| | 02-Nov-10 | 0.3 | 1.0 | ND | | ND | |
| | 12-Apr-11 | 0.26 | 1.0 | ND | | ND | |
| | 18-Oct-11 | 0.26 | 1.0 | ND | | ND | |
| | 10-Apr-12 | 0.26 | 1.0 | ND | | ND | |
| | 16-Oct-12 | 0.26 | 1.0 | ND | | ND | |
| | 16-Apr-13 | 0.26 | 1.0 | ND | | ND | |
| | 08-Oct-13 | 0.26 | 1.0 | ND | | ND | |
| | 28-Apr-14 | 0.26 | 1.0 | ND | | ND | |
| | 13-Oct-14 | 0.26 | 1.0 | ND | | ND | |
| Xylene (Total) | 19-Dec-07 | 0.3 | 4.0 | 0.33 | J | ND | |
| | 28-Apr-08 | 0.3 | 4.0 | ND | | ND | |
| | 30-Dec-08 | 0.3 | 4.0 | ND | | ND | |
| | 23-Jun-09 | NR | 5 | ND | | ND | |
| | 16-Dec-09 | 0.3 | 4.0 | 2.7 | J | ND | |
| | 22-Jun-10 | 0.3 | 5.0 | ND | | ND | |
| | 02-Nov-10 | 0.3 | 5.0 | ND | | ND | |
| | 12-Apr-11 | 0.66 | 2.0 | ND | | ND | |
| | 18-Oct-11 | 0.66 | 2.0 | ND | | ND | |
| | 10-Apr-12 | 0.66 | 2.0 | ND | | ND | |
| | 16-Oct-12 | 0.66 | 5.0 | ND | | ND | |
| | 16-Apr-13 | 0.66 | 5.0 | ND | | ND | |
| | 08-Oct-13 | 0.66 | 5.0 | ND | | ND | |
| | 28-Apr-14 | 0.66 | 5.0 | ND | | ND | |
| | 13-Oct-14 | 0.66 | 5.0 | ND | | ND | |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | | Field Blank |
|---|---|---|---|---|---|---|
| Cyanide | 28-Jun-07 | 5.0 | 10.0 | 6.0 | J | NA |
| | 19-Dec-07 | 5.0 | 10.0 | ND | | NA |
| | 28-Apr-08 | 5.0 | 10.0 | ND | | NA |
| | 30-Dec-08 | 5.0 | 10.0 | ND | | NA |
| | 24-Jun-09 | NR | 5 | 8 | | NA |
| | 16-Dec-09 | 5.0 | 10.0 | ND | | NA |
| | 22-Jun-10 | 5.0 | 10.0 | ND | | NA |
| | 02-Nov-10 | 5.0 | 10.0 | ND | | NA |
| | 12-Apr-11 | 5.0 | 10.0 | 5.0 | J | ND |
| | 18-Oct-11 | 5.0 | 10.0 | ND | | ND |
| | 10-Apr-12 | 5.0 | 10.0 | ND | | ND |
| | 16-Oct-12 | 5.0 | 10.0 | 8.1 | J | ND |
| | 16-Apr-13 | 5.0 | 10.0 | 11.6 | | ND |
| | 08-Oct-13 | 5.0 | 10.0 | ND | | ND |
| | 28-Apr-14 | 5.0 | 10.0 | ND | | ND |
| | 13-Oct-14 | 2.5 | 10.0 | 4.8 | J | ND |
| BOD, 5 day | 07-Dec-06 | NR | 2000 | 16300 | | ND |
| Biochemical Oxygen Demand | 28-Jun-07 | 2000 | NR | 34600 | | NA |
| | 19-Dec-07 | 2000 | 120000 | ND | | NA |
| | 28-Apr-08 | 2000 | NR | 50000 | | NA |
| | 30-Dec-08 | 2000 | NR | 27800 | | NA |
| | 24-Jun-09 | NR | 2000 | <30000 | | NA |
| | 16-Dec-09 | 2000 | NR | 34200 | | NA |
| | 22-Jun-10 | 2000 | NR | ND | | NA |
| | 02-Nov-10 | 2000 | NR | ND | | NA |
| | 12-Apr-11 | 2000 | 2000 | 13600 | | ND |
| | 18-Oct-11 | 2000 | 2000 | 29400 | | ND |
| | 10-Apr-12 | 2000 | 2000 | 28000 | | ND |
| | 16-Oct-12 | 2000 | 2000 | 118000 | | ND |
| | 16-Apr-13 | 2000 | 2000 | 12800 | | ND |
| | 08-Oct-13 | 2000 | 2000 | 30400 | | ND |
| | 28-Apr-14 | 2000 | 2000 | 5900 | | ND |
| | 13-Oct-14 | 2000 | 2000 | 19600 | | ND |

# TABLE 10

## Summary of Historical Leachate Constituents

| Analyte | Sample Collection Date | DL | QL | Leachate | Field Blank |
|---|---|---|---|---|---|
| Total Suspended Solids | 07-Dec-06 | NR | 5000 | 36000 | ND |
| | 28-Jun-07 | 5.0 | NR | 40 | NA |
| | 19-Dec-07 | 5.0 | NR | 32.0 | NA |
| | 28-Apr-08 | 5000 | NR | 64000 | NA |
| | 30-Dec-08 | 5000 | NR | 84000 | NA |
| | 24-Jun-09 | NR | 1000 | 13500 | NA |
| | 16-Dec-09 | 5000 | NR | 45500 | NA |
| | 22-Jun-10 | 1000 | NR | 5500 | NA |
| | 02-Nov-10 | 1000 | NR | 86000 | NA |
| | 12-Apr-11 | NR | 8330 | 11000 | ND |
| | 18-Oct-11 | 12500 | 12500 | 63000 | ND |
| | 10-Apr-12 | 12500 | 12500 | 52000 | ND |
| | 16-Oct-12 | 12500 | 12500 | 11000 | ND |
| | 16-Apr-13 | 4170 | 4170 | 18700 | ND |
| | 08-Oct-13 | 50000 | 50000 | 100000 | ND |
| | 28-Apr-14 | 5000 | 5000 | 9800 | ND |
| | 13-Oct-14 | 16700 | 16700 | 31300 | ND |
| Oil and Grease | 19-Dec-07 | 5000 | NR | 5800 | NA |
| | 28-Apr-08 | 5000 | NR | ND | NA |
| | 30-Dec-08 | 5000 | NR | ND | NA |
| | 24-Jun-09 | NR | 5000 | ND | NA |
| | 16-Dec-09 | 5000 | NR | 5200 | NA |
| | 22-Jun-10 | 5000 | NR | ND | NA |
| | 02-Nov-10 | 5000 | NR | ND | NA |
| | 12-Apr-11 | 1100 | 5000 | ND | ND |
| | 18-Oct-11 | 1100 | 5000 | ND | ND |
| | 10-Apr-12 | 1100 | 5000 | ND | ND |
| | 16-Oct-12 | 1100 | 5000 | ND | ND |
| | 16-Apr-13 | 1100 | 5000 | ND | ND |
| | 08-Oct-13 | 1100 | 5000 | ND | ND |
| | 28-Apr-14 | 1100 | 5000 | ND | ND |
| | 13-Oct-14 | 1100 | 5000 | ND | ND |

**Notes:**
All concentrations are reported in micrograms per liter (ug/L).
DL = Laboratory detection limit.
RL = Laboratory reporting limit (NC SWSL June 2007 - present).
ND = Not detected above laboratory reporting limit.
NA = Not available.
NS = Not sampled.
NR = Not reported.

# TABLE 11

## Summary of Historical Leachate Field Parameters

| Analyte | Sample Collection Date | Leachate |
|---|---|---|
| pH | Sep-98 | 7.30 |
| (S.U.) | Mar-99 | 8.05 |
| | Sep-99 | 6.16 |
| | Apr-00 | 5.80 |
| | Sep-00 | 5.82 |
| | Mar-01 | 6.47 |
| | Oct-01 | 5.69 |
| | Apr-02 | 6.77 |
| | Nov-02 | 6.17 |
| | May-03 | 6.09 |
| | Nov-03 | 5.96 |
| | Jan-04 | NS |
| | Apr-04 | 7.91 |
| | May-04 | NS |
| | Oct-04 | 7.37 |
| | May-05 | 8.26 |
| | Oct-05 | 8.54 |
| | 29-Jun-06 | 8.76 |
| | 07-Dec-06 | 8.33 |
| | 28-Jun-07 | 8.47 |
| | 27-Dec-07 | 7.99 |
| | 28-Apr-08 | 8.28 |
| | 30-Dec-08 | 8.40 |
| | 24-Jun-09 | 7.96 |
| | 16-Dec-09 | 7.12 |
| | 22-Jun-10 | 7.34 |
| | 02-Nov-10 | 7.22 |
| | 12-Apr-11 | 8.37 |
| | 18-Oct-11 | 8.15 |
| | 10-Apr-12 | 8.97 |
| | 16-Oct-12 | 8.71 |
| | 16-Apr-13 | 7.58 |
| | 08-Oct-13 | 7.07 |
| | 28-Apr-14 | 7.11 |
| | 13-Oct-14 | 8.43 |

# TABLE 11

## Summary of Historical Leachate Field Parameters

| Analyte | Sample Collection Date | Leachate |
|---|---|---|
| Temperature ($^{o}C$) | Sep-98 | 23 |
| | Mar-99 | 17 |
| | Sep-99 | 17 |
| | Apr-00 | 9.8 |
| | Sep-00 | 16.3 |
| | Mar-01 | 20 |
| | Oct-01 | 19 |
| | Apr-02 | 14 |
| | Nov-02 | 15 |
| | May-03 | 16 |
| | Nov-03 | 18 |
| | Jan-04 | NS |
| | Apr-04 | 21 |
| | May-04 | NS |
| | Oct-04 | 16 |
| | May-05 | 29 |
| | Oct-05 | 14.7 |
| | 29-Jun-06 | 30.9 |
| | 07-Dec-06 | 8.6 |
| | 28-Jun-07 | 27.6 |
| | 27-Dec-07 | 6.2 |
| | 28-Apr-08 | 17.8 |
| | 30-Dec-08 | 5.3 |
| | 24-Jun-09 | 19.4 |
| | 16-Dec-09 | 2.4 |
| | 22-Jun-10 | 24.9 |
| | 02-Nov-10 | 11.9 |
| | 12-Apr-11 | 19.4 |
| | 18-Oct-11 | 16.3 |
| | 10-Apr-12 | 15.4 |
| | 16-Oct-12 | 23.6 |
| | 16-Apr-13 | 17.9 |
| | 08-Oct-13 | 15.2 |
| | 28-Apr-14 | 21.10 |
| | 13-Oct-14 | 18.3 |

# TABLE 11

## Summary of Historical Leachate Field Parameters

| Analyte | Sample Collection Date | Leachate |
|---|---|---|
| Conductivity (uohms/cm) | Sep-98 | NS |
| | Mar-99 | NS |
| | Sep-99 | 296 |
| | Apr-00 | 347 |
| | Sep-00 | 323 |
| | Mar-01 | NS |
| | Oct-01 | 260 |
| | Apr-02 | NS |
| | Nov-02 | NS |
| | May-03 | NS |
| | Nov-04 | 220 |
| | Jan-04 | NS |
| | Apr-04 | 2210 |
| | May-04 | NS |
| | Oct-04 | 110 |
| | May-05 | 3 |
| | Oct-05 | 296 |
| | 29-Jun-06 | 2000 |
| | 07-Dec-06 | 2330 |
| | 28-Jun-07 | NS |
| | 27-Dec-07 | NS |
| | 28-Apr-08 | NS |
| | 30-Dec-08 | NS |
| | 23-Jun-09 | 4260 |
| | 16-Dec-09 | 4300 |
| | 22-Jun-10 | 3180 |
| | 02-Nov-10 | 4410 |
| | 12-Apr-11 | 4190 |
| | 18-Oct-11 | 4810 |
| | 10-Apr-12 | 4480 |
| | 16-Oct-12 | 3950 |
| | 16-Apr-13 | 4570 |
| | 08-Oct-13 | 1044 |
| | 28-Apr-14 | 1570 |
| | 13-Oct-14 | 4430 |

## TABLE 11

## Summary of Historical Leachate Field Parameters

| Analyte | Sample Collection Date | Leachate |
|---|---|---|
| Turbidity (NTU) | 12-Apr-11 | 32.7 |
| | 18-Oct-11 | 36.8 |
| | 10-Apr-12 | 15.9 |
| | 16-Oct-12 | 28.7 |
| | 16-Apr-13 | 13.97 |
| | 08-Oct-13 | >1000 |
| | 30-Dec-08 | 628 |
| | 24-Jun-09 | 398 |
| | 16-Dec-09 | 1180 |
| | 22-Jun-10 | 311 |
| | 02-Nov-10 | 160 |
| | 12-Apr-11 | 313 |
| | 18-Oct-11 | 415 |
| | 10-Apr-12 | 258 |
| | 16-Oct-12 | 408 |
| | 16-Apr-13 | 353 |
| | 08-Oct-13 | 247 |
| | 28-Apr-14 | 27.8 |
| | 13-Oct-14 | 39.9 |

**Notes:**

--- = Not available and/or not sampled.

# Appendix B
# Plate 13 from A Geochemical Atlas of NC (Reid, 1993)

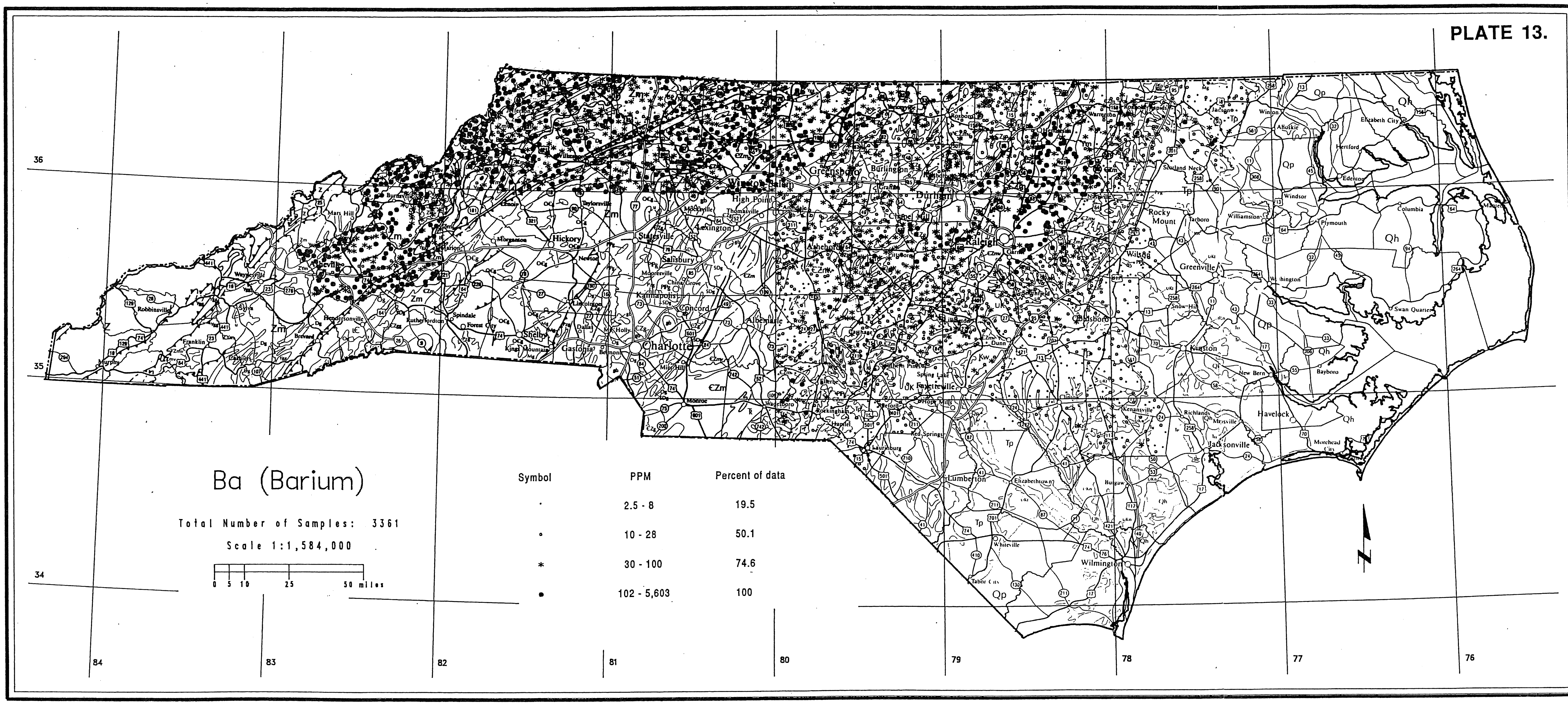
PLATE 13.
Ba (Barium)
Total Number of Samples: 3361
Scale 1:1,584,000
0 5 10 25 50 miles
Symbol
PPM
Percent of data
2.5 - 8
19.5
10 - 28
50.1
30 - 100
74.6
102 - 5,603
100
36
35
34
84
83
82
81
80
79
78
77
76

# Appendix C
# Laboratory Analytical Reports and Field Data Logs

**Pace Analytical Services, Inc.**
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 28, 2014

Mr. Alex Everhart
Joyce Engineering-NC
2211 W. Meadowview Road
Suite 101
Greensboro, NC 27407

RE: Project: Wilkes-Roaring River
Pace Project No.: 92221612

Dear Mr. Everhart:
Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Mr. Van Burbach, Joyce Engineering-NC
Alex Everhart, Joyce Engineering-NC



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# CERTIFICATIONS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Charlotte Certification IDs**

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

**Asheville Certification IDs**

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222



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## SAMPLE SUMMARY

Project: Wilkes-Roaring River
Pace Project No.: 92221612

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **92221612001** | **9704-MW13** | Water | 10/14/14 09:15 | 10/15/14 18:05 |
| **92221612002** | **9704-MW6** | Water | 10/14/14 10:25 | 10/15/14 18:05 |
| **92221612003** | **9704-MW7** | Water | 10/14/14 10:15 | 10/15/14 18:05 |
| **92221612004** | **9704-MW9** | Water | 10/14/14 10:05 | 10/15/14 18:05 |
| **92221612005** | **9704-MW12D** | Water | 10/14/14 08:55 | 10/15/14 18:05 |
| **92221612006** | **9704-MW17** | Water | 10/14/14 09:45 | 10/15/14 18:05 |
| **92221612007** | **9704-MW18** | Water | 10/14/14 09:35 | 10/15/14 18:05 |
| **92221612008** | **9704-FIELD BLANK** | Water | 10/14/14 10:35 | 10/15/14 18:05 |
| **92221612009** | **9704-TRIP BLANK** | Water | 10/13/14 07:00 | 10/15/14 18:05 |



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## SAMPLE ANALYTE COUNT

Project: Wilkes-Roaring River
Pace Project No.: 92221612

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **92221612001** | **9704-MW13** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612002** | **9704-MW6** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612003** | **9704-MW7** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612004** | **9704-MW9** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612005** | **9704-MW12D** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612006** | **9704-MW17** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612007** | **9704-MW18** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612008** | **9704-FIELD BLANK** | EPA 6010 | JMW | 15 | PASI-A |
| | | EPA 8260 | GAW | 50 | PASI-C |
| **92221612009** | **9704-TRIP BLANK** | EPA 8260 | GAW | 50 | PASI-C |



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## SUMMARY OF DETECTION

Project: Wilkes-Roaring River
Pace Project No.: 92221612

| Lab Sample ID<br>Method | Client Sample ID<br>Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **92221612002** | **9704-MW6** | | | | | |
| EPA 6010 | Barium | 1050 | ug/L | 100 | 10/18/14 04:18 | |
| EPA 6010 | Beryllium | 1.7 | ug/L | 1.0 | 10/18/14 04:18 | |
| EPA 6010 | Cadmium | 1.5 | ug/L | 1.0 | 10/18/14 04:18 | |
| EPA 6010 | Nickel | 12.6J | ug/L | 50.0 | 10/18/14 04:18 | |
| EPA 6010 | Zinc | 89.3 | ug/L | 10.0 | 10/18/14 04:18 | |
| **92221612003** | **9704-MW7** | | | | | |
| EPA 6010 | Barium | 478 | ug/L | 100 | 10/18/14 04:31 | |
| EPA 6010 | Zinc | 29.0 | ug/L | 10.0 | 10/18/14 04:31 | |
| **92221612004** | **9704-MW9** | | | | | |
| EPA 6010 | Barium | 63.6J | ug/L | 100 | 10/18/14 04:34 | |
| EPA 6010 | Zinc | 26.9 | ug/L | 10.0 | 10/18/14 04:34 | |
| **92221612005** | **9704-MW12D** | | | | | |
| EPA 6010 | Barium | 21.8J | ug/L | 100 | 10/18/14 04:37 | |
| **92221612006** | **9704-MW17** | | | | | |
| EPA 6010 | Barium | 66.5J | ug/L | 100 | 10/18/14 04:40 | |
| EPA 6010 | Zinc | 24.3 | ug/L | 10.0 | 10/18/14 04:40 | |
| **92221612007** | **9704-MW18** | | | | | |
| EPA 6010 | Barium | 44.6J | ug/L | 100 | 10/18/14 04:43 | |
| EPA 6010 | Zinc | 13.8 | ug/L | 10.0 | 10/18/14 04:43 | |
| **92221612008** | **9704-FIELD BLANK** | | | | | |
| EPA 8260 | Methylene Chloride | 2.8 | ug/L | 1.0 | 10/25/14 01:33 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW13** **Lab ID: 92221612001** Collected: 10/14/14 09:15 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-38-2 | |
| Barium | ND | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-62-2 | |
| Zinc | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:15 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/24/14 03:42 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/24/14 03:42 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 03:42 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/24/14 03:42 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/24/14 03:42 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/24/14 03:42 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/24/14 03:42 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/24/14 03:42 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/24/14 03:42 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 03:42 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/24/14 03:42 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/24/14 03:42 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/24/14 03:42 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/24/14 03:42 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/24/14 03:42 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/24/14 03:42 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 03:42 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/24/14 03:42 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/24/14 03:42 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/24/14 03:42 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/24/14 03:42 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/24/14 03:42 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/24/14 03:42 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/24/14 03:42 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/24/14 03:42 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/24/14 03:42 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 03:42 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/24/14 03:42 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:42 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW13** **Lab ID: 92221612001** Collected: 10/14/14 09:15 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/24/14 03:42 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/24/14 03:42 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/24/14 03:42 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/24/14 03:42 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/24/14 03:42 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:42 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/24/14 03:42 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/24/14 03:42 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/24/14 03:42 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:42 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/24/14 03:42 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/24/14 03:42 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/24/14 03:42 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/24/14 03:42 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/24/14 03:42 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/24/14 03:42 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/24/14 03:42 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/24/14 03:42 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | | 1 | | 10/24/14 03:42 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 70-130 | | 1 | | 10/24/14 03:42 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | % | 70-130 | | 1 | | 10/24/14 03:42 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW6** **Lab ID: 92221612002** Collected: 10/14/14 10:25 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-38-2 | |
| Barium | **1050** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-39-3 | |
| Beryllium | **1.7** | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-41-7 | |
| Cadmium | **1.5** | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7439-92-1 | |
| Nickel | **12.6J** | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-62-2 | |
| Zinc | **89.3** | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:18 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/24/14 03:59 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/24/14 03:59 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 03:59 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/24/14 03:59 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/24/14 03:59 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/24/14 03:59 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/24/14 03:59 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/24/14 03:59 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/24/14 03:59 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 03:59 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/24/14 03:59 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/24/14 03:59 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/24/14 03:59 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/24/14 03:59 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/24/14 03:59 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/24/14 03:59 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 03:59 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/24/14 03:59 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/24/14 03:59 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/24/14 03:59 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/24/14 03:59 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/24/14 03:59 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/24/14 03:59 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/24/14 03:59 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/24/14 03:59 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/24/14 03:59 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 03:59 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/24/14 03:59 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:59 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW6** **Lab ID: 92221612002** Collected: 10/14/14 10:25 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/24/14 03:59 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/24/14 03:59 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/24/14 03:59 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/24/14 03:59 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/24/14 03:59 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:59 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/24/14 03:59 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/24/14 03:59 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/24/14 03:59 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 03:59 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/24/14 03:59 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/24/14 03:59 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/24/14 03:59 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/24/14 03:59 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/24/14 03:59 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/24/14 03:59 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/24/14 03:59 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/24/14 03:59 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 97 | % | 70-130 | | 1 | | 10/24/14 03:59 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 70-130 | | 1 | | 10/24/14 03:59 | 17060-07-0 | |
| Toluene-d8 (S) | 96 | % | 70-130 | | 1 | | 10/24/14 03:59 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW7** **Lab ID: 92221612003** Collected: 10/14/14 10:15 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-38-2 | |
| Barium | **478** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-62-2 | |
| Zinc | **29.0** | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:31 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/24/14 04:15 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/24/14 04:15 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 04:15 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/24/14 04:15 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/24/14 04:15 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/24/14 04:15 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/24/14 04:15 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/24/14 04:15 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/24/14 04:15 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/24/14 04:15 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/24/14 04:15 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/24/14 04:15 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/24/14 04:15 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/24/14 04:15 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/24/14 04:15 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/24/14 04:15 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 04:15 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/24/14 04:15 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/24/14 04:15 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/24/14 04:15 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/24/14 04:15 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/24/14 04:15 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/24/14 04:15 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/24/14 04:15 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/24/14 04:15 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/24/14 04:15 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/24/14 04:15 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/24/14 04:15 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 04:15 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW7** **Lab ID: 92221612003** Collected: 10/14/14 10:15 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/24/14 04:15 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/24/14 04:15 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/24/14 04:15 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/24/14 04:15 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/24/14 04:15 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 04:15 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/24/14 04:15 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/24/14 04:15 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/24/14 04:15 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/24/14 04:15 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/24/14 04:15 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/24/14 04:15 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/24/14 04:15 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/24/14 04:15 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/24/14 04:15 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/24/14 04:15 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/24/14 04:15 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/24/14 04:15 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 97 | % | 70-130 | | 1 | | 10/24/14 04:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 70-130 | | 1 | | 10/24/14 04:15 | 17060-07-0 | |
| Toluene-d8 (S) | 96 | % | 70-130 | | 1 | | 10/24/14 04:15 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW9** **Lab ID: 92221612004** Collected: 10/14/14 10:05 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-38-2 | |
| Barium | **63.6J** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-62-2 | |
| Zinc | **26.9** | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:34 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 06:28 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 06:28 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:28 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 06:28 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 06:28 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 06:28 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 06:28 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 06:28 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 06:28 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:28 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 06:28 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 06:28 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 06:28 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 06:28 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 06:28 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 06:28 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:28 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 06:28 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 06:28 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 06:28 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 06:28 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 06:28 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 06:28 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 06:28 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 06:28 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 06:28 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:28 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 06:28 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:28 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW9** **Lab ID: 92221612004** Collected: 10/14/14 10:05 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 06:28 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 06:28 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 06:28 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 06:28 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 06:28 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:28 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 06:28 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 06:28 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 06:28 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:28 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 06:28 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 06:28 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 06:28 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 06:28 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 06:28 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 06:28 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 06:28 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 06:28 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | | 1 | | 10/25/14 06:28 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 70-130 | | 1 | | 10/25/14 06:28 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | % | 70-130 | | 1 | | 10/25/14 06:28 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW12D** **Lab ID: 92221612005** Collected: 10/14/14 08:55 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-38-2 | |
| Barium | **21.8J** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-62-2 | |
| Zinc | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:37 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 06:45 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 06:45 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:45 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 06:45 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 06:45 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 06:45 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 06:45 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 06:45 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 06:45 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:45 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 06:45 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 06:45 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 06:45 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 06:45 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 06:45 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 06:45 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:45 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 06:45 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 06:45 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 06:45 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 06:45 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 06:45 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 06:45 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 06:45 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 06:45 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 06:45 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:45 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 06:45 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:45 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW12D** **Lab ID: 92221612005** Collected: 10/14/14 08:55 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 06:45 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 06:45 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 06:45 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 06:45 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 06:45 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:45 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 06:45 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 06:45 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 06:45 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:45 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 06:45 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 06:45 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 06:45 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 06:45 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 06:45 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 06:45 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 06:45 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 06:45 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 100 | % | 70-130 | | 1 | | 10/25/14 06:45 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 70-130 | | 1 | | 10/25/14 06:45 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | % | 70-130 | | 1 | | 10/25/14 06:45 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW17** **Lab ID: 92221612006** Collected: 10/14/14 09:45 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-38-2 | |
| Barium | **66.5J** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-62-2 | |
| Zinc | **24.3** | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:40 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 06:12 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 06:12 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:12 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 06:12 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 06:12 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 06:12 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 06:12 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 06:12 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 06:12 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 06:12 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 06:12 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 06:12 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 06:12 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 06:12 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 06:12 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 06:12 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:12 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 06:12 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 06:12 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 06:12 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 06:12 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 06:12 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 06:12 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 06:12 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 06:12 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 06:12 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 06:12 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 06:12 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:12 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW17** **Lab ID: 92221612006** Collected: 10/14/14 09:45 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 06:12 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 06:12 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 06:12 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 06:12 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 06:12 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:12 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 06:12 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 06:12 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 06:12 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 06:12 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 06:12 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 06:12 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 06:12 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 06:12 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 06:12 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 06:12 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 06:12 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 06:12 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | | 1 | | 10/25/14 06:12 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 70-130 | | 1 | | 10/25/14 06:12 | 17060-07-0 | |
| Toluene-d8 (S) | 99 | % | 70-130 | | 1 | | 10/25/14 06:12 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW18** **Lab ID: 92221612007** Collected: 10/14/14 09:35 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-38-2 | |
| Barium | **44.6J** | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-62-2 | |
| Zinc | **13.8** | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:43 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 05:55 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 05:55 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 05:55 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 05:55 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 05:55 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 05:55 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 05:55 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 05:55 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 05:55 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 05:55 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 05:55 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 05:55 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 05:55 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 05:55 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 05:55 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 05:55 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 05:55 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 05:55 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 05:55 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 05:55 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 05:55 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 05:55 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 05:55 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 05:55 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 05:55 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 05:55 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 05:55 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 05:55 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 05:55 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-MW18** **Lab ID: 92221612007** Collected: 10/14/14 09:35 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 05:55 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 05:55 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 05:55 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 05:55 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 05:55 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 05:55 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 05:55 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 05:55 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 05:55 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 05:55 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 05:55 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 05:55 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 05:55 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 05:55 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 05:55 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 05:55 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 05:55 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 05:55 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | 1 | | 10/25/14 05:55 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 70-130 | | 1 | | 10/25/14 05:55 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | % | 70-130 | | 1 | | 10/25/14 05:55 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-FIELD BLANK** **Lab ID: 92221612008** Collected: 10/14/14 10:35 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Antimony | ND | ug/L | 6.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-36-0 | |
| Arsenic | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-38-2 | |
| Barium | ND | ug/L | 100 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-39-3 | |
| Beryllium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-41-7 | |
| Cadmium | ND | ug/L | 1.0 | 1.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-43-9 | |
| Chromium | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-47-3 | |
| Cobalt | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-48-4 | |
| Copper | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-50-8 | |
| Lead | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7439-92-1 | |
| Nickel | ND | ug/L | 50.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-02-0 | |
| Selenium | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7782-49-2 | |
| Silver | ND | ug/L | 10.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-22-4 | |
| Thallium | ND | ug/L | 5.5 | 5.4 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-28-0 | |
| Vanadium | ND | ug/L | 25.0 | 5.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-62-2 | |
| Zinc | ND | ug/L | 10.0 | 10.0 | 1 | 10/17/14 15:15 | 10/18/14 04:46 | 7440-66-6 | |
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 01:33 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 01:33 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 01:33 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 01:33 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 01:33 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 01:33 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 01:33 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 01:33 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 01:33 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 01:33 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 01:33 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 01:33 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 01:33 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 01:33 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 01:33 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 01:33 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 01:33 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 01:33 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 01:33 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 01:33 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 01:33 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 01:33 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 01:33 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 01:33 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 01:33 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 01:33 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 01:33 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 01:33 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 01:33 | 10061-02-6 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-FIELD BLANK** **Lab ID: 92221612008** Collected: 10/14/14 10:35 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 01:33 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 01:33 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 01:33 | 74-88-4 | |
| Methylene Chloride | **2.8** | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 01:33 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 01:33 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 01:33 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 01:33 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 01:33 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 01:33 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 01:33 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 01:33 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 01:33 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 01:33 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 01:33 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 01:33 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 01:33 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 01:33 | 75-01-4 | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 01:33 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 100 | % | 70-130 | | 1 | | 10/25/14 01:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 70-130 | | 1 | | 10/25/14 01:33 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | % | 70-130 | | 1 | | 10/25/14 01:33 | 2037-26-5 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-TRIP BLANK** **Lab ID: 92221612009** Collected: 10/13/14 07:00 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Acetone | ND | ug/L | 100 | 10.0 | 1 | | 10/25/14 02:39 | 67-64-1 | |
| Acrylonitrile | ND | ug/L | 200 | 1.9 | 1 | | 10/25/14 02:39 | 107-13-1 | |
| Benzene | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 02:39 | 71-43-2 | |
| Bromochloromethane | ND | ug/L | 3.0 | 0.17 | 1 | | 10/25/14 02:39 | 74-97-5 | |
| Bromodichloromethane | ND | ug/L | 1.0 | 0.18 | 1 | | 10/25/14 02:39 | 75-27-4 | |
| Bromoform | ND | ug/L | 3.0 | 0.26 | 1 | | 10/25/14 02:39 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 0.29 | 1 | | 10/25/14 02:39 | 74-83-9 | |
| 2-Butanone (MEK) | ND | ug/L | 100 | 0.96 | 1 | | 10/25/14 02:39 | 78-93-3 | |
| Carbon disulfide | ND | ug/L | 100 | 1.2 | 1 | | 10/25/14 02:39 | 75-15-0 | |
| Carbon tetrachloride | ND | ug/L | 1.0 | 0.25 | 1 | | 10/25/14 02:39 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 3.0 | 0.23 | 1 | | 10/25/14 02:39 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 0.54 | 1 | | 10/25/14 02:39 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 0.14 | 1 | | 10/25/14 02:39 | 67-66-3 | |
| Chloromethane | ND | ug/L | 1.0 | 0.11 | 1 | | 10/25/14 02:39 | 74-87-3 | |
| 1,2-Dibromo-3-chloropropane | ND | ug/L | 13.0 | 2.0 | 1 | | 10/25/14 02:39 | 96-12-8 | |
| Dibromochloromethane | ND | ug/L | 3.0 | 0.21 | 1 | | 10/25/14 02:39 | 124-48-1 | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 02:39 | 106-93-4 | |
| Dibromomethane | ND | ug/L | 10.0 | 0.21 | 1 | | 10/25/14 02:39 | 74-95-3 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 0.30 | 1 | | 10/25/14 02:39 | 95-50-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | 0.33 | 1 | | 10/25/14 02:39 | 106-46-7 | |
| trans-1,4-Dichloro-2-butene | ND | ug/L | 100 | 1.0 | 1 | | 10/25/14 02:39 | 110-57-6 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 0.32 | 1 | | 10/25/14 02:39 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.12 | 1 | | 10/25/14 02:39 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 0.56 | 1 | | 10/25/14 02:39 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.19 | 1 | | 10/25/14 02:39 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 0.49 | 1 | | 10/25/14 02:39 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | 0.27 | 1 | | 10/25/14 02:39 | 78-87-5 | |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.13 | 1 | | 10/25/14 02:39 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 02:39 | 10061-02-6 | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 10/25/14 02:39 | 100-41-4 | |
| 2-Hexanone | ND | ug/L | 50.0 | 0.46 | 1 | | 10/25/14 02:39 | 591-78-6 | |
| Iodomethane | ND | ug/L | 10.0 | 0.32 | 1 | | 10/25/14 02:39 | 74-88-4 | |
| Methylene Chloride | ND | ug/L | 1.0 | 0.97 | 1 | | 10/25/14 02:39 | 75-09-2 | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/L | 100 | 0.33 | 1 | | 10/25/14 02:39 | 108-10-1 | |
| Styrene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 02:39 | 100-42-5 | |
| 1,1,1,2-Tetrachloroethane | ND | ug/L | 5.0 | 0.33 | 1 | | 10/25/14 02:39 | 630-20-6 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 3.0 | 0.40 | 1 | | 10/25/14 02:39 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 1.0 | 0.46 | 1 | | 10/25/14 02:39 | 127-18-4 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 10/25/14 02:39 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | 0.48 | 1 | | 10/25/14 02:39 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | 0.29 | 1 | | 10/25/14 02:39 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 1.0 | 0.47 | 1 | | 10/25/14 02:39 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 1.0 | 0.20 | 1 | | 10/25/14 02:39 | 75-69-4 | |
| 1,2,3-Trichloropropane | ND | ug/L | 1.0 | 0.41 | 1 | | 10/25/14 02:39 | 96-18-4 | |
| Vinyl acetate | ND | ug/L | 50.0 | 0.35 | 1 | | 10/25/14 02:39 | 108-05-4 | |
| Vinyl chloride | ND | ug/L | 1.0 | 0.62 | 1 | | 10/25/14 02:39 | 75-01-4 | |



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# ANALYTICAL RESULTS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

**Sample: 9704-TRIP BLANK** **Lab ID: 92221612009** Collected: 10/13/14 07:00 Received: 10/15/14 18:05 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **8260 MSV Low Level Landfill** | Analytical Method: EPA 8260 | | | | | | | | |
| Xylene (Total) | ND | ug/L | 5.0 | 0.66 | 1 | | 10/25/14 02:39 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | 1 | | 10/25/14 02:39 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 70-130 | | 1 | | 10/25/14 02:39 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | % | 70-130 | | 1 | | 10/25/14 02:39 | 2037-26-5 | |



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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

QC Batch: MPRP/17152 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92221612001, 92221612002, 92221612003, 92221612004, 92221612005, 92221612006, 92221612007, 92221612008

METHOD BLANK: 1309868 | Matrix: Water
Associated Lab Samples: 92221612001, 92221612002, 92221612003, 92221612004, 92221612005, 92221612006, 92221612007, 92221612008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Antimony | ug/L | ND | 6.0 | 10/18/14 04:00 | |
| Arsenic | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Barium | ug/L | ND | 100 | 10/18/14 04:00 | |
| Beryllium | ug/L | ND | 1.0 | 10/18/14 04:00 | |
| Cadmium | ug/L | ND | 1.0 | 10/18/14 04:00 | |
| Chromium | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Cobalt | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Copper | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Lead | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Nickel | ug/L | ND | 50.0 | 10/18/14 04:00 | |
| Selenium | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Silver | ug/L | ND | 10.0 | 10/18/14 04:00 | |
| Thallium | ug/L | ND | 5.5 | 10/18/14 04:00 | |
| Vanadium | ug/L | ND | 25.0 | 10/18/14 04:00 | |
| Zinc | ug/L | ND | 10.0 | 10/18/14 04:00 | |

LABORATORY CONTROL SAMPLE: 1309869

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | ug/L | 500 | 519 | 104 | 80-120 | |
| Arsenic | ug/L | 500 | 473 | 95 | 80-120 | |
| Barium | ug/L | 500 | 474 | 95 | 80-120 | |
| Beryllium | ug/L | 500 | 474 | 95 | 80-120 | |
| Cadmium | ug/L | 500 | 478 | 96 | 80-120 | |
| Chromium | ug/L | 500 | 469 | 94 | 80-120 | |
| Cobalt | ug/L | 500 | 476 | 95 | 80-120 | |
| Copper | ug/L | 500 | 488 | 98 | 80-120 | |
| Lead | ug/L | 500 | 479 | 96 | 80-120 | |
| Nickel | ug/L | 500 | 475 | 95 | 80-120 | |
| Selenium | ug/L | 500 | 484 | 97 | 80-120 | |
| Silver | ug/L | 250 | 247 | 99 | 80-120 | |
| Thallium | ug/L | 500 | 474 | 95 | 80-120 | |
| Vanadium | ug/L | 500 | 468 | 94 | 80-120 | |
| Zinc | ug/L | 500 | 460 | 92 | 80-120 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1309870 1309871

| Parameter | Units | 92220578009 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ug/L | ND | 500 | 500 | 523 | 526 | 104 | 105 | 75-125 | 1 | 25 | |
| Arsenic | ug/L | ND | 500 | 500 | 478 | 484 | 96 | 97 | 75-125 | 1 | 25 | |
| Barium | ug/L | 177 | 500 | 500 | 659 | 655 | 97 | 96 | 75-125 | 1 | 25 | |
| Beryllium | ug/L | ND | 500 | 500 | 485 | 484 | 97 | 97 | 75-125 | 0 | 25 | |
| Cadmium | ug/L | ND | 500 | 500 | 480 | 484 | 96 | 97 | 75-125 | 1 | 25 | |
| Chromium | ug/L | ND | 500 | 500 | 475 | 482 | 95 | 96 | 75-125 | 1 | 25 | |
| Cobalt | ug/L | 8.3 | 500 | 500 | 487 | 489 | 96 | 96 | 75-125 | 0 | 25 | |
| Copper | ug/L | ND | 500 | 500 | 491 | 492 | 98 | 98 | 75-125 | 0 | 25 | |
| Lead | ug/L | ND | 500 | 500 | 479 | 483 | 96 | 96 | 75-125 | 1 | 25 | |
| Nickel | ug/L | 10.7 | 500 | 500 | 483 | 486 | 94 | 95 | 75-125 | 1 | 25 | |
| Selenium | ug/L | ND | 500 | 500 | 485 | 487 | 97 | 97 | 75-125 | 0 | 25 | |
| Silver | ug/L | ND | 250 | 250 | 250 | 251 | 100 | 100 | 75-125 | 0 | 25 | |
| Thallium | ug/L | ND | 500 | 500 | 467 | 473 | 93 | 95 | 75-125 | 1 | 25 | |
| Vanadium | ug/L | ND | 500 | 500 | 473 | 477 | 95 | 95 | 75-125 | 1 | 25 | |
| Zinc | ug/L | ND | 500 | 500 | 470 | 472 | 93 | 93 | 75-125 | 0 | 25 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

QC Batch: MSV/28887 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92221612001, 92221612002, 92221612003

METHOD BLANK: 1314234 Matrix: Water
Associated Lab Samples: 92221612001, 92221612002, 92221612003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| 1,1,1-Trichloroethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 3.0 | 10/23/14 20:07 | |
| 1,1,2-Trichloroethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,1-Dichloroethane | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| 1,1-Dichloroethene | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| 1,2,3-Trichloropropane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | 13.0 | 10/23/14 20:07 | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,2-Dichlorobenzene | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| 1,2-Dichloroethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,2-Dichloropropane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 1,4-Dichlorobenzene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| 2-Butanone (MEK) | ug/L | ND | 100 | 10/23/14 20:07 | |
| 2-Hexanone | ug/L | ND | 50.0 | 10/23/14 20:07 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | 100 | 10/23/14 20:07 | |
| Acetone | ug/L | ND | 100 | 10/23/14 20:07 | |
| Acrylonitrile | ug/L | ND | 200 | 10/23/14 20:07 | |
| Benzene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Bromochloromethane | ug/L | ND | 3.0 | 10/23/14 20:07 | |
| Bromodichloromethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Bromoform | ug/L | ND | 3.0 | 10/23/14 20:07 | |
| Bromomethane | ug/L | ND | 10.0 | 10/23/14 20:07 | |
| Carbon disulfide | ug/L | ND | 100 | 10/23/14 20:07 | |
| Carbon tetrachloride | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Chlorobenzene | ug/L | ND | 3.0 | 10/23/14 20:07 | |
| Chloroethane | ug/L | ND | 10.0 | 10/23/14 20:07 | |
| Chloroform | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| Chloromethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| cis-1,2-Dichloroethene | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| cis-1,3-Dichloropropene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Dibromochloromethane | ug/L | ND | 3.0 | 10/23/14 20:07 | |
| Dibromomethane | ug/L | ND | 10.0 | 10/23/14 20:07 | |
| Ethylbenzene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Iodomethane | ug/L | ND | 10.0 | 10/23/14 20:07 | |
| Methylene Chloride | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Styrene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Tetrachloroethene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Toluene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| trans-1,2-Dichloroethene | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| trans-1,3-Dichloropropene | ug/L | ND | 1.0 | 10/23/14 20:07 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

METHOD BLANK: 1314234 Matrix: Water
Associated Lab Samples: 92221612001, 92221612002, 92221612003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| trans-1,4-Dichloro-2-butene | ug/L | ND | 100 | 10/23/14 20:07 | |
| Trichloroethene | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Trichlorofluoromethane | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Vinyl acetate | ug/L | ND | 50.0 | 10/23/14 20:07 | |
| Vinyl chloride | ug/L | ND | 1.0 | 10/23/14 20:07 | |
| Xylene (Total) | ug/L | ND | 5.0 | 10/23/14 20:07 | |
| 1,2-Dichloroethane-d4 (S) | % | 98 | 70-130 | 10/23/14 20:07 | |
| 4-Bromofluorobenzene (S) | % | 99 | 70-130 | 10/23/14 20:07 | |
| Toluene-d8 (S) | % | 97 | 70-130 | 10/23/14 20:07 | |

LABORATORY CONTROL SAMPLE: 1314235

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | 50 | 46.5 | 93 | 80-125 | |
| 1,1,1-Trichloroethane | ug/L | 50 | 49.5 | 99 | 71-129 | |
| 1,1,2,2-Tetrachloroethane | ug/L | 50 | 48.1 | 96 | 79-124 | |
| 1,1,2-Trichloroethane | ug/L | 50 | 48.3 | 97 | 85-125 | |
| 1,1-Dichloroethane | ug/L | 50 | 51.7 | 103 | 73-126 | |
| 1,1-Dichloroethene | ug/L | 50 | 56.1 | 112 | 66-135 | |
| 1,2,3-Trichloropropane | ug/L | 50 | 51.5 | 103 | 75-130 | |
| 1,2-Dibromo-3-chloropropane | ug/L | 50 | 53.4 | 107 | 71-133 | |
| 1,2-Dibromoethane (EDB) | ug/L | 50 | 50.9 | 102 | 83-124 | |
| 1,2-Dichlorobenzene | ug/L | 50 | 48.6 | 97 | 80-133 | |
| 1,2-Dichloroethane | ug/L | 50 | 49.2 | 98 | 67-128 | |
| 1,2-Dichloropropane | ug/L | 50 | 48.3 | 97 | 75-132 | |
| 1,4-Dichlorobenzene | ug/L | 50 | 48.8 | 98 | 78-130 | |
| 2-Butanone (MEK) | ug/L | 100 | 118 | 118 | 61-144 | |
| 2-Hexanone | ug/L | 100 | 110 | 110 | 68-143 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | 100 | 107 | 107 | 72-135 | |
| Acetone | ug/L | 100 | 115 | 115 | 48-146 | |
| Acrylonitrile | ug/L | 250 | 262 | 105 | 40-160 | |
| Benzene | ug/L | 50 | 48.1 | 96 | 80-125 | |
| Bromochloromethane | ug/L | 50 | 49.6 | 99 | 71-125 | |
| Bromodichloromethane | ug/L | 50 | 48.1 | 96 | 78-124 | |
| Bromoform | ug/L | 50 | 48.3 | 97 | 71-128 | |
| Bromomethane | ug/L | 50 | 40.8 | 82 | 40-160 | |
| Carbon disulfide | ug/L | 50 | 54.7J | 109 | 50-160 | |
| Carbon tetrachloride | ug/L | 50 | 49.7 | 99 | 69-131 | |
| Chlorobenzene | ug/L | 50 | 47.7 | 95 | 81-122 | |
| Chloroethane | ug/L | 50 | 41.9 | 84 | 39-148 | |
| Chloroform | ug/L | 50 | 49.4 | 99 | 73-127 | |
| Chloromethane | ug/L | 50 | 47.7 | 95 | 44-146 | |
| cis-1,2-Dichloroethene | ug/L | 50 | 51.9 | 104 | 74-124 | |
| cis-1,3-Dichloropropene | ug/L | 50 | 48.3 | 97 | 72-132 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

LABORATORY CONTROL SAMPLE: 1314235

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Dibromochloromethane | ug/L | 50 | 49.8 | 100 | 78-125 | |
| Dibromomethane | ug/L | 50 | 50.1 | 100 | 82-120 | |
| Ethylbenzene | ug/L | 50 | 46.5 | 93 | 79-121 | |
| Iodomethane | ug/L | 100 | 93.1 | 93 | 39-154 | |
| Methylene Chloride | ug/L | 50 | 53.2 | 106 | 64-133 | |
| Styrene | ug/L | 50 | 47.1 | 94 | 84-126 | |
| Tetrachloroethene | ug/L | 50 | 48.6 | 97 | 78-122 | |
| Toluene | ug/L | 50 | 47.7 | 95 | 80-121 | |
| trans-1,2-Dichloroethene | ug/L | 50 | 52.8 | 106 | 71-127 | |
| trans-1,3-Dichloropropene | ug/L | 50 | 48.6 | 97 | 69-141 | |
| trans-1,4-Dichloro-2-butene | ug/L | 50 | 49.4J | 99 | 40-160 | |
| Trichloroethene | ug/L | 50 | 47.3 | 95 | 78-122 | |
| Trichlorofluoromethane | ug/L | 50 | 45.5 | 91 | 53-137 | |
| Vinyl acetate | ug/L | 100 | 82.6 | 83 | 40-160 | |
| Vinyl chloride | ug/L | 50 | 50.0 | 100 | 58-137 | |
| Xylene (Total) | ug/L | 150 | 138 | 92 | 81-126 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 101 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 70-130 | |
| Toluene-d8 (S) | % | | | 99 | 70-130 | |

MATRIX SPIKE SAMPLE: 1314237

| Parameter | Units | 92221616002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | 20 | 19.9 | 100 | 70-130 | |
| 1,1,1-Trichloroethane | ug/L | ND | 20 | 22.3 | 111 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 20 | 19.9 | 99 | 70-130 | |
| 1,1,2-Trichloroethane | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| 1,1-Dichloroethane | ug/L | ND | 20 | 23.7 | 119 | 70-130 | |
| 1,1-Dichloroethene | ug/L | ND | 20 | 26.5 | 132 | 70-166 | |
| 1,2,3-Trichloropropane | ug/L | ND | 20 | 20.9 | 105 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | 20 | 21.5 | 108 | 70-130 | |
| 1,2-Dichlorobenzene | ug/L | 1.2J | 20 | 22.1 | 104 | 70-130 | |
| 1,2-Dichloroethane | ug/L | ND | 20 | 20.7 | 104 | 70-130 | |
| 1,2-Dichloropropane | ug/L | ND | 20 | 20.9 | 104 | 70-130 | |
| 1,4-Dichlorobenzene | ug/L | 8.9 | 20 | 30.3 | 107 | 70-130 | |
| 2-Butanone (MEK) | ug/L | ND | 40 | 45.5J | 114 | 70-130 | |
| 2-Hexanone | ug/L | ND | 40 | 45.5J | 114 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | 40 | 43.9J | 110 | 70-130 | |
| Acetone | ug/L | ND | 40 | 46.7J | 111 | 70-130 | |
| Acrylonitrile | ug/L | ND | 100 | 110J | 110 | 70-130 | |
| Benzene | ug/L | 0.63J | 20 | 22.9 | 111 | 70-148 | |
| Bromochloromethane | ug/L | ND | 20 | 24.4 | 122 | 70-130 | |
| Bromodichloromethane | ug/L | ND | 20 | 20.6 | 103 | 70-130 | |
| Bromoform | ug/L | ND | 20 | 19.5 | 98 | 70-130 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

MATRIX SPIKE SAMPLE: 1314237

| Parameter | Units | 92221616002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Bromomethane | ug/L | ND | 20 | 16.5 | 83 | 70-130 | |
| Carbon disulfide | ug/L | ND | 20 | 25.0J | 125 | 70-130 | |
| Carbon tetrachloride | ug/L | ND | 20 | 23.5 | 118 | 70-130 | |
| Chlorobenzene | ug/L | 2.7J | 20 | 24.0 | 107 | 70-146 | |
| Chloroethane | ug/L | ND | 20 | 23.2 | 116 | 70-130 | |
| Chloroform | ug/L | ND | 20 | 21.3 | 106 | 70-130 | |
| Chloromethane | ug/L | ND | 20 | 22.6 | 113 | 70-130 | |
| cis-1,2-Dichloroethene | ug/L | 4.3J | 20 | 27.3 | 115 | 70-130 | |
| cis-1,3-Dichloropropene | ug/L | ND | 20 | 20.0 | 100 | 70-130 | |
| Dibromochloromethane | ug/L | ND | 20 | 21.0 | 105 | 70-130 | |
| Dibromomethane | ug/L | ND | 20 | 21.6 | 108 | 70-130 | |
| Ethylbenzene | ug/L | ND | 20 | 21.0 | 105 | 70-130 | |
| Iodomethane | ug/L | ND | 40 | 31.8 | 80 | 70-130 | |
| Methylene Chloride | ug/L | ND | 20 | 23.2 | 116 | 70-130 | |
| Styrene | ug/L | ND | 20 | 21.0 | 105 | 70-130 | |
| Tetrachloroethene | ug/L | ND | 20 | 21.5 | 107 | 70-130 | |
| Toluene | ug/L | ND | 20 | 21.3 | 106 | 70-155 | |
| trans-1,2-Dichloroethene | ug/L | ND | 20 | 23.5 | 117 | 70-130 | |
| trans-1,3-Dichloropropene | ug/L | ND | 20 | 20.1 | 101 | 70-130 | |
| trans-1,4-Dichloro-2-butene | ug/L | ND | 20 | 19.2J | 96 | 70-130 | |
| Trichloroethene | ug/L | ND | 20 | 21.0 | 105 | 69-151 | |
| Trichlorofluoromethane | ug/L | ND | 20 | 23.9 | 120 | 70-130 | |
| Vinyl acetate | ug/L | ND | 40 | 27.5J | 69 | 70-130 | M0 |
| Vinyl chloride | ug/L | ND | 20 | 23.3 | 115 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 100 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | | 96 | 70-130 | |
| Toluene-d8 (S) | % | | | | 99 | 70-130 | |

SAMPLE DUPLICATE: 1314236

| Parameter | Units | 92221616001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | ND | | | |
| 1,1,1-Trichloroethane | ug/L | ND | ND | | | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | ND | | | |
| 1,1,2-Trichloroethane | ug/L | ND | ND | | | |
| 1,1-Dichloroethane | ug/L | 1.3J | 1.3J | 0 | | |
| 1,1-Dichloroethene | ug/L | ND | ND | | | |
| 1,2,3-Trichloropropane | ug/L | ND | ND | | | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | ND | | | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | ND | | | |
| 1,2-Dichlorobenzene | ug/L | ND | ND | | | |
| 1,2-Dichloroethane | ug/L | ND | ND | | | |
| 1,2-Dichloropropane | ug/L | ND | ND | | | |
| 1,4-Dichlorobenzene | ug/L | 2.1 | 2.1 | 2 | | |
| 2-Butanone (MEK) | ug/L | ND | ND | | | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

SAMPLE DUPLICATE: 1314236

| Parameter | Units | 92221616001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 2-Hexanone | ug/L | ND | ND | | | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | ND | | | |
| Acetone | ug/L | ND | ND | | | |
| Acrylonitrile | ug/L | ND | ND | | | |
| Benzene | ug/L | 2.3 | 2.3 | 1 | | |
| Bromochloromethane | ug/L | ND | ND | | | |
| Bromodichloromethane | ug/L | ND | ND | | | |
| Bromoform | ug/L | ND | ND | | | |
| Bromomethane | ug/L | ND | ND | | | |
| Carbon disulfide | ug/L | ND | ND | | | |
| Carbon tetrachloride | ug/L | ND | ND | | | |
| Chlorobenzene | ug/L | 0.25J | ND | | | |
| Chloroethane | ug/L | ND | ND | | | |
| Chloroform | ug/L | ND | ND | | | |
| Chloromethane | ug/L | 0.17J | 0.17J | | | |
| cis-1,2-Dichloroethene | ug/L | 9.4 | 9.5 | 0 | | |
| cis-1,3-Dichloropropene | ug/L | ND | ND | | | |
| Dibromochloromethane | ug/L | ND | ND | | | |
| Dibromomethane | ug/L | ND | ND | | | |
| Ethylbenzene | ug/L | ND | ND | | | |
| Iodomethane | ug/L | ND | ND | | | |
| Methylene Chloride | ug/L | ND | ND | | | |
| Styrene | ug/L | ND | ND | | | |
| Tetrachloroethene | ug/L | 0.54J | 0.55J | | | |
| Toluene | ug/L | ND | ND | | | |
| trans-1,2-Dichloroethene | ug/L | ND | ND | | | |
| trans-1,3-Dichloropropene | ug/L | ND | ND | | | |
| trans-1,4-Dichloro-2-butene | ug/L | ND | ND | | | |
| Trichloroethene | ug/L | 1.0 | 0.91J | | | |
| Trichlorofluoromethane | ug/L | ND | ND | | | |
| Vinyl acetate | ug/L | ND | ND | | | |
| Vinyl chloride | ug/L | 1.6 | 1.6 | 0 | | |
| Xylene (Total) | ug/L | ND | ND | | | |
| 1,2-Dichloroethane-d4 (S) | % | 103 | 101 | 2 | | |
| 4-Bromofluorobenzene (S) | % | 98 | 98 | 0 | | |
| Toluene-d8 (S) | % | 98 | 96 | 1 | | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

QC Batch: MSV/28900 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92221612004, 92221612005, 92221612006, 92221612007, 92221612008, 92221612009

METHOD BLANK: 1315271 Matrix: Water
Associated Lab Samples: 92221612004, 92221612005, 92221612006, 92221612007, 92221612008, 92221612009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| 1,1,1-Trichloroethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 3.0 | 10/25/14 01:17 | |
| 1,1,2-Trichloroethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,1-Dichloroethane | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| 1,1-Dichloroethene | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| 1,2,3-Trichloropropane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | 13.0 | 10/25/14 01:17 | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,2-Dichlorobenzene | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| 1,2-Dichloroethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,2-Dichloropropane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 1,4-Dichlorobenzene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| 2-Butanone (MEK) | ug/L | ND | 100 | 10/25/14 01:17 | |
| 2-Hexanone | ug/L | ND | 50.0 | 10/25/14 01:17 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | 100 | 10/25/14 01:17 | |
| Acetone | ug/L | ND | 100 | 10/25/14 01:17 | |
| Acrylonitrile | ug/L | ND | 200 | 10/25/14 01:17 | |
| Benzene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Bromochloromethane | ug/L | ND | 3.0 | 10/25/14 01:17 | |
| Bromodichloromethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Bromoform | ug/L | ND | 3.0 | 10/25/14 01:17 | |
| Bromomethane | ug/L | 0.36J | 10.0 | 10/25/14 01:17 | |
| Carbon disulfide | ug/L | ND | 100 | 10/25/14 01:17 | |
| Carbon tetrachloride | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Chlorobenzene | ug/L | ND | 3.0 | 10/25/14 01:17 | |
| Chloroethane | ug/L | ND | 10.0 | 10/25/14 01:17 | |
| Chloroform | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| Chloromethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| cis-1,2-Dichloroethene | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| cis-1,3-Dichloropropene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Dibromochloromethane | ug/L | ND | 3.0 | 10/25/14 01:17 | |
| Dibromomethane | ug/L | ND | 10.0 | 10/25/14 01:17 | |
| Ethylbenzene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Iodomethane | ug/L | ND | 10.0 | 10/25/14 01:17 | |
| Methylene Chloride | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Styrene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Tetrachloroethene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Toluene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| trans-1,2-Dichloroethene | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| trans-1,3-Dichloropropene | ug/L | ND | 1.0 | 10/25/14 01:17 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

METHOD BLANK: 1315271 Matrix: Water
Associated Lab Samples: 92221612004, 92221612005, 92221612006, 92221612007, 92221612008, 92221612009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| trans-1,4-Dichloro-2-butene | ug/L | ND | 100 | 10/25/14 01:17 | |
| Trichloroethene | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Trichlorofluoromethane | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Vinyl acetate | ug/L | ND | 50.0 | 10/25/14 01:17 | |
| Vinyl chloride | ug/L | ND | 1.0 | 10/25/14 01:17 | |
| Xylene (Total) | ug/L | ND | 5.0 | 10/25/14 01:17 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 70-130 | 10/25/14 01:17 | |
| 4-Bromofluorobenzene (S) | % | 101 | 70-130 | 10/25/14 01:17 | |
| Toluene-d8 (S) | % | 97 | 70-130 | 10/25/14 01:17 | |

LABORATORY CONTROL SAMPLE: 1315272

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | 50 | 48.9 | 98 | 80-125 | |
| 1,1,1-Trichloroethane | ug/L | 50 | 50.3 | 101 | 71-129 | |
| 1,1,2,2-Tetrachloroethane | ug/L | 50 | 48.0 | 96 | 79-124 | |
| 1,1,2-Trichloroethane | ug/L | 50 | 47.7 | 95 | 85-125 | |
| 1,1-Dichloroethane | ug/L | 50 | 50.8 | 102 | 73-126 | |
| 1,1-Dichloroethene | ug/L | 50 | 54.9 | 110 | 66-135 | |
| 1,2,3-Trichloropropane | ug/L | 50 | 48.8 | 98 | 75-130 | |
| 1,2-Dibromo-3-chloropropane | ug/L | 50 | 50.4 | 101 | 71-133 | |
| 1,2-Dibromoethane (EDB) | ug/L | 50 | 50.5 | 101 | 83-124 | |
| 1,2-Dichlorobenzene | ug/L | 50 | 47.2 | 94 | 80-133 | |
| 1,2-Dichloroethane | ug/L | 50 | 46.8 | 94 | 67-128 | |
| 1,2-Dichloropropane | ug/L | 50 | 48.4 | 97 | 75-132 | |
| 1,4-Dichlorobenzene | ug/L | 50 | 46.7 | 93 | 78-130 | |
| 2-Butanone (MEK) | ug/L | 100 | 103 | 103 | 61-144 | |
| 2-Hexanone | ug/L | 100 | 112 | 112 | 68-143 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | 100 | 95.5J | 95 | 72-135 | |
| Acetone | ug/L | 100 | 91.9J | 92 | 48-146 | |
| Acrylonitrile | ug/L | 250 | 256 | 102 | 40-160 | |
| Benzene | ug/L | 50 | 47.7 | 95 | 80-125 | |
| Bromochloromethane | ug/L | 50 | 53.9 | 108 | 71-125 | |
| Bromodichloromethane | ug/L | 50 | 49.0 | 98 | 78-124 | |
| Bromoform | ug/L | 50 | 52.3 | 105 | 71-128 | |
| Bromomethane | ug/L | 50 | 42.0 | 84 | 40-160 | |
| Carbon disulfide | ug/L | 50 | 54.5J | 109 | 50-160 | |
| Carbon tetrachloride | ug/L | 50 | 52.6 | 105 | 69-131 | |
| Chlorobenzene | ug/L | 50 | 48.2 | 96 | 81-122 | |
| Chloroethane | ug/L | 50 | 34.9 | 70 | 39-148 | |
| Chloroform | ug/L | 50 | 50.6 | 101 | 73-127 | |
| Chloromethane | ug/L | 50 | 43.8 | 88 | 44-146 | |
| cis-1,2-Dichloroethene | ug/L | 50 | 51.4 | 103 | 74-124 | |
| cis-1,3-Dichloropropene | ug/L | 50 | 48.8 | 98 | 72-132 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

LABORATORY CONTROL SAMPLE: 1315272

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Dibromochloromethane | ug/L | 50 | 52.5 | 105 | 78-125 | |
| Dibromomethane | ug/L | 50 | 49.7 | 99 | 82-120 | |
| Ethylbenzene | ug/L | 50 | 46.4 | 93 | 79-121 | |
| Iodomethane | ug/L | 100 | 95.3 | 95 | 39-154 | |
| Methylene Chloride | ug/L | 50 | 52.9 | 106 | 64-133 | |
| Styrene | ug/L | 50 | 48.1 | 96 | 84-126 | |
| Tetrachloroethene | ug/L | 50 | 48.9 | 98 | 78-122 | |
| Toluene | ug/L | 50 | 46.7 | 93 | 80-121 | |
| trans-1,2-Dichloroethene | ug/L | 50 | 53.5 | 107 | 71-127 | |
| trans-1,3-Dichloropropene | ug/L | 50 | 49.0 | 98 | 69-141 | |
| trans-1,4-Dichloro-2-butene | ug/L | 50 | 45.9J | 92 | 40-160 | |
| Trichloroethene | ug/L | 50 | 47.3 | 95 | 78-122 | |
| Trichlorofluoromethane | ug/L | 50 | 41.9 | 84 | 53-137 | |
| Vinyl acetate | ug/L | 100 | 75.5 | 75 | 40-160 | |
| Vinyl chloride | ug/L | 50 | 48.8 | 98 | 58-137 | |
| Xylene (Total) | ug/L | 150 | 148 | 99 | 81-126 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 102 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 70-130 | |
| Toluene-d8 (S) | % | | | 99 | 70-130 | |

MATRIX SPIKE SAMPLE: 1315274

| Parameter | Units | 92221619002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | 20 | 21.1 | 106 | 70-130 | |
| 1,1,1-Trichloroethane | ug/L | ND | 20 | 22.9 | 115 | 70-130 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 20 | 20.5 | 102 | 70-130 | |
| 1,1,2-Trichloroethane | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| 1,1-Dichloroethane | ug/L | ND | 20 | 22.6 | 113 | 70-130 | |
| 1,1-Dichloroethene | ug/L | ND | 20 | 25.4 | 127 | 70-166 | |
| 1,2,3-Trichloropropane | ug/L | ND | 20 | 21.1 | 106 | 70-130 | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | 20 | 19.7 | 98 | 70-130 | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | 20 | 21.7 | 108 | 70-130 | |
| 1,2-Dichlorobenzene | ug/L | ND | 20 | 21.2 | 106 | 70-130 | |
| 1,2-Dichloroethane | ug/L | ND | 20 | 20.6 | 103 | 70-130 | |
| 1,2-Dichloropropane | ug/L | ND | 20 | 21.5 | 107 | 70-130 | |
| 1,4-Dichlorobenzene | ug/L | ND | 20 | 21.3 | 107 | 70-130 | |
| 2-Butanone (MEK) | ug/L | ND | 40 | 39.5J | 99 | 70-130 | |
| 2-Hexanone | ug/L | ND | 40 | 43.9J | 110 | 70-130 | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | 40 | 42.0J | 105 | 70-130 | |
| Acetone | ug/L | ND | 40 | 39.8J | 96 | 70-130 | |
| Acrylonitrile | ug/L | ND | 100 | 104J | 104 | 70-130 | |
| Benzene | ug/L | ND | 20 | 22.5 | 113 | 70-148 | |
| Bromochloromethane | ug/L | ND | 20 | 23.5 | 118 | 70-130 | |
| Bromodichloromethane | ug/L | ND | 20 | 21.4 | 107 | 70-130 | |
| Bromoform | ug/L | ND | 20 | 20.0 | 100 | 70-130 | |

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

MATRIX SPIKE SAMPLE: 1315274

| Parameter | Units | 92221619002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Bromomethane | ug/L | ND | 20 | 16.3 | 81 | 70-130 | |
| Carbon disulfide | ug/L | ND | 20 | 24.8J | 124 | 70-130 | |
| Carbon tetrachloride | ug/L | ND | 20 | 23.9 | 119 | 70-130 | |
| Chlorobenzene | ug/L | ND | 20 | 22.0 | 110 | 70-146 | |
| Chloroethane | ug/L | ND | 20 | 17.9 | 89 | 70-130 | |
| Chloroform | ug/L | ND | 20 | 21.8 | 109 | 70-130 | |
| Chloromethane | ug/L | ND | 20 | 18.6 | 93 | 70-130 | |
| cis-1,2-Dichloroethene | ug/L | ND | 20 | 22.4 | 112 | 70-130 | |
| cis-1,3-Dichloropropene | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| Dibromochloromethane | ug/L | ND | 20 | 21.3 | 107 | 70-130 | |
| Dibromomethane | ug/L | ND | 20 | 21.9 | 109 | 70-130 | |
| Ethylbenzene | ug/L | ND | 20 | 21.3 | 107 | 70-130 | |
| Iodomethane | ug/L | ND | 40 | 37.9 | 95 | 70-130 | |
| Methylene Chloride | ug/L | ND | 20 | 22.6 | 113 | 70-130 | |
| Styrene | ug/L | ND | 20 | 21.3 | 107 | 70-130 | |
| Tetrachloroethene | ug/L | ND | 20 | 21.8 | 109 | 70-130 | |
| Toluene | ug/L | ND | 20 | 21.7 | 108 | 70-155 | |
| trans-1,2-Dichloroethene | ug/L | ND | 20 | 23.8 | 119 | 70-130 | |
| trans-1,3-Dichloropropene | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| trans-1,4-Dichloro-2-butene | ug/L | ND | 20 | 18.6J | 93 | 70-130 | |
| Trichloroethene | ug/L | ND | 20 | 22.3 | 111 | 69-151 | |
| Trichlorofluoromethane | ug/L | ND | 20 | 21.2 | 106 | 70-130 | |
| Vinyl acetate | ug/L | ND | 40 | 22.7J | 57 | 70-130 | M0 |
| Vinyl chloride | ug/L | ND | 20 | 21.5 | 107 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 97 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | | 99 | 70-130 | |
| Toluene-d8 (S) | % | | | | 99 | 70-130 | |

SAMPLE DUPLICATE: 1315273

| Parameter | Units | 92221619001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ug/L | ND | ND | | | |
| 1,1,1-Trichloroethane | ug/L | ND | ND | | | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | ND | | | |
| 1,1,2-Trichloroethane | ug/L | ND | ND | | | |
| 1,1-Dichloroethane | ug/L | ND | ND | | | |
| 1,1-Dichloroethene | ug/L | ND | ND | | | |
| 1,2,3-Trichloropropane | ug/L | ND | ND | | | |
| 1,2-Dibromo-3-chloropropane | ug/L | ND | ND | | | |
| 1,2-Dibromoethane (EDB) | ug/L | ND | ND | | | |
| 1,2-Dichlorobenzene | ug/L | ND | ND | | | |
| 1,2-Dichloroethane | ug/L | ND | ND | | | |
| 1,2-Dichloropropane | ug/L | ND | ND | | | |
| 1,4-Dichlorobenzene | ug/L | ND | 0.40J | | | |
| 2-Butanone (MEK) | ug/L | ND | ND | | | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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# QUALITY CONTROL DATA

Project: Wilkes-Roaring River
Pace Project No.: 92221612

SAMPLE DUPLICATE: 1315273

| Parameter | Units | 92221619001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 2-Hexanone | ug/L | ND | ND | | | |
| 4-Methyl-2-pentanone (MIBK) | ug/L | ND | ND | | | |
| Acetone | ug/L | ND | ND | | | |
| Acrylonitrile | ug/L | ND | ND | | | |
| Benzene | ug/L | ND | ND | | | |
| Bromochloromethane | ug/L | ND | ND | | | |
| Bromodichloromethane | ug/L | ND | ND | | | |
| Bromoform | ug/L | ND | ND | | | |
| Bromomethane | ug/L | ND | ND | | | |
| Carbon disulfide | ug/L | ND | ND | | | |
| Carbon tetrachloride | ug/L | ND | ND | | | |
| Chlorobenzene | ug/L | 0.56J | 0.59J | | | |
| Chloroethane | ug/L | ND | ND | | | |
| Chloroform | ug/L | ND | ND | | | |
| Chloromethane | ug/L | ND | ND | | | |
| cis-1,2-Dichloroethene | ug/L | ND | ND | | | |
| cis-1,3-Dichloropropene | ug/L | ND | ND | | | |
| Dibromochloromethane | ug/L | ND | ND | | | |
| Dibromomethane | ug/L | ND | ND | | | |
| Ethylbenzene | ug/L | ND | ND | | | |
| Iodomethane | ug/L | ND | ND | | | |
| Methylene Chloride | ug/L | ND | ND | | | |
| Styrene | ug/L | ND | ND | | | |
| Tetrachloroethene | ug/L | ND | ND | | | |
| Toluene | ug/L | ND | ND | | | |
| trans-1,2-Dichloroethene | ug/L | ND | ND | | | |
| trans-1,3-Dichloropropene | ug/L | ND | ND | | | |
| trans-1,4-Dichloro-2-butene | ug/L | ND | ND | | | |
| Trichloroethene | ug/L | ND | ND | | | |
| Trichlorofluoromethane | ug/L | ND | ND | | | |
| Vinyl acetate | ug/L | ND | ND | | | |
| Vinyl chloride | ug/L | ND | ND | | | |
| Xylene (Total) | ug/L | ND | ND | | | |
| 1,2-Dichloroethane-d4 (S) | % | 99 | 98 | 1 | | |
| 4-Bromofluorobenzene (S) | % | 100 | 98 | 2 | | |
| Toluene-d8 (S) | % | 98 | 98 | 0 | | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**



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# QUALIFIERS

Project: Wilkes-Roaring River
Pace Project No.: 92221612

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-A | Pace Analytical Services - Asheville |
| PASI-C | Pace Analytical Services - Charlotte |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Wilkes-Roaring River
Pace Project No.: 92221612

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **92221612001** | **9704-MW13** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612002** | **9704-MW6** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612003** | **9704-MW7** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612004** | **9704-MW9** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612005** | **9704-MW12D** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612006** | **9704-MW17** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612007** | **9704-MW18** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612008** | **9704-FIELD BLANK** | EPA 3010 | MPRP/17152 | EPA 6010 | ICP/15459 |
| **92221612001** | **9704-MW13** | EPA 8260 | MSV/28887 | | |
| **92221612002** | **9704-MW6** | EPA 8260 | MSV/28887 | | |
| **92221612003** | **9704-MW7** | EPA 8260 | MSV/28887 | | |
| **92221612004** | **9704-MW9** | EPA 8260 | MSV/28900 | | |
| **92221612005** | **9704-MW12D** | EPA 8260 | MSV/28900 | | |
| **92221612006** | **9704-MW17** | EPA 8260 | MSV/28900 | | |
| **92221612007** | **9704-MW18** | EPA 8260 | MSV/28900 | | |
| **92221612008** | **9704-FIELD BLANK** | EPA 8260 | MSV/28900 | | |
| **92221612009** | **9704-TRIP BLANK** | EPA 8260 | MSV/28900 | | |



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| Pace Analytical | Sample Condition Upon Receipt (SCUR) | Page 1 of 2 |
|---|---|---|
| | Document Number: F-CHR-CS-003-rev.15 | Issuing Authority: Pace Huntersville Quality Office |

Client Name: Joyce

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____ AP 10.16.14

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 3.3 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: AP 10/16/14

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____ | ☐Yes ☑No ☐N/A | 12. No date or time on item 12 |
| All containers needing preservation have been checked. | ☑Yes ☐No ☐N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☑Yes ☐No ☐N/A | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | ☑Yes ☐No | |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☑No ☐N/A | 15. |
| Trip Blank Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☑Yes ☐No ☐N/A | |
| Pace Trip Blank Lot # (if purchased):_____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**SCURF Review:** JD Date: 10/16/14

**SRF Review:** JD Date: 10/16/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92221612

92221612

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

**Section A — Required Client Information:**

Company: Joyce Engineering-VA
Address: 2211 West Meadowview Rd
Greensboro, NC 27407
Email To: aeverhart@joyceengineering.com
Phone: (336) 323-0092 Fax:
Requested Due Date/TAT: 10 Day (Default)

**Section B — Required Project Information:**

Report To: Alex Everhart
Copy To:
Purchase Order No.
Client Project ID: Wilkes-Roaring River 356.1501.12
Container Order Number:

**Section C — Invoice Information:**

Attention: Lecia Jones
Company Name: Joyce Engineering
Address: 1604 Ownby Lane, Richmond, VA 23220
Pace Quote Reference:
Pace Project Manager: Godwin, Kevin
Pace Profile #:

Regulatory Agency:
State / Location: North Carolina

Requested Analysis Filtered (Y/N)

| ITEM# | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test (Y/N): NC Appendix I Metals | NC Appendix I VOC 8260's | Residual Chlorine (Y/N) | 92221412 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9704-MW13 | WT | G | | | 10/14/14 | 0915 | | 4 | | | X | X | | | | | X | X | | 001 |
| 2 | ~~9704-MW5~~ Dry | ~~WT~~ | ~~G~~ | | | | | | | | | X | X | | | | | X | X | | Not Sampled |
| 3 | 9704-MW6 | WT | G | | | 10/14/14 | 1025 | | 4 | | | X | X | | | | | X | X | | 002 |
| 4 | 9704-MW7 | WT | G | | | " | 1015 | | 4 | | | X | X | | | | | X | X | | 003 |
| 5 | 9704-MW9 | WT | G | | | ↓ | 1005 | | 4 | | | X | X | | | | | X | X | | 004 |
| 6 | ~~9704-MW10~~ Bent | ~~WT~~ | ~~G~~ | | | | | | | | | X | X | | | | | X | X | | Not Sampled |
| 7 | ~~9704-MW12S~~ Bent | ~~WT~~ | ~~G~~ | | | | | | | | | X | X | | | | | X | X | | Not Sampled |
| 8 | 9704-MW12D | WT | G | | | 10/14/14 | 0855 | | 4 | | | X | X | | | | | X | X | | 005 |
| 9 | 9704-MW17 | WT | G | | | " | 0945 | | 4 | | | X | X | | | | | X | X | | 006 |
| 10 | 9704-MW18 | WT | G | | | | 0935 | | 4 | | | X | X | | | | | X | X | | 007 |
| 11 | 9704- Field Blank | WT | G | | | ↓ | 1035 | | 4 | | | X | X | | | | | X | X | | 008 |
| 12 | 9704- Trip Blank | | | | | 10/13/14 | 0700 | | 2 | | | | X | | | | | | X | | 009 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS: TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dan Gardner / Joyce | 10/15/14 | 13:30 | [illegible] / PACE | 10-15-14 | 1330 | | | | |
| | [illegible] | 10-15-14 | 1801 | [illegible] / PACE | 10/15/14 | 18:05 | 3.3 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Amanda Freeman, Dan Gardner

SIGNATURE of SAMPLER: [illegible], Dan Gardner

DATE Signed: 10/14/14

**Pace Analytical Services, Inc.**
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 03, 2014

Mr. Alex Everhart
Joyce Engineering-NC
2211 W. Meadowview Road
Suite 101
Greensboro, NC 27407

RE: Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

Dear Mr. Everhart:
Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Mr. Van Burbach, Joyce Engineering-NC
Alex Everhart, Joyce Engineering-NC



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# CERTIFICATIONS

| | |
|---|---|
| Project: | WILKES-ROARING RIVER |
| Pace Project No.: | 92226618 |

**Asheville Certification IDs**
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222



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## SAMPLE SUMMARY

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **92226618001** | **9704-MW6** | Water | 11/19/14 12:45 | 11/20/14 15:16 |
| **92226618002** | **9704-FIELD BLANK** | Water | 11/19/14 13:00 | 11/20/14 15:16 |



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## SAMPLE ANALYTE COUNT

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **92226618001** | **9704-MW6** | EPA 6010 | JMW | 1 | PASI-A |
| | | EPA 6010 | SH1 | 1 | PASI-A |
| **92226618002** | **9704-FIELD BLANK** | EPA 6010 | JMW | 1 | PASI-A |



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## SUMMARY OF DETECTION

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

| Lab Sample ID<br>Method | Client Sample ID<br>Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **92226618001** | **9704-MW6** | | | | | |
| EPA 6010 | Barium | 1200 | ug/L | 100 | 11/24/14 14:42 | |
| EPA 6010 | Barium, Dissolved | 1060 | ug/L | 100 | 12/02/14 20:17 | |



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# ANALYTICAL RESULTS

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

**Sample: 9704-MW6** **Lab ID: 92226618001** Collected: 11/19/14 12:45 Received: 11/20/14 15:16 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 | | Preparation Method: EPA 3010 | | | | | | |
| Barium | **1200** | ug/L | 100 | 2.5 | 1 | 11/21/14 17:00 | 11/24/14 14:42 | 7440-39-3 | |
| **6010 MET ICP, Lab Filtered** | Analytical Method: EPA 6010 | | Preparation Method: EPA 3010 | | | | | | |
| Barium, Dissolved | **1060** | ug/L | 100 | 2.5 | 1 | 12/02/14 16:00 | 12/02/14 20:17 | 7440-39-3 | |



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# ANALYTICAL RESULTS

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

**Sample: 9704-FIELD BLANK** **Lab ID: 92226618002** Collected: 11/19/14 13:00 Received: 11/20/14 15:16 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Barium | ND | ug/L | 100 | 2.5 | 1 | 11/21/14 17:00 | 11/24/14 14:45 | 7440-39-3 | |



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# QUALITY CONTROL DATA

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

QC Batch: MPRP/17410 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92226618001, 92226618002

METHOD BLANK: 1336222 | Matrix: Water
Associated Lab Samples: 92226618001, 92226618002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Barium | ug/L | ND | 100 | 11/24/14 13:46 | |

LABORATORY CONTROL SAMPLE: 1336223

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Barium | ug/L | 500 | 490 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1336224 1336225

| Parameter | Units | 92226490001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | ug/L | 26.0 | 500 | 500 | 519 | 514 | 99 | 98 | 75-125 | 1 | 25 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**



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# QUALITY CONTROL DATA

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

QC Batch: MPRP/17453
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Filtered
Associated Lab Samples: 92226618001

METHOD BLANK: 1341387
Matrix: Water
Associated Lab Samples: 92226618001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | ND | 100 | 12/02/14 20:11 | |

LABORATORY CONTROL SAMPLE: 1341388

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | 500 | 460 | 92 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341389 1341390

| Parameter | Units | 92226618001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | 1060 | 500 | 500 | 1480 | 1480 | 85 | 84 | 75-125 | 0 | 20 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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# QUALIFIERS

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## LABORATORIES

PASI-A Pace Analytical Services - Asheville



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WILKES-ROARING RIVER
Pace Project No.: 92226618

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **92226618001** | **9704-MW6** | EPA 3010 | MPRP/17410 | EPA 6010 | ICP/15687 |
| **92226618002** | **9704-FIELD BLANK** | EPA 3010 | MPRP/17410 | EPA 6010 | ICP/15687 |
| **92226618001** | **9704-MW6** | EPA 3010 | MPRP/17453 | EPA 6010 | ICP/15724 |



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| Pace Analytical® | Document Name: Sample Condition Upon Receipt (SCUR) | Document Revised: Page 1 of 2 |
|---|---|---|
| | Document Number: F-CHR-CS-003-rev.15 | Issuing Authority: Pace Huntersville Quality Office |

Client Name: Joyce Engineering

**Courier:** ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ (Pace) Other_____

**Custody Seal on Cooler/Box Present:** ☐ yes ☑ no **Seals intact:** ☐ yes ☐ no

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other_____

**Thermometer Used: IR Gun** (T1401) **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

**Temp Correction Factor** **T1401** No Correction

**Corrected Cooler Temp.:** 3.2 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

**Date and Initials of person examining contents:** AP 11-20-14

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☐N/A | 11. ? Bottle does not indicate |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix:_____ | | |
| All containers needing preservation have been checked. | ☑Yes ☐No ☐N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☑Yes ☐No ☐N/A | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | ☐Yes ☑No | |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased):_____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**SCURF Review:** JG Date: 11/20/14

**SRF Review:** JG Date: 11/21/14

Place label here

WO#: 92226618

92226618

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

**Section A**
**Required Client Information:**

| | |
|---|---|
| Company: | Joyce Engineering-VA |
| Address: | 2211 West Meadowview Rd |
| | Greensboro, NC 27407 |
| Email To: | aeverhart@joyceengineering.com |
| Phone: (336) 323-0092 | Fax: |
| Requested Due Date/TAT: | 10 Day (Default) |

**Section B**
**Required Project Information:**

| | |
|---|---|
| Report To: | Alex Everhart |
| Copy To: | |
| Purchase Order No. | |
| Client Project ID: | Wilkes-Roaring River 356.1501.12 |
| Container Order Number: | |

**Section C**
**Invoice Information:**

| | |
|---|---|
| Attention: | Lecia Jones |
| Company Name: | Joyce Engineering |
| Address: | 1604 Ownby Lane, Richmond, VA 23220 |
| Pace Quote Reference: | |
| Pace Project Manager: | Godwin, Kevin |
| Pace Profile #: | |

| Regulatory Agency |
|---|
| |
| **State / Location** |
| North Carolina |

Requested Analysis Filtered (Y/N)

| ITEM# | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HGL- NA | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | Barium | *Dissolved Barium (Lab Filtered) | Residual Chlorine (Y/N) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9704-MW6 | WT | G | | | 11/19/14 | 1245 | | 2 | 1 | | X | X | | | | | | X | X | | |
| 2 | 9704- Field Blank | WT | G | | | 11/19/14 | 1300 | | 1 | | | X | X | | | | | | X | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|---|
| *Hold dissolved sample until requested | [signature] | 11-20-14 | 1241 | [signature] PACE | 11-20-14 | 1241 |
| (un-filtered, un-preserved) | [signature] PACE | 11-20-14 | 1516 | [signature] Pace | 11-20-14 | 1516 |
| | | | | | | |
| | | | | | | |

| SAMPLE CONDITIONS | | | |
|---|---|---|---|
| TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
| 3.2 | Y | N | Y |

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Dan Gardner

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/19/14

**Pace Analytical Services, Inc.**
9800 Kincey Ave. Suite 100
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(704)875-9092

December 30, 2014

Mr. Alex Everhart
Joyce Engineering-NC
2211 W. Meadowview Road
Suite 101
Greensboro, NC 27407

RE: Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

Dear Mr. Everhart:
Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Mr. Van Burbach, Joyce Engineering-NC
Alex Everhart, Joyce Engineering-NC



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# CERTIFICATIONS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Charlotte Certification IDs**
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

**Asheville Certification IDs**
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222



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## SAMPLE SUMMARY

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **92230373001** | **9704-MW6** | Water | 12/17/14 13:20 | 12/18/14 13:23 |
| **92230373002** | **9704-SOIL SAMPLE 1** | Solid | 12/17/14 11:40 | 12/18/14 13:23 |
| **92230373003** | **9704-SOIL SAMPLE 2** | Solid | 12/17/14 13:00 | 12/18/14 13:23 |
| **92230373004** | **9704-SOIL SAMPLE 3** | Solid | 12/17/14 13:34 | 12/18/14 13:23 |
| **92230373005** | **9704-MW6** | Water | 12/17/14 13:20 | 12/18/14 13:23 |



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## SAMPLE ANALYTE COUNT

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **92230373001** | **9704-MW6** | EPA 6010 | JMW | 1 | PASI-A |
| **92230373002** | **9704-SOIL SAMPLE 1** | EPA 6010 | JMW | 1 | PASI-A |
| | | ASTM D2974-87 | ACS | 1 | PASI-C |
| **92230373003** | **9704-SOIL SAMPLE 2** | EPA 6010 | JMW | 1 | PASI-A |
| | | ASTM D2974-87 | ACS | 1 | PASI-C |
| **92230373004** | **9704-SOIL SAMPLE 3** | EPA 6010 | JMW | 1 | PASI-A |
| | | ASTM D2974-87 | ACS | 1 | PASI-C |
| **92230373005** | **9704-MW6** | EPA 6010 | SH1 | 1 | PASI-A |



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## SUMMARY OF DETECTION

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

| Lab Sample ID<br>Method | Client Sample ID<br>Parameters | Result | Units | Report Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| **92230373001** | **9704-MW6** | | | | | |
| EPA 6010 | Barium | 1550 | ug/L | 100 | 12/29/14 20:03 | |
| **92230373002** | **9704-SOIL SAMPLE 1** | | | | | |
| EPA 6010 | Barium | 44.0 | mg/kg | 0.44 | 12/19/14 22:13 | |
| ASTM D2974-87 | Percent Moisture | 10.8 | % | 0.10 | 12/19/14 13:02 | |
| **92230373003** | **9704-SOIL SAMPLE 2** | | | | | |
| EPA 6010 | Barium | 113 | mg/kg | 5.3 | 12/22/14 13:30 | |
| ASTM D2974-87 | Percent Moisture | 20.7 | % | 0.10 | 12/19/14 13:02 | |
| **92230373004** | **9704-SOIL SAMPLE 3** | | | | | |
| EPA 6010 | Barium | 93.5 | mg/kg | 5.2 | 12/22/14 13:33 | |
| ASTM D2974-87 | Percent Moisture | 18.8 | % | 0.10 | 12/19/14 13:02 | |
| **92230373005** | **9704-MW6** | | | | | |
| EPA 6010 | Barium, Dissolved | 1070 | ug/L | 100 | 12/23/14 18:09 | |



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# ANALYTICAL RESULTS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Sample: 9704-MW6** **Lab ID: 92230373001** Collected: 12/17/14 13:20 Received: 12/18/14 13:23 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 ICP Groundwater** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Barium | **1550** | ug/L | 100 | 2.5 | 1 | 12/24/14 11:25 | 12/29/14 20:03 | 7440-39-3 | |



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# ANALYTICAL RESULTS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Sample: 9704-SOIL SAMPLE 1** **Lab ID: 92230373002** Collected: 12/17/14 11:40 Received: 12/18/14 13:23 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Barium | **44.0** | mg/kg | 0.44 | 0.22 | 1 | 12/19/14 16:45 | 12/19/14 22:13 | 7440-39-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **10.8** | % | 0.10 | 0.10 | 1 | | 12/19/14 13:02 | | |



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# ANALYTICAL RESULTS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Sample: 9704-SOIL SAMPLE 2** **Lab ID: 92230373003** Collected: 12/17/14 13:00 Received: 12/18/14 13:23 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Barium | **113** | mg/kg | 5.3 | 2.6 | 10 | 12/19/14 16:45 | 12/22/14 13:30 | 7440-39-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **20.7** | % | 0.10 | 0.10 | 1 | | 12/19/14 13:02 | | |



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# ANALYTICAL RESULTS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Sample: 9704-SOIL SAMPLE 3** **Lab ID: 92230373004** Collected: 12/17/14 13:34 Received: 12/18/14 13:23 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Barium | **93.5** | mg/kg | 5.2 | 2.6 | 10 | 12/19/14 16:45 | 12/22/14 13:33 | 7440-39-3 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **18.8** | % | 0.10 | 0.10 | 1 | | 12/19/14 13:02 | | |



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# ANALYTICAL RESULTS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

**Sample: 9704-MW6** **Lab ID: 92230373005** Collected: 12/17/14 13:20 Received: 12/18/14 13:23 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Barium, Dissolved | **1070** | ug/L | 100 | 2.5 | 1 | 12/23/14 16:35 | 12/23/14 18:09 | 7440-39-3 | |



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# QUALITY CONTROL DATA

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

QC Batch: MPRP/17627
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92230373001

METHOD BLANK: 1359602
Matrix: Water
Associated Lab Samples: 92230373001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Barium | ug/L | ND | 100 | 12/29/14 19:57 | |

LABORATORY CONTROL SAMPLE: 1359603

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Barium | ug/L | 500 | 499 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1359604 1359605

| Parameter | Units | 92230373001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | ug/L | 1550 | 500 | 500 | 1940 | 1960 | 79 | 83 | 75-125 | 1 | 25 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**



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# QUALITY CONTROL DATA

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

QC Batch: MPRP/17597 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 92230373002, 92230373003, 92230373004

METHOD BLANK: 1356728 Matrix: Solid
Associated Lab Samples: 92230373002, 92230373003, 92230373004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Barium | mg/kg | ND | 0.50 | 12/19/14 21:05 | |

LABORATORY CONTROL SAMPLE: 1356729

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Barium | mg/kg | 50 | 49.4 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1356730 1356731

| Parameter | Units | 92229629001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | mg/kg | 57.3 | 42.3 | 45 | 105 | 93.1 | 111 | 80 | 75-125 | 12 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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# QUALITY CONTROL DATA

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

QC Batch: MPRP/17617 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Filtered
Associated Lab Samples: 92230373005

METHOD BLANK: 1358982 | Matrix: Water
Associated Lab Samples: 92230373005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | ND | 100 | 12/23/14 17:04 | |

LABORATORY CONTROL SAMPLE: 1358983

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | 500 | 431 | 86 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1358984 1358985

| Parameter | Units | 92230172019 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium, Dissolved | ug/L | 18.9 | 500 | 500 | 429 | 425 | 82 | 81 | 75-125 | 1 | 20 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

# QUALITY CONTROL DATA

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

QC Batch: PMST/7368 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92230373002, 92230373003, 92230373004

SAMPLE DUPLICATE: 1356111

| Parameter | Units | 92230182001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 23.5 | 25.2 | 7 | 25 | |

SAMPLE DUPLICATE: 1356112

| Parameter | Units | 92230430003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 3.0 | 3.3 | 9 | 25 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

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# QUALIFIERS

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-A | Pace Analytical Services - Asheville |
| PASI-C | Pace Analytical Services - Charlotte |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WILKES - ROARING RIVER 356.151
Pace Project No.: 92230373

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **92230373001** | **9704-MW6** | EPA 3010 | MPRP/17627 | EPA 6010 | ICP/15874 |
| **92230373002** | **9704-SOIL SAMPLE 1** | EPA 3050 | MPRP/17597 | EPA 6010 | ICP/15844 |
| **92230373003** | **9704-SOIL SAMPLE 2** | EPA 3050 | MPRP/17597 | EPA 6010 | ICP/15844 |
| **92230373004** | **9704-SOIL SAMPLE 3** | EPA 3050 | MPRP/17597 | EPA 6010 | ICP/15844 |
| **92230373005** | **9704-MW6** | EPA 3010 | MPRP/17617 | EPA 6010 | ICP/15859 |
| **92230373002** | **9704-SOIL SAMPLE 1** | ASTM D2974-87 | PMST/7368 | | |
| **92230373003** | **9704-SOIL SAMPLE 2** | ASTM D2974-87 | PMST/7368 | | |
| **92230373004** | **9704-SOIL SAMPLE 3** | ASTM D2974-87 | PMST/7368 | | |



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| Pace Analytical | Sample Condition Upon Receipt (SCUR) | Page 1 of 2 |
|---|---|---|
| | Document Number: F-CHR-CS-003-rev.15 | Issuing Authority: Pace Huntersville Quality Office |

Client Name: Joyce

**Courier:** ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

**Custody Seal on Cooler/Box Present:** ☐ yes ☐ no Seals intact: ☐ yes ☐ no

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

**Thermometer Used: IR Gun** T1401 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

**Temp Correction Factor** **T1401** No Correction

**Corrected Cooler Temp.:** 1.8 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: PS 12/18/14

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☑Yes ☐No ☐N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix:_____ | | |
| All containers needing preservation have been checked. | ☑Yes ☐No ☐N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☑Yes ☐No ☐N/A | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | ☐Yes ☑No | |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased):_____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**SCURF Review:** JJ Date: 12/18/14

**SRF Review:** JJ Date: 12/18/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92230373
92230373

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Joyce Engineering-VA |
| Address: | 2211 West Meadowview Rd |
| | Greensboro, NC 27407 |
| Email To: | aeverhart@joyceengineering.com |
| Phone: | (336) 323-0092 Fax: |
| Requested Due Date/TAT: | 10 Day (Default) |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Alex Everhart |
| Copy To: | |
| Purchase Order No. | |
| Client Project ID: | Wilkes-Roaring River 356.1501.12 |
| Container Order Number: | 12110 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Lecia Jones |
| Company Name: | Joyce Engineering |
| Address: | 1604 Ownby Lane, Richmond, VA 23220 |
| Pace Quote Reference: | |
| Pace Project Manager: | Godwin, Kevin |
| Pace Profile #: | |

Regulatory Agency:

State / Location: North Carolina

Requested Analysis Filtered (Y/N): Y

| ITEM# | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test: Barium | Dissolved Barium | Residual Chlorine (Y/N) | 0223373 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9704-MW6 | WT | G | | | 12/17/14 | 1320 | | 1 | | | | | | | | | X | | | 001 |
| 2 | 9704-Soil Sample 1 | SL | G | | | 12/17/14 | 1140 | | 1 | | | | | | | | | X | | | 002 |
| 3 | 9704-Soil Sample 2 | SL | G | | | | 1300 | | 1 | | | | | | | | | X | | | 003 |
| 4 | 9704-Soil Sample 3 | SL | G | | | | 1334 | | 1 | | | | | | | | | X | | | 004 |
| ~~5~~ | ~~9704-Sediment~~ ~~MW-6~~ | SL | G | | | | | | 1 | | | | | | | | | X | | Insufficient Volume No Sample | |
| 6 | 9704-MW6 | WT | G | | | | 1320 | | 1 | | | | | | | | | | X | | 005 |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Daniel Girdner JOYCE | 12-18-14 | 1114 | PACE | 12-18-14 | 1114 | | | | |
| | PACE | 12-18-14 | 1325 | PACE | 12/18/14 | 1323 | 1.8 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | | | |
|---|---|---|---|---|
| PRINT Name of SAMPLER: | Daniel Girdner, Amanda Freeman | TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
| SIGNATURE of SAMPLER: | Daniel Girdner, Amanda Freeman — DATE Signed: 12/17/14 | | | | |

# Appendix D
# Statistical Analyses Worksheets and Charts

JOYCE Projec Wilkes County Roaring River Landfill
Project No: 356.1501.12
Date: 14-Oct-14

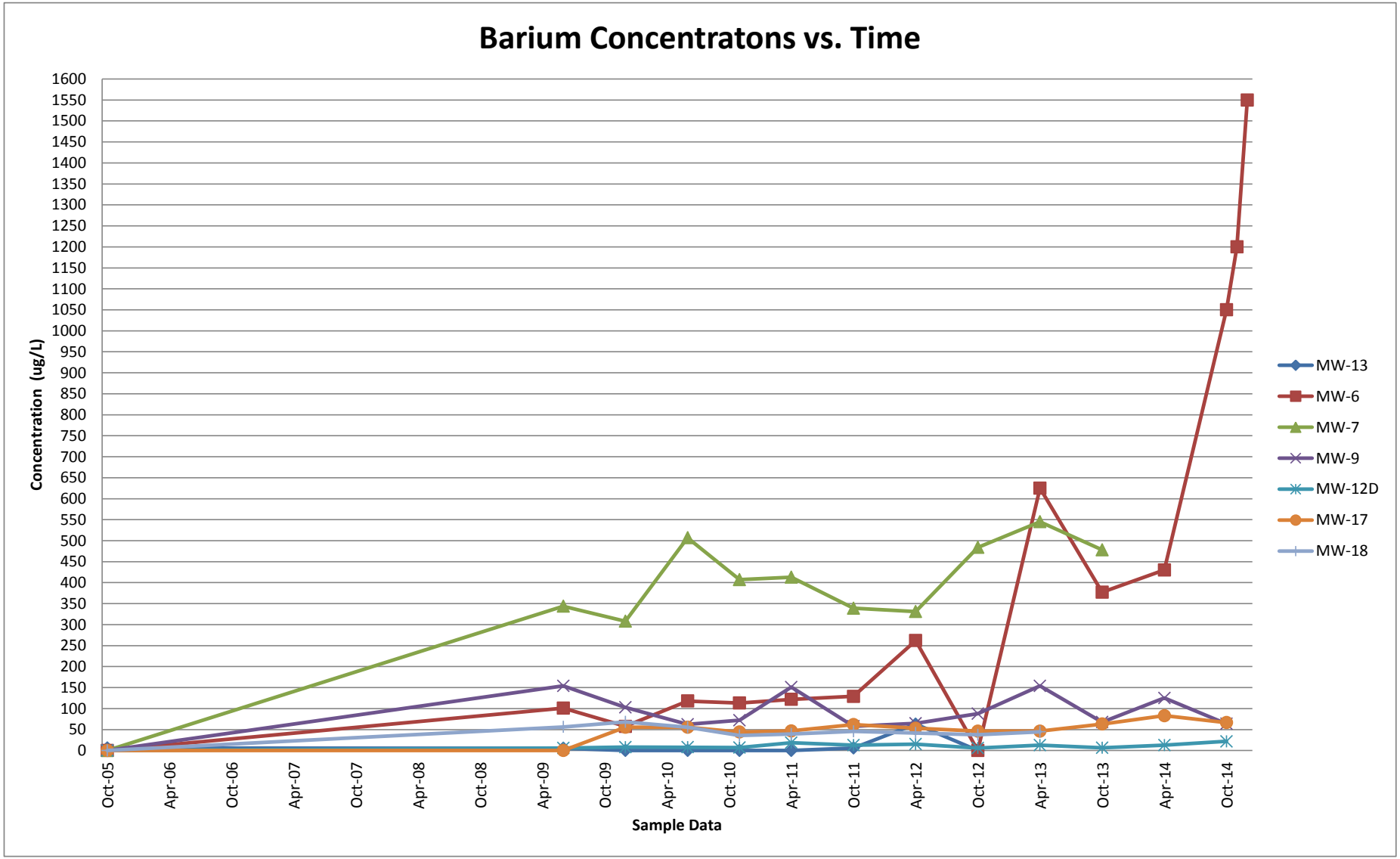
Analyte: Barium

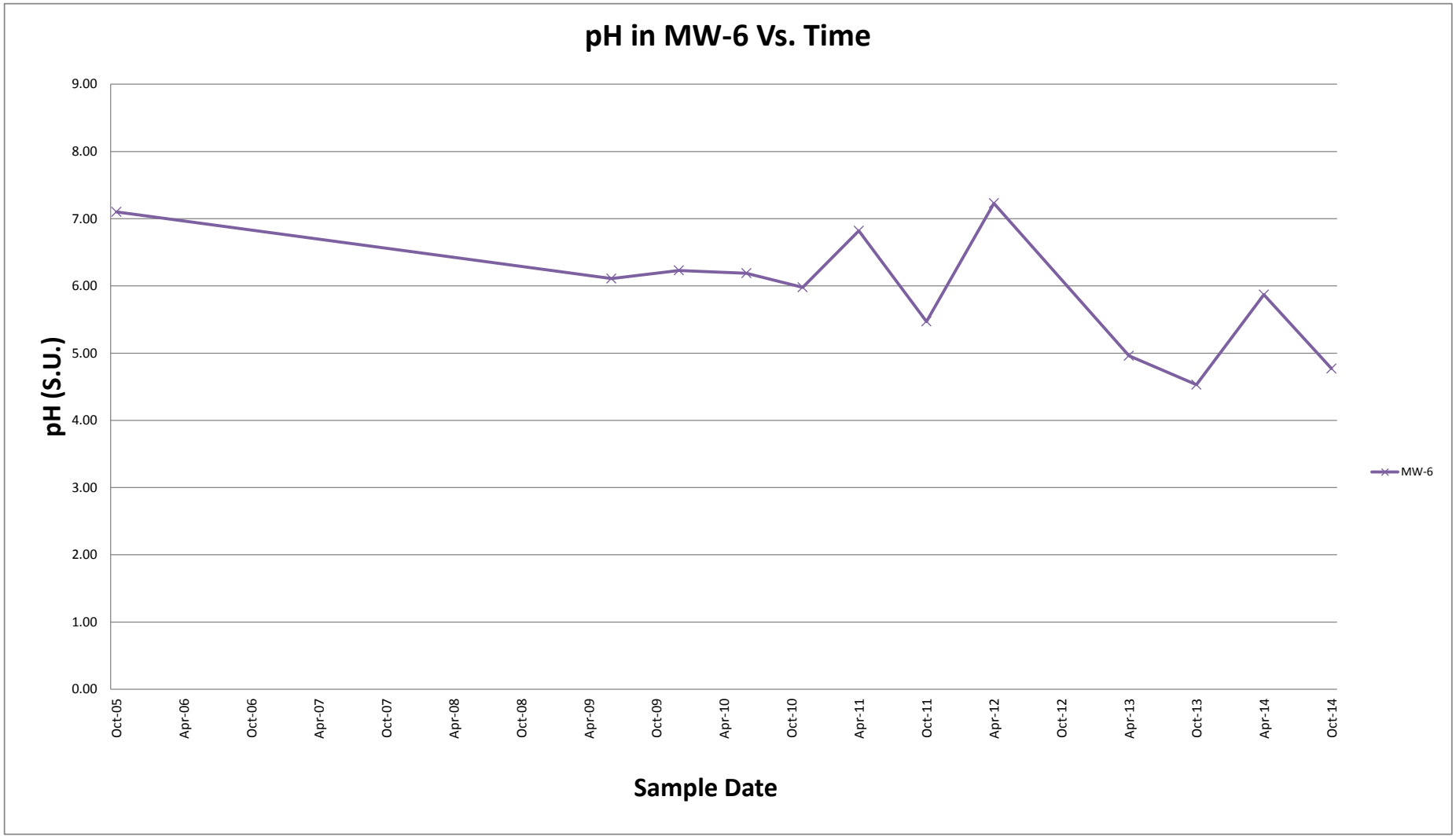
| Sample No. | Sample Date | Location | Concentration (ug/L) | Quantitation Limit (ug/L) | Sorted Concentration (ug/L) | |
|---|---|---|---|---|---|---|
| 1 | Apr-94 | MW-2 | 398 | 100 | 5.9 | 850 |
| 2 | Oct-94 | MW-2 | 850 | 100 | 12.9 | 730 |
| 3 | Apr-95 | MW-2 | 730 | 100 | 63 | 508 |
| 4 | Oct-95 | MW-2 | ND | 100 | 398 | 398 |
| 5 | Apr-96 | MW-2 | ND | 100 | 508 | 63 |
| 6 | Nov-96 | MW-2 | ND | 100 | 730 | 12.9 |
| 7 | Mar-97 | MW-2 | ND | 100 | 850 | 5.9 |
| 8 | Sep-97 | MW-2 | ND | 100 | | |
| 9 | Mar-98 | MW-2 | 508 | 100 | | |
| 10 | Sep-98 | MW-2 | ND | 100 | | |
| 11 | Apr-14 | MW-2R | ND | 100 | | |
| 12 | Nov-14 | MW-2R | ND | 100 | | |
| 13 | May-14 | MW-2R | ND | 100 | | |
| 14 | Nov-14 | MW-2R | ND | 100 | | |
| 15 | Apr-14 | MW-2R | ND | 100 | | |
| 16 | May-14 | MW-2R | ND | 100 | | |
| 17 | Oct-14 | MW-2R | ND | 100 | | |
| 18 | May-14 | MW-2R | ND | 100 | | |
| 19 | 05-Oct-14 | MW-2R | ND | 100 | | |
| 20 | 29-Jun-06 | MW-2R | ND | 100 | | |
| 21 | 07-Dec-06 | MW-2R | ND | 100 | | |
| 22 | 30-Dec-08 | MW-2R | 12.9 | 100 | | |
| 23 | 18-Oct-11 | MW-13 | ND | 100 | | |
| 24 | 10-Apr-12 | MW-13 | ND | 100 | | |
| 25 | 16-Oct-12 | MW-13 | ND | 100 | | |
| 26 | 16-Apr-13 | MW-13 | ND | 100 | | |
| 27 | 08-Oct-13 | MW-13 | 5.9 | 100 | | |
| 28 | 29-Apr-14 | MW-13 | 63 | 100 | | |
| 29 | 14-Oct-14 | MW-13 | ND | 100 | | |

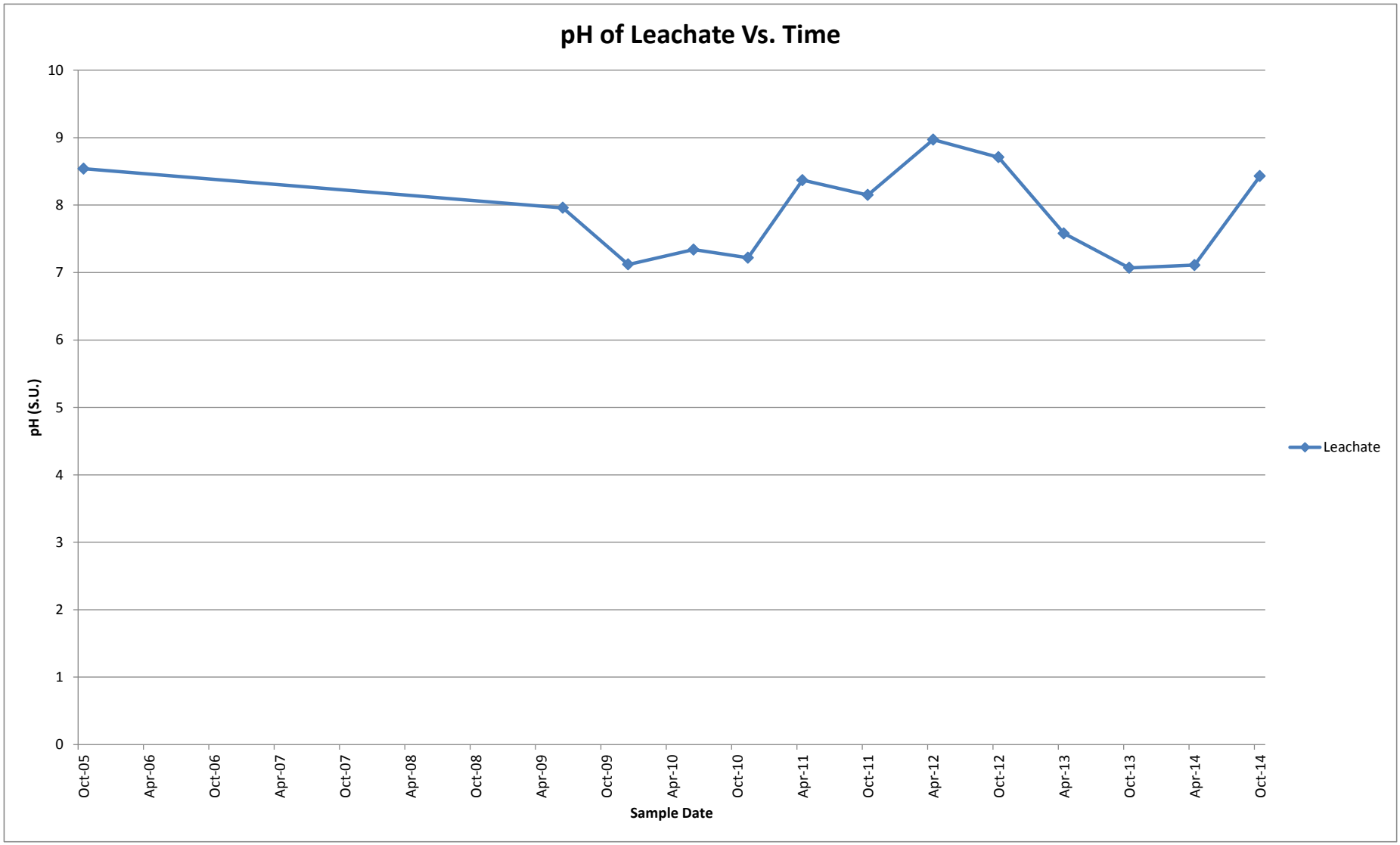
| | |
|---|---|
| Number of Data | 29 |
| Number of Truncated Data | 22 |
| Percentage of Truncated Data | 76% |

Nonparametric Prediction Interval: 850

Note:
All concentrations in micrograms per liter.
Blank qualified data (B) not used in statistical calculations.
J = Estimated concentration between laboratory detection limit and quatitation limit
ND = Not detected


Barium Concentratons vs. Time
Concentration (ug/L)
1600
1550
1500
1450
1400
1350
1300
1250
1200
1150
1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
Oct-05
Apr-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Sample Data
MW-13
MW-6
MW-7
MW-9
MW-12D
MW-17
MW-18


pH in MW-6 Vs. Time
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
pH (S.U.)
Oct-05
Apr-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Sample Date
MW-6


pH of Leachate Vs. Time
10
9
8
7
6
5
4
3
2
1
0
pH (S.U.)
Oct-05
Apr-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Sample Date
Leachate