# Cabarrus County C&D Landfill
# Semi-Annual Sampling Report
# Facility Permit # 13-02

*(November 2013 Sampling Event)*

CabarrusCounty
The Center of American Motorsports
NORTH CAROLINA

CDM Smith

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No ) Doc/Event #:

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):**

Consultant - CDM Smith Inc.

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

Name: Mathew F. Colone Phone: 919-787-5620

E-mail: colonemf@cdmsmith.com

| Facility name: | Facility Address: | Facility Permit # | NC Landfill Rule: (.0500 or .1600) | Actual sampling dates (e.g., October 20-24, 2006) |
|---|---|---|---|---|
| Cabarrus County C&D Landfill | 4441 Irish Potato Rd<br>Concord, NC 28025 | 13-02 | .0500 | May 6-10, 2013 |

**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) _____

**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.**

Mathew F. Colone — Consultant — (919) 787-5620

Facility Representative Name (Print) — Title — (Area Code) Telephone Number

Mathew F. Colone — 1/10/2014 — Affix NC Licensed/ Professional Geologist Seal

Signature — Date

NORTH CAROLINA LICENSED SEAL 1851 GEOLOGIST MATHEW F. COLONE 1/10/2014

5400 Glenwood Ave, Suite 300, Raleigh, NC 27612

Facility Representative Address

F-0412

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

5400 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612
tel: 919 787-5620
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January 10, 2014

Ms. Jaclynne Drummond
North Carolina Department of Environment and
Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: November 2013 Semi-Annual Monitoring Sampling Report
Cabarrus County C&D Landfill
Facility Permit No. 13-02

Dear Ms. Drummond:

CDM Smith Inc., on behalf of Cabarrus County, is submitting an electronic copy of the November 2013 semi-annual sampling event report for the Cabarrus County C&D Landfill. This letter report presents the results of the recently completed sampling at the C&D Landfill and constitutes the second semi-annual sampling event for 2013.

The approved monitoring well network for the C&D Landfill consists of background wells CD-1s and -1d; compliance wells CD-2, -3, and -4 Rep; and surface water sample location SW-3. CD-4 Rep was installed in January 2009 as part of the proposed Phase 1 C&D Landfill expansion. Field activities and sampling results for the groundwater and surface water samples are discussed below.

## Field Activities

Groundwater samples from the Cabarrus County C&D Landfill were collected on November 4-7, 2013. Surface water sample location SW-3 was dry during the November 2013 sampling event. Groundwater samples were collected from the monitoring wells by use of disposable, laboratory decontaminated Teflon™ bailers or a QED bladder pump system using low-flow sampling techniques. Monitoring well locations and the surface water location for the C&D Landfill are provided on **Figure 1**.

Groundwater elevations were measured at each well prior to sampling and are presented in **Table 1**. These groundwater elevations were used to construct potentiometric contours for this sampling event and are presented on **Figure 1**. After depth to groundwater was measured, three well volumes of water were removed from each well prior to sampling to provide fresh formation water within the well water column. Each well volume was measured in the field for pH, conductivity, turbidity,

temperature, dissolved oxygen, and oxidation-reduction potential using a YSI-556 multi-parameter water quality meter and a Lamotte turbidity meter. The water quality parameters at the time of sampling are presented in **Table 1**.

The headspace of each monitoring well was screened for methane gas using a VRAE multi-gas monitor. Screening results are provided in **Appendix A**.

## Sampling Results

All samples were submitted to Analytical Services, Inc. located in Norcross, Georgia for laboratory analysis of the Appendix I volatile organic compounds plus tetrahydrofuran, metals plus iron, mercury, and manganese, alkalinity, total dissolved solids, chloride, and sulfate with the exception of CD-4 Rep. Samples collected from CD-4 Rep were analyzed for Appendix I VOCs and metals.

In accordance with Solid Waste Section guidelines the analytical results were reported to the laboratory specific method detection limit (MDL) and are quantifiable at or below Solid Waste Section Limits (SWSLs). All monitoring wells for the C&D Landfill had detections of analytes above the MDL but below the SWSL. These detections were qualified as estimated or "J" flags.

The following list indicates the analytes detected above the MDL at each sampling location. No "J" flag or general chemistry detections are provided. Underlined analytes exceeded the North Carolina 2L Standard, Groundwater Protection Standard, or the North Carolina Surface Water Standards for Class C Waters.

***CD-1s (Background)***

| | |
|---|---|
| *Metals:* | Copper, <u>Iron</u>, <u>Manganese</u>, Zinc |
| *Volatile Organic Compounds:* | None Detected |

***CD-1d (Background)***

| | |
|---|---|
| *Metals:* | <u>Iron</u>, Manganese, Zinc |
| *Volatile Organic Compounds:* | None Detected |

***CD-2***

| | |
|---|---|
| *Metals:* | <u>Iron</u>, <u>Manganese</u> |
| *Volatile Organic Compounds:* | None Detected |

***CD-3***

| | |
|---|---|
| *Metals:* | Copper, <u>Iron</u>, <u>Manganese</u>, Zinc |
| *Volatile Organic Compounds:* | None Detected |

***CD-4 Rep***

| | |
|---|---|
| *Metals:* | Vanadium |
| *Volatile Organic Compounds:* | None Detected |

***SW-3***

| | |
|---|---|
| *Metals:* | Not Sampled - Dry |
| *Volatile Organic Compounds:* | Not Sampled - Dry |

"J" flags were not included in the previous list, but several locations had "J" flag detections that exceeded the standards. These constituents along with their location are listed below.

| | |
|---|---|
| Cobalt: | CD-1s, -1d, -2, -3, and -4 Rep |
| Vanadium: | CD-1s, -1d, -2, and -3 |

Quality assurance and quality control samples were analyzed for the November 2013 sampling event. The equipment blank had "J" flag detections of acetone, barium, vanadium, and zinc. Vanadium was detected above the Groundwater Protection Standard. The equipment blank also had an alkalinity concentration of 4,000 parts per billion. No analytes were detected above laboratory method detection limits in the trip blank. The duplicate sample, identified as Dup, was collected from CD-4 Rep and had similar concentrations of all compounds found in the primary sample.

All metal detections above the standards are related to natural occurring conditions based on detected metal concentrations in the background monitoring wells. A complete summary of all detected constituents from the November 2013 sampling event is presented in **Table 2**. A copy of the analytical data is provided in **Appendix A**. The next semi-annual sampling event will be completed in the spring of 2014.

Very truly yours,

Mathew F. Colone, P.G.
CDM Smith Inc.

cc: Kevin Grant, Cabarrus County

# Table 1
# Water Quality Field Parameters
# November 2013 Semi-Annual Sampling Event
# Cabarrus County C&D Landfill

| | Field Measurements | | | | | | Groundwater Elevations | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Well Code | pH (S.U.) | Conductivity (uS/cm) | Temperature (degrees Celsius) | Dissolved Oxygen (mg/L) | ORP (mVs) | Turbidity (NTUs) | TOC Elevation (feet AMSL) | Depth to Groundwater (feet) | Groundwater Elevation (feet AMSL) |
| CD-1s (background well) | 6.06 | 100 | 13.0 | 1.74 | 347.7 | 42 | 755.00 | 24.80 | 730.20 |
| CD-1d (background well) | 6.03 | 119 | 14.5 | 1.71 | 320.1 | 32 | 757.40 | 27.40 | 730.00 |
| CD-2 | 5.31 | 66 | 16.5 | 1.31 | 388.2 | 70 | 733.00 | 15.78 | 717.22 |
| CD-3 | 5.92 | 227 | 16.5 | 1.69 | 350.3 | 61 | 753.30 | 47.81 | 705.49 |
| CD-4 Rep | 6.14 | 177 | 16.9 | 1.20 | -44.5 | 26 | 739.15 | 10.46 | 728.69 |

**Notes:**
1. AMSL - Above Mean Sea Level
2. TOC - Top of Casing
3. CD-4 Rep was installed as part of the proposed Phase 1 C&D Landfill expansion in November 2010.
4. uS/cm - Microsiemens per centimeter
5. mg/L - Milligrams per liter
6. ORP - Oxidation-Reduction Potential
7. NTUs - Nephelometric Turbidity Units
8. mVs - Millivolts
9. S.U. - Standard Units

# Table 2a
# Detected Groundwater Constituents - Inorganics and General Chemistry
# November 2013 Semi-Annual Sampling Event
# Cabarrus County C&D Landfill

| Facility Permit Number | Monitoring Well Code | Sample Date | Alkalinity | Chloride | Ferrous Iron | Sulfate | Total Dissolved Solids | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Iron | Manganese | Mercury | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Carolina 2L or Groundwater Protection Standard | | | NE | 250,000 | NE | 250,000 | 500,000 | 1* | 10 | 700 | 4* | 2 | 10 | 1* | 1,000 | 15 | 300 | 50 | 1 | 100 | 20 | 20 | 0.2* | 0.3* | 1,000 |
| Solid Waste Section Limit | | | NE | NE | NE | 250,000 | NE | 6 | 10 | 100 | 1 | 1 | 10 | 10 | 10 | 10 | 300 | 50 | 0.2 | 50 | 10 | 10 | 5.5 | 25 | 10 |
| 13-02 | CD-1s | 25-Sep-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 1-Nov-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 24-Apr-07 | | | | | | | | 49J | | 0.01J | 3.6J | **1.6J** | 7.0J | 1.7J | | | | 4.0J | | | | | |
| | CD-1s | 29-Oct-07 | | | | | | | | 52J | | 0.01J | 4.4J | **1.6J** | 5.2J | 0.87J | | | | 2.8J | | | | | |
| | CD-1s | 23-Apr-08 | | | | | | | | 64J | | 0.01J | 5.4J | | | 2.2J | | | | 2.8J | | 0.19J | | | 0.19J |
| | CD-1s | 19-Nov-08 | | | | | | | 1.15J | 193 | | 0.02J | 18 | | | 7.12J | | | | | | | | | |
| | CD-1s | 9-Apr-09 | | | | | | | | 55.7J | | 0.03J | 2.54J | | | 2.65J | | | | | | | | | |
| | CD-1s | 13-Oct-09 | | | | | | | | 31.1J | | | | | | 0.25J | | | | | | | | | |
| | CD-1s | 11-May-10 | 50,000 | 3,400 | | 1,000 | 114,000 | | | 29.8J | | | | 0.15J | | | 284 | 13.5 | | 1.04J | | | | | 5.74J |
| | CD-1s | 3-Nov-10 | 48,300 | 3,800 | | 1,200J | | | 0.63J | 60.4J | 0.17J | | 3.43J | **2.53J** | 10.9 | 3.87J | **5,870** | **129** | 0.023J | 4.73J | | 0.02J | 0.07J | **22.6J** | 26.9 |
| | CD-1s | 3-May-11 | 47,000 | 3,600 | | 1,200J | 146,000 | | | 81.4J | 0.19J | | 5.45JB | **4.23J** | 16.0 | 2.32J | **7,770** | **190** | | 5.93J | | | 0.14J | **20.6J** | 26.5 |
| | CD-1s | 8-Nov-11 | 40,000 | 4,000 | | 1,100J | 65,000 | | | 59.7J | 0.25JB | | 4.46J | **2.67J** | 12.4 | 1.9J | **5,350** | **127** | | 4.41J | | | 0.08J | **11.2J** | 18.2 |
| | CD-1s | 7-May-12 | 46,000 | 3,900 | | | 158,000 | | | 45.5J | | | 3.30J | **1.19J** | 8.75J | 1.12J | **3,120** | **63.4** | | 3.01J | | | | **12.7J** | 12.6B |
| | CD-1s | 28-Nov-12 | 39,000 | 4,100 | 0 | | 110,000 | | | 63.8J | 0.11J | | 5.65J | **3.05J** | 11.6 | 1.43J | **5,210** | **139** | | 4.66J | | | | **17.1J** | 16.9 |
| | CD-1s | 7-May-13 | 42,000 | 4,000 | 220 | | 120,000 | 0.94J | 2.4JB | 35.6J | | | 0.88J | 0.67J | 4.04J | 0.39J | **1,340** | 37.7 | | 1.78J | | | 0.13J | **6.06J** | 5.08J |
| | CD-1s | 5-Nov-13 | 30,000 | 3,800 | 2,420 | | 80,500 | | | 46.8J | 0.12J | | 3.59J | **1.63J** | 10.2 | 1.35J | **4,200** | **82.2** | | 3.50J | | | | **18.4JB** | 15.4B |
| 13-02 | CD-1d | 4-Oct-06 | | | | | | | | | | | **10.4** | | | | | | | | | | | | |
| | CD-1d | 1-Nov-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 24-Apr-07 | | | | | | | | 200 | 0.77J | 0.02J | 1.2J | **9.3J** | 17 | 3.1J | | | | 6.5J | | 0.02J | | | 0.02J |
| | CD-1d | 29-Oct-07 | | | | | | | | 53J | 0.13J | 0.01J | 2.8J | **2J** | 6.8J | 0.94J | | | | 2.3J | 1.1J | | | | |
| | CD-1d | 23-Apr-08 | | | | | | | | 54J | | 0.02J | 2.3J | | | 1.7J | | | | | | 0.24J | | | 0.24J |
| | CD-1d | 18-Nov-08 | | | | | | | | 29.9J | | 0.03J | 0.46J | | | 0.18J | | | | | | 0.03J | | | 0.03J |
| | CD-1d | 9-Apr-09 | | | | | | | | 26.5J | | 0.08J | | | | 0.11J | | | | | | | | | |
| | CD-1d | 13-Oct-09 | | | | | | | | 28.3J | | | | | | 0.18J | | | | | | | | | |
| | CD-1d | 11-May-10 | 40,000 | 2,400 | | 2,400 | 132,000 | | 2.21J | 359 | | | **23** | **32.6** | 175 | **22.5** | **81,800** | **1,230** | | 34 | | | **0.43J** | **168** | 175 |
| | CD-1d | 2-Nov-10 | 48,300 | 2,800 | | 2,800J | | 0.46J | 0.97J | 33.1J | | 0.15J | 1.17J | 0.85J | 6.56J | 1.09J | **1,730** | 47.7 | 0.046J | 2.51J | | | 0.05J | **14.3J** | 23 |
| | CD-1d | 3-May-11 | 57,000 | 2,600 | | 3,000J | 206,000 | | 2.44J | 231 | 2.03 | | **16.7** | **18.6** | 112 | 14.0 | **49,400** | **659** | | 22.3J | | | 0.11J | **101** | 103 |
| | CD-1d | 8-Nov-11 | 30,000 | 2,900 | | 3,000J | 98,000 | | | 74.5J | 0.51J | | 4.08J | **4.27J** | 27 | 2.84J | **9,190** | **144** | | 5.68J | | | | **24.6J** | 26.3 |
| | CD-1d | 7-May-12 | 50,000 | 2,800 | | | 150,000 | | | 72.4J | 0.58J | | 3.91J | **4.67J** | 25 | 2.81J | **9,380** | **170** | | 5.58J | | | | **26** | 27.9B |
| | CD-1d | 28-Nov-12 | 46,000 | 3,000 | 0 | | 128,000 | 0.33J | | 37.7J | | 0.07J | 2.38J | 0.94J | 12.6 | 1.14J | **1,900** | 41.4 | | 2.50J | | | | **8.90J** | 13 |
| | CD-1d | 7-May-13 | 52,000 | 3,000 | 560 | | 125,000 | 0.88J | 1.02JB | 31.2J | | 0.07J | | 0.78J | 4.5J | 0.49J | **1,080** | 25.5 | | 1.92J | | | | **6.18J** | 13.1 |
| | CD-1d | 5-Nov-13 | 42,000 | 3,000 | 700 | | 104,000 | | | 35.0J | | | 0.86J | **4.34J** | 1.13J | 1.90J | **812** | 46.2 | | | | | | **17.1JB** | 10.8B |
| 13-02 | CD-2 | 25-Sep-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 1-Nov-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 24-Apr-07 | | | | | | | | 35J | | 0.02J | 1.1J | **3.6J** | 1.5J | 0.86J | | | | 2.6J | | | | | |
| | CD-2 | 29-Oct-07 | | | | | | | | 48J | | 0.01J | 3J | **4.9J** | 2.6J | 1.1J | | | | 2.7J | | | | | |
| | CD-2 | 23-Apr-08 | | | | | | | | 33J | | 0.34J | 0.93J | | | 1.0J | | | | 2.7J | | 0.12J | | | 0.12J |
| | CD-2 | 18-Nov-08 | | | | | | | | 46.7J | | 0.04J | | | | 3.0J | | | | | | | | | |
| | CD-2 | 9-Apr-09 | | | | | | | | 25J | | 0.01J | | | | 0.32J | | | | | | | | | |
| | CD-2 | 13-Oct-09 | | | | | | | | 31.9J | | | | | | 1.37J | | | | | | | | | |
| | CD-2 | 11-May-10 | 11,000 | 7,800 | | 990J | 98,000 | | 1.73J | 48.8J | | | | **3.99J** | 3.43J | 1.32J | **2,290** | **99** | | 2.86J | | | | **8.83J** | 9.40J |
| | CD-2 | 3-Nov-10 | 17,300 | 6,900 | | 2,100J | | | 1.49J | 48.1J | 0.22J | | 2.77J | **3.58J** | 5.69J | 2.06J | **5,030** | **103** | 0.026J | 2.96J | | | | **21.4J** | 9.90J |
| | CD-2 | 3-May-11 | 2,850 | 6,800 | | 1,300J | 209,000 | | 1.78J | 55.9J | 0.23J | | 3.04JB | **3.62J** | 7.91J | 2.75J | **5,560** | **92.2** | 0.031J | 3.60J | | | | **22.2J** | 12B |
| | CD-2 | 8-Nov-11 | 9,000 | 7,500 | | 1,400J | 41,500 | | | 22.1J | 0.21JB | | 1.41J | **2.15J** | 3.53J | 1.07J | **1,660** | 47.4 | | 1.9J | | | | | 4.99J |
| | CD-2 | 7-May-12 | 21,000 | 7,200 | | | 104,000 | | | 36.4J | 0.19J | | 2.71J | **3.38J** | 5.03J | 1.94J | **2,760** | **74.1** | | 2.95J | | | | **9.8J** | 16.5B |
| | CD-2 | 28-Nov-12 | 25,000 | 6,700 | | | (1) | | | 39.5J | 0.13J | | 2.89J | **2.95J** | 4.40J | 1.42J | **2,720** | **67.2** | | 2.72J | | | | **10.1J** | 7.92J |
| | CD-2 | 7-May-13 | 20,000 | 7,200 | | | 80,000 | 0.34J | 1.25JB | 39.4J | 0.23J | | 1.32J | **2.8J** | 4.44J | 1.34J | **2,450** | **57.8** | | 2.59J | | | 0.08J | **9.02J** | 8.79J |
| | CD-2 | 5-Nov-13 | 28,000 | 6,600 | | | 55,000 | | | 45.1J | 0.20J | | 0.64J | **3.31J** | 4.01J | 1.60J | **1,600** | **68.8** | 0.087J | 2.38J | | | | **14J** | 7.77JB |

# Table 2a
# Detected Groundwater Constituents - Inorganics and General Chemistry
# November 2013 Semi-Annual Sampling Event
# Cabarrus County C&D Landfill

| Facility Permit Number | Monitoring Well Code | Sample Date | Alkalinity | Chloride | Ferrous Iron | Sulfate | Total Dissolved Solids | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Iron | Manganese | Mercury | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Carolina 2L or Groundwater Protection Standard | | | NE | 250,000 | NE | 250,000 | 500,000 | 1* | 10 | 700 | 4* | 2 | 10 | 1* | 1,000 | 15 | 300 | 50 | 1 | 100 | 20 | 20 | 0.2* | 0.3* | 1,000 |
| Solid Waste Section Limit | | | NE | NE | NE | 250,000 | NE | 6 | 10 | 100 | 1 | 1 | 10 | 10 | 10 | 10 | 300 | 50 | 0.2 | 50 | 10 | 10 | 5.5 | 25 | 10 |
| 13-02 | CD-3 | 26-Sep-06 | | | | | | | | 175 | | | **190** | | | | | | | | | | | | |
| | CD-3 | 1-Nov-06 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 24-Apr-07 | | | | | | | | 38J | | 0.01J | 2.0J | 0.83J | 2.7J | 0.44J | | | | 2.5J | 1.1J | | | | |
| | CD-3 | 29-Oct-07 | | | | | | | | 667J | 0.19J | 0.04J | 3.9J | **3.9J** | 10 | 1.5J | | | | 3.1J | 1.4J | | | | |
| | CD-3 | 23-Apr-08 | | | | | | | | 46J | | 0.03J | 1.1J | | | 0.79J | | | | | | 0.12J | | | 0.12J |
| | CD-3 | 18-Nov-08 | | | | | | | | 121 | | 0.05J | 0.74J | | | 1.75J | | | | | | | | | |
| | CD-3 | 9-Apr-09 | | | | | | | | 41.7J | | 0.12J | | | | 0.84J | | | | | | 0.02J | | | 0.02J |
| | CD-3 | 13-Oct-09 | | | | | | | | 47.3J | | | | | | 0.90J | | | | | | | | | |
| | CD-3 | 11-May-10 | 95,000 | 3,800 | | 2,700 | 168,000 | | | 35.5J | | | | 0.49J | 2.51J | 0.32J | **680** | 19.8 | | 1.36J | | | | | 5.79J |
| | CD-3 | 3-Nov-10 | 84,600 | 4,100 | | 2,700J | | | 0.63J | 33.3J | | 0.03J | | 0.74J | 3.67J | 0.44J | **1,160** | 28.3 | 0.09J | 1.68J | | | | **5.99J** | 5.59J |
| | CD-3 | 3-May-11 | 105,000 | 4,300 | | 3,200J | 404,000 | | | 48.9J | 0.11J | | | **2.36J** | 7.57J | 1.30J | **3,580** | **93.6** | | 2.48J | | | | **12.2J** | 8.64JB |
| | CD-3 | 8-Nov-11 | 85,000 | 5,400 | | 3,900J | 144,000 | | | 25.5J | | | | 0.65J | 1.01J | | 178 | 24.9 | | 1.48J | | | | | 5.16J |
| | CD-3 | 7-May-12 | 75,000 | 4,500 | | | 177,000 | | | 41.7J | | | 0.84J | **1.27J** | 3.84J | 0.54J | **1,170** | 32.6 | | 3.37J | | | | **6.18J** | 6.81J,B |
| | CD-3 | 28-Nov-12 | 104,000 | 5,100 | | | (1) | | | 46.7J | | | 1.41J | **1.90J** | 4.35J | 0.82J | **1,740** | **68.9** | | 1.86J | | | | **9.52J** | 6.93J |
| | CD-3 | 7-May-13 | 122,000 | 4,800 | | | 181,000 | | | 33.8J | | | | **1.20J** | 2.35J | 0.42J | **880** | **56.3** | | 1.41J | | | | **5.86J** | 2.89J |
| | CD-3 | 5-Nov-13 | 59,000 | 4,500 | | | 121,000 | | | 64J | 0.21J | | 0.74J | **3.47J** | 10.6 | 2.06J | **5,170** | **139** | | 3.25J | | | | **21.2J** | 12.2B |
| 13-02 | CD-4 Rep | 4-Nov-10 | 86,300 | 6,100 | 1,570 | 16,000 | | | | 136 | | | 5.62J | **8.37J** | 0.84J | | | | | 5.90J | | | | **16.3J** | 2.31J |
| | CD-4 Rep | 3-May-11 | 124,000 | 9,700 | 160J | 38,000 | | | | 206 | | | 0.9JB | **17.6** | 0.62J | | | | | 8.39J | | | | | 2.72JB |
| | CD-4 Rep (dup) | 3-May-11 | | | | | | 0.21J | | 206 | | | | **17.9** | 0.68J | | | | | 8.98J | | | 0.17J | | 2.85J |
| | CD-4 Rep | 8-Nov-11 | | | | | | 0.14J | | 191 | | | 0.93J | **18.2** | 1.00J | | | | | 8.86J | | | | | 9.44J |
| | CD-4 Rep | 9-May-12 | | | | | | | | 184 | | | 1.69J | **18.1** | 1.70J | 0.17J | | | | 11.3J | | | | **3.03J** | 16.1B |
| | CD-4 Rep | 29-Nov-12 | | | | | | | | 172 | | | | **13.7** | 0.62J | | | | | 7.03J | | | | **2.84J** | 2.14JB |
| | CD-4 Rep | 10-May-13 | | | | | | | | 75.5J | 0.5J | | 2.71J | **7.87J** | 1.94J | 0.88J | | | | 11.2J | | | | **11.1J** | 10.3 |
| | CD-4 Rep | 7-Nov-13 | | | | | | 1.36J | | 60.4J | 0.35J | 0.07J | 0.77J | **5.31J** | 1.83J | 0.57J | | | | 5.11J | | | 0.13J | **32** | 4.40JB |

**Notes:**

1. All units are in micrograms per liter (parts per billion).
2. * - Groundwater Protection Standard
3. NE - Standard Not Established; dup - Duplicate Sample
4. J - Indicates the analytical result is an estimated concentration between the method detection limit and the Solid Waste Section Reporting Limit.
5. B - The analyte concentration detected in the method blank was greater than the method detection limit.
6. CD-4 Rep was installed as part of the proposed Phase 1 C&D Landfill expansion in January 2009. Beginning November 2011 samples collected from CD-4 Rep are only analyzed for Appendix I metals.
7. Alkalinity, chloride, ferrous iron, sulfate, and total dissolved solids were added to the sampling program in May 2010.
8. (1) - Samples from CD-2 and CD-3 were not analyzed for total dissolved solids due to laboratory oversight.
9. Ferrous iron results are based on field testing with the exception of CD-4 Rep.

- Concentration exceeds the North Carolina 2L or Groundwater Protection Standard
- Indicates the result is below the detection limit or not analyzed

# Table 2b
# Detected Groundwater Constituents - Volatile Organic Compounds
# November 2013 Semi-Annual Sampling Event
# Cabarrus County C&D Landfill

| Facility Permit Number | Monitoring Well Code | Sample Date | Acetone | Benzene | Bromoform | 2-Butanone | Chlorobenzene | Chloroethane | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 1,1-Dichloroethane | 1,2-Dichloroethane | 1,1-Dichloroethene | 1,2-Dichloropropane | Cis-1,2-Dichloroethene | Trans-1,2-Dichloroethene | Methylene Chloride | Dichlorodifluoromethane | Toluene | Trichlorofluoromethane | Chloromethane | Tetrachloroethene | Trichloroethene | Total Xylenes | Vinyl Chloride | Carbon Disulfide |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Carolina 2L Standard | | | 700 | 1 | 4.43 | 4,200 | 50 | 2,800 | 200 | 0.6* | 24 | 6 | 6 | 0.38 | 7 | 0.51 | 70 | 100 | 4.6 | 1,400 | 1,000 | 2,100 | 2.6 | 0.7 | 3 | 530 | 0.03 | 700 |
| Solid Waste Section Limit | | | 100 | 1 | 3 | 100 | 3 | 10 | 1 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 5 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 100 |
| 13-02 | CD-1s | 25-Sep-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 31-Oct-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 23-Apr-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 29-Oct-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 23-Apr-08 | | | | | | | | | | | | | | | | | | | 0.40J | | | | | | | |
| | CD-1s | 18-Nov-08 | | | | | | | | | | | | | | | | | 1.1 | | | | | | | | | |
| | CD-1s | 8-Apr-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 13-Oct-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 11-May-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 2-Nov-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 8-Nov-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 7-May-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 27-Nov-12 | | | | | 0.4J | | | | | | | | | | | | | | 0.2J | | | | | | | |
| | CD-1s | 7-May-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1s | 5-Nov-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13-02 | CD-1d | 4-Oct-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 31-Oct-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 23-Apr-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 29-Oct-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 23-Apr-08 | | | | | | | | | | | | | | | | | | | 0.43J | | | | | | | |
| | CD-1d | 18-Nov-08 | | | | | | | | | | | | | | | | | 1.2 | | | | | | | | | |
| | CD-1d | 8-Apr-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 13-Oct-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 11-May-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 2-Nov-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 8-Nov-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 7-May-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 27-Nov-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 7-May-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-1d | 5-Nov-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13-02 | CD-2 | 25-Sep-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 31-Oct-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 23-Apr-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 29-Oct-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 22-Apr-08 | | | | | | | | | 0.57J | 0.29J | | | | | | | | | 0.34J | | | | | | | |
| | CD-2 | 18-Nov-08 | | | | | | | | | | | | | | | | | 1.2B | | | | | | | | | |
| | CD-2 | 8-Apr-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 13-Oct-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 11-May-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 2-Nov-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 8-Nov-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 7-May-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 27-Nov-12 | | | | | 0.4J | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 7-May-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-2 | 5-Nov-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |

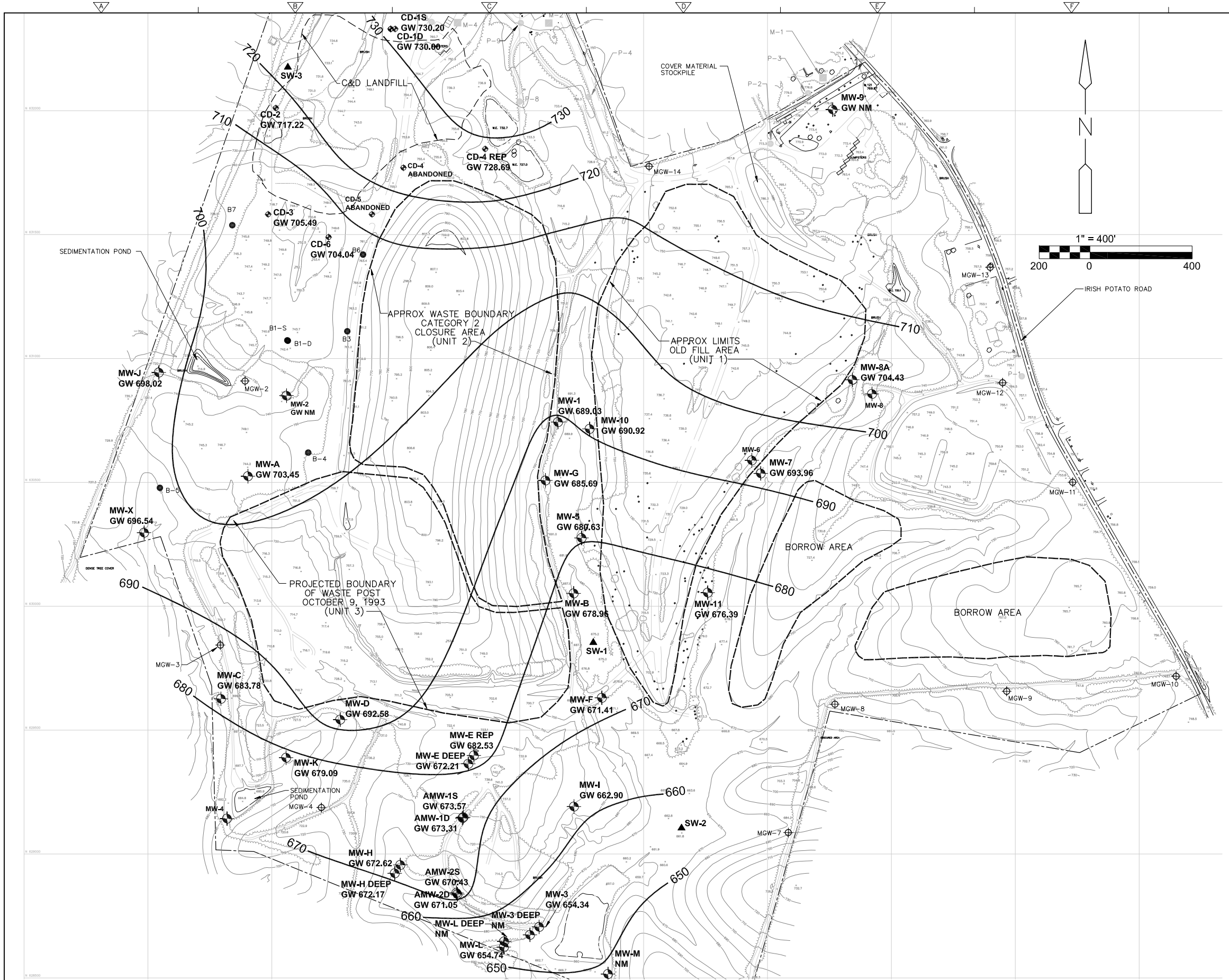
# Table 2b
# Detected Groundwater Constituents - Volatile Organic Compounds
# November 2013 Semi-Annual Sampling Event
# Cabarrus County C&D Landfill

| Facility Permit Number | Monitoring Well Code | Sample Date | Acetone | Benzene | Bromoform | 2-Butanone | Chlorobenzene | Chloroethane | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 1,1-Dichloroethane | 1,2-Dichloroethane | 1,1-Dichloroethene | 1,2-Dichloropropane | Cis-1,2-Dichloroethene | Trans-1,2-Dichloroethene | Methylene Chloride | Dichlorodifluoromethane | Toluene | Trichlorofluoromethane | Chloromethane | Tetrachloroethene | Trichloroethene | Total Xylenes | Vinyl Chloride | Carbon Disulfide |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Carolina 2L Standard | | | 700 | 1 | 4.43 | 4,200 | 50 | 2,800 | 200 | 0.6* | 24 | 6 | 6 | 0.38 | 7 | 0.51 | 70 | 100 | 4.6 | 1,400 | 1,000 | 2,100 | 2.6 | 0.7 | 3 | 530 | 0.03 | 700 |
| Solid Waste Section Limit | | | 100 | 1 | 3 | 100 | 3 | 10 | 1 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 5 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 100 |
| 13-02 | CD-3 | 26-Sep-06 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 31-Oct-06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 23-Apr-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 29-Oct-07 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 22-Apr-08 | | | | | | | | | 0.32J | | | | | | | | | | 0.35J | | | | | | | |
| | CD-3 | 18-Nov-08 | | | | | | | | | | | | | | | | | 1.2B | | | | | | | | | |
| | CD-3 | 8-Apr-09 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 13-Oct-09 | | | | | | | | | | | | | | | | | | | 0.5J | | | | | | | |
| | CD-3 | 11-May-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 2-Nov-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 8-Nov-11 | | | | 16J | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 7-May-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 27-Nov-12 | | | | | 0.4J | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 7-May-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-3 | 5-Nov-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13-02 | CD-4 Rep | 4-Nov-10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep (dup) | 3-May-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep | 8-Nov-11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep | 8-May-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep | 28-Nov-12 | | | | | | | | | | | | | | | | | 0.3J | | | | | | | | | |
| | CD-4 Rep | 9-May-13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CD-4 Rep | 7-Nov-13 | | | | | | | | | | | | | | | | | | | 0.6J | | | | | | | |

**Notes:**

1. All units are in micrograms per liter (parts per billion).
2. dup - Duplicate Sample
3. J - Indicates the analytical result is an estimated concentration between the method detection limit and the Solid Waste Section Reporting Limit.
4. B - The analyte concentration detected in the method blank was greater than the method detection limit.
5. CD-4 Rep was installed as part of the proposed Phase 1 C&D Landfill expansion in January 2009.

- Concentration exceeds the North Carolina 2L Groundwater Standard
- Indicates the result is below the detection limit




## LEGEND

| | |
|---|---|
| M-1 | MONITORING WELL |
| P-1 | METHANE PROBE |
| MW-5 | MONITORING WELL WITH GROUNDWATER ELEVATIONS |
| MW-6 | ABANDONED GROUNDWATER MONITORING WELL |
| SW-1 | SURFACE WATER SAMPLING STATION |
| (713) | ESTIMATED ELEVATION OF WATER TABLE |
| P-1 | PIEZOMETER |
| | POTENTIOMETRIC CONTOUR |
| MGW-1 | METHANE GAS MONITORING WELL |

NOTE:

1. MW-A THROUGH M, ALONG WITH MW-1-3 AND M-3 DEEP COMPRISE THE GROUNDWATER MONITORING WELLS FOR UNITS 2 AND 3 WHICH ARE PART OF THE APPROVED MONITORING SYSTEM. CD-4, CD-5, AND CD-6 WERE ADDED TO THE GROUNDWATER MONITORING NETWORK IN SEPTEMBER 2006.
2. MGW-1 THROUGH MGW-14 ARE METHANE GAS MONITORING WELLS.
3. MW-5, 7, 8A, 10, AND 11 ARE THE APPROVED GROUNDWATER MONITORING WELLS FOR UNIT 1. CD-1S AND CD-1D SERVE AS THE BACKGROUND WELL FOR UNITS 1, 2, 3, AND THE C&D LANDFILL.
4. CD-1S, CD-1D, CD-2, AND CD-3 ARE THE APPROVED MONITORING WELLS FOR THE C&D LANDFILL AND CD-4 REP WAS INSTALLED AS PART OF THE C&D PHASE I EXPANSION.
5. GROUNDWATER ELEVATIONS MEASURED NOVEMBER 4, 2013.
6. ASSESSMENT WELLS AMW-1S, -1D, -2S, AND -2D WERE ADDED TO THE GROUNDWATER MONITORING NETWORK IN OCTOBER 2009.
7. CD-4 AND CD-5 WERE ABANDONED IN JULY 2010.
8. MW-9 WAS REMOVED FROM THE MONITORING PROGRAM AND WAS NOT SAMPLED DURING THE NOVEMBER SAMPLING EVENT.
9. MW-E REP WAS NOT SAMPLED DURING THE NOVEMBER 2012 SAMPLING EVENT DUE TO LABORATORY OVERSIGHT.

| REV. NO. | DATE | DRWN | CHKD | REMARKS |
|---|---|---|---|---|

DESIGNED BY: A. WEISPFENNING
DRAWN BY: J. KILLINGSWORTH
SHEET CHK'D BY: D. FORBES
CROSS CHK'D BY: J. BOYER
APPROVED BY: J. BOYER
DATE: DECEMBER 2013

CDM Smith
5400 Glenwood Ave - Suite 300
Raleigh, NC 27612
Tel: (919) 325-3500

CABARRUS COUNTY
NORTH CAROLINA

SEMI-ANNUAL GROUNDWATER MONITORING
CABARRUS COUNTY LANDFILL
FACILITY PERMIT #13-02

POTENTIOMETRIC SURFACE MAP

PROJECT NO. 1278-100676
FILE NAME: CAB-F-13.DWG
SHEET NO.
1

# Appendix A

# FIELD INSTRUMENT LOG

Project: Cabarrus Co  Dates: 11-4-13 → 11/7/13

Personnel: R. Powe, W. Flammer

| ph/SC/TEMP/DO/ORP | Turbidity |
|---|---|
| o YSI 556 MPS serial: 08H100790<br>o YSI 556 MPS serial: 05D2373AJ<br>✓ YSI 556 MPS serial: 13A100062<br>o _____ | o Oakton T-100 serial: 957586<br>o Oakton T-100 serial: 957596<br>✓ Lamotte serial: ME12942<br>o _____ |
| **Water Level** | **Methane** |
| ✓ Heron Dipper T serial: 06964<br>o Solinst serial: 048125<br>o Solinst serial: 200763<br>o _____ | o RKI Eagle serial: E3Z031<br>o RKI Eagle serial: E3Z030<br>✓ PINE VRAE |

pH 4.0 Lot # _____ pH 4.0 Exp. _____ Sc 997 Lot# _____ Exp. _____

pH 7.0 Lot# _____ pH 7.0 Exp _____ Sc _____ Lot# _____ Exp. _____

pH 10.0 Lot# _____ pH 10.0 Exp _____

**Date of Calibrations:** 11.4.13

pH: 4.0 std. = 4.0 7.0 std. = 7.0 10.0 std. = ~~10.0~~ 9.95

SC: 997 uS/cm = 998

Turbidity: 1.0 ntu = 1.0 Methane: _____ % LEL = _____ (PINE calibrated)

**Date of Calibrations:** 11.5.13

pH: 4.0 std. = 4.0 7.0 std. = 7.0 10.0 std. = 9.99

SC: 997 uS/cm = 997

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** 11.6.13

pH: 4.0 std. = 4 7.0 std. = 7 10.0 std. = 9.98

SC: 997 uS/cm = 997

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** 11.7.13

pH: 4.0 std. = 4.0 7.0 std. = 7.0 10.0 std. = 9.99

SC: 997 uS/cm = 997

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** _____

pH: 4.0 std. = _____ 7.0 std. = _____ 10.0 std. = _____

SC: _____ uS/cm = _____

Turbidity: _____ ntu = _____ Methane: _____ % LEL = _____

4.0 LOT #: ~~CC1176~~ 2210176
EXP: 09/14

7.0 LOT #: 2208038
EXP: 07/14

10.0 LOT #: 132388
EXP: 04/15

997 LOT #: CC1196
EXP: 05/14

# FIELD INSTRUMENT LOG

Project: Cabarrus Dates: 11/4/13 – 11/7/13

Personnel: RP WF

| ph/SC/TEMP/DO/ORP | Turbidity |
|---|---|
| o YSI 556 MPS serial: 08H100790<br>X YSI 556 MPS serial: 05d2373AJ<br>o YSI 556 MPS serial: 13A100062<br>o _____ | o Oakton T-100 serial: 957586<br>o Oakton T-100 serial: 957596<br>X Lamotte serial: ME12942<br>o _____ |
| **Water Level** | **Methane** |
| X Heron Dipper T serial: 06964<br>o Solinst serial: 048125<br>o Solinst serial: 200763<br>o _____ | o RKI Eagle serial: E3Z031<br>o RKI Eagle serial: E3Z030<br>X VRAE |

pH 4.0 Lot # 2202287 pH 4.0 Exp. 1/14 Sc 1413 Lot# 10520 Exp. 8/14

pH 7.0 Lot# 2201640 pH 7.0 Exp 1/14 Sc_____ Lot# _____ Exp. _____

pH 10.0 Lot# 132358 pH 10.0 Exp 4/15

**Date of Calibrations:** 11/5/13

pH: 4.0 std. = 4.00 7.0 std. = 7.00 10.0 std. = 9.99

SC: 1413 uS/cm = 1413

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** 11/6/13

pH: 4.0 std. = 4.00 7.0 std. = 7.00 10.0 std. = 10.00

SC: 1413 uS/cm = 1413

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** 11/7/13

pH: 4.0 std. = 4.00 7.0 std. = 7.00 10.0 std. = 10.00

SC: 1413 uS/cm = 1413

Turbidity: 1.0 ntu = 1.0 Methane: — % LEL = —

**Date of Calibrations:** _____

pH: 4.0 std. = _____ 7.0 std. = _____ 10.0 std. = _____

SC: _____ uS/cm = _____

Turbidity: _____ ntu = _____ Methane: _____ % LEL = _____

**Date of Calibrations:** _____

pH: 4.0 std. = _____ 7.0 std. = _____ 10.0 std. = _____

SC: _____ uS/cm = _____

Turbidity: _____ ntu = _____ Methane: _____ % LEL = _____

# ANALYTICAL SERVICES, INC.
# MONITORING WELL DATA SUMMARY

**Client Name:** Camp, Dresser & McKee
**Client Contact:** Mr. Mat Colone
**Project:** Semi-annual Ground Water Monitoring
**Site:** Cabarrus Co. C&D Landfill

**ASI Report No.:** AWK0130
**Sampling Date:** 11/4/13 - 11/7/13

| Well ID | BOC[1] | DTW[2] | Well Vol[3] | Purge Vol[4] | pH[5] | SC[6] | Temp[7] | Turb[8] | DO[9] | ORP[10] | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CD-1D | 52.37 | 27.40 | 12.21 | 6.90 L | 6.03 | 119 | 14.5 | 32 | 1.71 | 320.1 | Cloudy, No odor. Fe2+= 0.70mg/L |
| CD-1S | 29.80 | 24.80 | 2.45 | 3.28 L | 6.06 | 100 | 13.0 | 42 | 1.74 | 347.7 | Cloudy, No odor. Fe2+= 2.42mg/L |
| CD-2 | 25.83 | 15.78 | 4.91 | 5.00 | 5.31 | 66 | 16.5 | 70 | 1.31 | 388.2 | Bailer, Cloudy, No odor. |
| CD-3 | 62.20 | 47.81 | 7.03 | 7.50 | 5.92 | 227 | 16.5 | 61 | 1.69 | 350.3 | Bailer, Cloudy, No odor. |

Notes:
1 BOC - Bottom of Casing (Ft.)
2 DTW - Depth to Water from Top of Casing (Ft.)
3 Well Vol - Calculated at 3 Times One Well Volume (Gal.)
4 Actual Volume Evacuated Prior to Sample Collection (Gal.)
5 pH - Reported in Standard Units
6 SC - Specific Conductance (uS/cm)
7 Temp - Temperature (°C)
8 Turb - Turbidity (NTU)
9 Dissolved Oxygen (mg/L)
10 ORP mV

Sampled By: W. Flammer, R. Powe
Field Specialist(s)

Reviewed By: [illegible]
Field Services Manager

# ANALYTICAL SERVICES, INC.
# SURFACE WATER SAMPLING DATA SUMMARY

**Client Name:** Camp, Dresser, & McKee

**Client Contact:** Mr. Mat Colone

**Project:** Semi-annual Surface Water Monitoring

**Site:** Cabarrus Co. C&D Landfill

**ASI Report No.:** AWK0130

**Sampling Date:** 11/5/13

| Point ID | pH[1] | SC[2] | Temp[3] | Turb[4] | DO[5] | Comments |
|---|---|---|---|---|---|---|
| SW-3 | - | - | - | - | - | Point Dry |

Notes:

1 pH - Reported in Standard Units
2 SC - Specific Conductance (uS/cm)
3 Temp - Temperature (°C)
4 Turb - Turbidity (NTU)
5 Dissolved Oxygen (mg/L)

Sampled By: W. Flammer
Field Specialist(s)

Reviewed By: [signature]
Field Services Manager

# ANALYTICAL SERVICES, INC.
# MONITORING WELL DATA SUMMARY

**Client Name:** Camp, Dresser & McKee

**Client Contact:** Mr. Mat Colone

**Project:** Semi-annual Ground Water Monitoring

**Site:** Cabarrus Co. C&D Landfill

**ASI Report No.:** AWK0130

**Sampling Date:** 11/4/13

| Well ID | DTW |
|---|---|
| CD-1D | 27.40 |
| CD-1S | 24.80 |

| Well ID | DTW |
|---|---|
| CD-2 | 15.78 |
| CD-3 | 47.81 |

Note:

1 DTW - Depth to Water From Top of Casing (ft.)

Sampled By: W. Flammer, R. Powe
Field Specialist(s)

Reviewed By: [illegible]
Field Services Manager

# ANALYTICAL SERVICES, INC.
# MONITORING WELL DATA SUMMARY

**Client Name:** Camp, Dresser & McKee
**Client Contact:** Mr. Mat Colone
**Project:** Semi-annual Ground Water Monitoring
**Site:** Cabarrus Co. C&D Landfill

**ASI Report No.:** AWK0130
**Sampling Date:** 11/4/13

| Well ID | % Vol[1] |
|---|---|
| CD-1D | 0 |
| CD-1S | 0 |

| Well ID | % Vol[1] |
|---|---|
| CD-2 | 0 |
| CD-3 | 0 |

Note:

1 % Vol - Volume of Methane Gas in Headspace

Sampled By: W. Flammer, R. Powe
Field Specialist(s)

Reviewed By:
Field Services Manager

# WELL INTEGRITY AND WATER LEVEL FORM

Project Name: Cabarrus County Landfill C&D
Site Location: Concord North Carolina
Field Personnel: William Flammer Ray Powe

Date: 11.4.2013 Page 1 of 1
Weather: Sunny, clear, light breeze 59°F
W. L. Measuring Method: Heron Dipper T

| Well ID | TIME | Water Level (BTOC) (feet) | Sounded Depth (BTOC) (feet) | Well located in dry area? | Well readily accessible? | Well protected with posts? | Well properly labeled? | Well casing free of kinks and/or bends? | Well area free of overgrowth? | Functioning locking cap? | Cap free of rust? | Vented well or cap? | Annular space filled with sand or gravel? | Weep hole at base of protective casing? | Lock intact and secured | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD-1D | 1255 | 27.40 | 52.37 | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL=0 ND - BP tubing $O_2$=20.9 |
| CD-1S | 1252 | 24.80 | 29.80 | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL=0 ND BP tubing $O_2$=20.9 |
| CD-2 | 1300 | 15.78 | 25.83 | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= 0 ND - Bailer $O_2$= 20.9 |
| CD-3 | 1305 | 47.81 | 62.20 | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL=0 ND - Bailer $O_2$=20.9 |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |
| | | | | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA | LEL= $O_2$= |

I have received this Well Integrity and Water Level Form(s): Signature

11/4/13
Date

ASI Analytical Services

# FIELD DATA INFORMATION LOG FOR GROUND-WATER SAMPLING

| | |
|---|---|
| Client: | Casing Diameter: 2" or 4" |
| Site Name: Cabarrus County Landfill C&D | Casing Material: PVC |
| Field Personnel: W. Flammer R. Powe | Dedicated Pump: Yes or No |
| Well ID #: CD-1D | |
| | |
| | |
| Weather Conditions: Overcast, cool, breezy | Method of Well Evacuation: Grundfos/BailerPeristaltic (BP) |
| Total Well Depth in feet (TWD) = 52.37 | Method of Sample Collection: Grundfos/BailerPeristaltic (BP) |
| Depth to Ground Water in feet (DGW) = 27.40 | Well Yield (subjective): Good |
| Length of Water Column (LWC) = TWD - DGW = 24.97 | Sample Date and Time: 11/5/13 @ 1213 |
| 2" Well: 1 Casing Volume in gallons (CV) = LWC x 0.163 = 4.07 | PSI: 40 Metals on 11/5/13 |
| 4" Well: 1 Casing Volume in gallons (CV) = LWC x 0.653 = — | Recharge: 12.0 @ 1654 |
| Standard Evacuation Volume (3 casing volumes) = 12.21 | Discharge: 3.0 |
| Total Volume of Water Removed ~~(gallons)~~: ~~2.76 Liters~~ 6.90 Liters | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time (military) | 1104 | 1109 | 1114 | 1117 | 1122 | 1127 | 1213 | RP 11/5 | | |
| Volume Purged ~~(Gallons)~~ Liters | 0 | 0.500 | RP 11/5 ~~0~~ 1.00 | 1.30 | 1.80 | 2.30 | ~~2.76~~ 6.90 | | | |
| Water Level (ft.) stable | 27.40 | 27.60 | 27.62 | 27.62 | 27.63 | 27.65 | 27.65 | | | |
| pH (s.u.) ± .2 | 6.18 | 6.20 | 6.12 | 6.07 | 6.05 | 6.04 | 6.03 | | | |
| Sp. Cond. (µmhos/cm) ± 10 % | 117 | 119 | 119 | 119 | 120 | 119 | 119 | | | |
| Water Temp. (°C) constant | 13.0 | 13.9 | 14.0 | 14.5 | 14.5 | 14.5 | 14.5 | | | |
| Turbidity (NTU) ±10 % or ≤ 5 NTU | 40 | 105 | 115 | 245 | 172 | 95.4 | 153 | | | |
| Dissolved Oxygen (mg/L) ±10 % | 2.47 | 1.77 | 1.83 | 1.74 | 1.67 | 1.70 | 1.71 | | | |
| RedOx Potential/ORP (mV) | 326.0 | 320.2 | 321.5 | 322.9 | 326.2 | 323.2 | 320.1 | | | |
| ~~GPM/htz~~ LPM | — / — | RP 11/5 ~~0.50~~ 0.100 / — | 0.100 / — | 0.100 / — | 0.100 / — | 0.100 / — | 0.100 / — | | | |

COMMENTS/OBSERVATIONS: Fe2+ = 0.70 Cloudy; no odor
Metals on 11/5/13 @ 1654 NTU = 32

Date: 11/5/13 By: Roy Powe

ASI Analytical Services

# FIELD DATA INFORMATION LOG FOR GROUND-WATER SAMPLING

| | |
|---|---|
| Client: | Casing Diameter: 2" or 4" |
| Site Name: Cabarrus County Landfill C&D | Casing Material: PVC |
| Field Personnel: W. Flammer R. Powe | Dedicated Pump: Yes or No |
| Well ID #: CD-15 | |
| | |
| | |
| Weather Conditions: Clear; cool | Method of Well Evacuation: Grundfos/BailerPeristaltic / BP |
| Total Well Depth in feet (TWD) = 29.80 | Method of Sample Collection: Grundfos/BailerPeristaltic BP |
| Depth to Ground Water in feet (DGW) = 24.80 | Well Yield (subjective): Good |
| Length of Water Column (LWC) = TWD - DGW = 5.00 | Sample Date and Time: 11/5/13 @ 0943 |
| 2" Well: 1 Casing Volume in gallons (CV) = LWC x 0.163 = 0.82 | PSI: 31 Metals on 11/5/13 @ 1658 |
| 4" Well: 1 Casing Volume in gallons (CV) = LWC x 0.653 = – | Recharge: 12 |
| Standard Evacuation Volume (3 casing volumes) = 2.45 | Discharge: 3 |
| Total Volume of Water Removed (~~gallons~~): 3.25 Liters | |

| Time (military) | 0840 | 0845 | 0850 | 0855 | 0900 | 0905 | 0910 | 0937 | 0940 | 0943 |
|---|---|---|---|---|---|---|---|---|---|---|
| Volume Purged (~~Gallons~~) Liters | 0 | 0.400 | 0.800 | 1.20 | 1.60 | 2.00 | 2.40 | 3.10 | 3.19 | 3.25 |
| Water Level (ft.) stable | 24.80 | 25.02 | 24.72 | 24.75 | 24.75 | 24.75 | 24.90 | 24.92 | 24.92 | 24.92 |
| pH (s.u.) ± .2 | 5.42 | 5.58 | 6.01 | 6.00 | 5.96 | 6.12 | 6.04 | 6.04 | 6.00 | 6.06 |
| Sp. Cond. (µmhos/cm) ± 10 % | 138 | 113 | 111 | 111 | 111 | 104 | 103 | 104 | 101 | 100 |
| Water Temp. (°C) constant | 10.6 | 10.6 | 10.9 | 10.9 | 11.4 | 14.3 | 13.4 | 13.0 | 13.0 | 13.0 |
| Turbidity (NTU) ±10 % or ≤ 5 NTU | 33 | 30 | 27 | 25 | 40 | 50 | 147 | 180 | 179 | 185 |
| Dissolved Oxygen (mg/L) ±10 % | 2.72 | 2.42 | 2.17 | 2.20 | 1.84 | 1.90 | 1.95 | 1.74 | 1.75 | 1.74 |
| RedOx Potential/ORP (mV) | 403.2 | 387.0 | 378.4 | 377.4 | 354.7 | 344.6 | 351.6 | 344.6 | 350.7 | 347.7 |
| ~~GPM~~ LPM/htz | – / – | 0.08 / – | 0.08 / – | 0.08 / – | 0.08 / – | 0.08 / – | 0.08 / – | 0.03 / – | 0.03 / – | 0.03 / – |

COMMENTS/OBSERVATIONS: Fe2+ = 2.42 Cloudy; no odor
Metals on 11/5/13 @ 1658 NTU = 425

Diss H+ start: 0840
Sampled: 0900

Date: 11/5/13 By: Roy Powe

ASI Analytical Services

# FIELD DATA INFORMATION LOG FOR GROUND-WATER SAMPLING

| | |
|---|---|
| Client: | Casing Diameter: ✓2" or 4" |
| Site Name: Cabarrus County Landfill C&D | Casing Material: ✓PVC |
| Field Personnel: W. Flammer R. Powe | Dedicated Pump: Yes or ✓No |
| Well ID #: CD-2 | |
| | |
| | |
| Weather Conditions: Overcast, cool | Method of Well Evacuation: Grundfos/Bailer/Peristaltic / BP |
| Total Well Depth in feet (TWD) = 25.83 | Method of Sample Collection: Grundfos/Bailer/Peristaltic / BP |
| Depth to Ground Water in feet (DGW) = 15.78 | Well Yield (subjective): Good |
| Length of Water Column (LWC) = TWD - DGW = 10.05 | Sample Date and Time: 11.5.13 @ 1033 |
| 2" Well: 1 Casing Volume in gallons (CV) = LWC x 0.163 = 1.63 gal (1.75) | Metals: 11.6.13 @ ~~0833~~ WF 0854 |
| 4" Well: 1 Casing Volume in gallons (CV) = LWC x 0.653 = / | |
| Standard Evacuation Volume (3 casing volumes) = 4.91 gal (5.0) | |
| Total Volume of Water Removed (gallons): 5.0 gal | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Time (military) | 1020 | 1025 | 1028 | 1033 | | | |
| Volume Purged (Gallons) | 0 | 1.75 | 3.50 | 5.0 | | | |
| Water Level (ft.) stable | — | — | — | — | | | |
| pH (s.u.) ±.2 | 5.55 | 5.14 | 5.04 | 5.31 | | | |
| Sp. Cond. (µmhos/cm) ±10% | 58 | 52 | 53 | 66 | | | |
| Water Temp. (°C) constant | 16.3 | 16.8 | 16.5 | 16.5 | | | |
| Turbidity (NTU) ±10% or ≤5 NTU | 27. | 800+ | 800+ | 800+ | | | |
| Dissolved Oxygen (mg/L) ±10% | 1.48 | 1.20 | 1.17 | 1.31 | | | |
| RedOx Potential/ORP (mV) | 351.3 | 396.2 | 404.1 | 388.2 | | | |
| GPM/htz | — | — | — | — | | | |

COMMENTS/OBSERVATIONS: Cloudy, no odor. Metals taken 11.6.13 @ ~~0833~~ 0854 WF. NTU = ~~41~~ WF 107.

Date: 11.6.13 By: [signature]

ASI Analytical Services

# FIELD DATA INFORMATION LOG FOR GROUND-WATER SAMPLING

| | |
|---|---|
| Client: | Casing Diameter: 2" or 4" |
| Site Name: Cabarrus County Landfill C&D | Casing Material: PVC |
| Field Personnel: W. Flammer R. Powe | Dedicated Pump: Yes or No |
| Well ID #: CD - 3 | |
| | |
| | |
| Weather Conditions: Overcast, cool | Method of Well Evacuation: Grundfos/BailerPeristaltic / BP |
| Total Well Depth in feet (TWD) = 62.20 | Method of Sample Collection: Grundfos/BailerPeristaltic / BP |
| Depth to Ground Water in feet (DGW) = 47.81 | Well Yield (subjective): Good |
| Length of Water Column (LWC) = TWD - DGW = 14.39 | Sample Date and Time: 11.5.13 @ 1105 |
| 2" Well: 1 Casing Volume in gallons (CV) = LWC x 0.163 = 2.34 gal (2.50) | 11.6.13 @ 0833 |
| 4" Well: 1 Casing Volume in gallons (CV) = LWC x 0.653 = / | |
| Standard Evacuation Volume (3 casing volumes) = 7.03 gal (7.25) | |
| Total Volume of Water Removed (gallons): 7.50 gal | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Time (military) | 1048 | 1054 | 1100 | 1105 | | | |
| Volume Purged (Gallons) | 0 | 2.50 | 5.0 | 7.50 | | | |
| Water Level (ft.) stable | – | – | – | – | | | |
| pH (s.u.) ± .2 | 5.41 | 5.48 | 5.83 | 5.92 | | | |
| Sp. Cond. (µmhos/cm) ± 10% | 109 | 152 | 228 | 227 | | | |
| Water Temp. (°C) constant | 14.4 | 16.0 | 16.6 | 16.5 | | | |
| Turbidity (NTU) ±10% or ≤ 5 NTU | 800+ | 800+ | 800+ | 800+ | | | |
| Dissolved Oxygen (mg/L) ±10% | 1.81 | 1.66 | 1.67 | 1.69 | | | |
| RedOx Potential/ORP (mV) | 359.8 | 367.2 | 359.4 | 350.3 | | | |
| GPM/htz | – | – | – | – | | | |

COMMENTS/OBSERVATIONS: Cloudy, no odor. Metals taken 11.6.13 @ 0833. NTU = 61.

Date: 11.6.13

By: [signature]

# FIELD INFORMATION LOG

Facility: Cabarrus LF C&D (SA SWs) Sample Point ID: SW-3

Location: Concord, NC Field Representatives: WF

Sample Matrix: Groundwater

| Time | pH (Std Units) | Conduct. (OS/cm) | Temp (°C) | Turbidity . (NTU's) | ORP (mV) | DO (mg/L) |
|---|---|---|---|---|---|---|
| | | | | | | |

ANALYTE COLLECTION ORDER, CONTAINERS, PRESERVATIVES AND TESTS PERFORMED:

App I VOC – 3 40mL VOA w/ HCL+THF Metals – 1 500 mL HDPE w/ HNO3 Chloride, Sulfate, ALK, TDS

COMMENTS AND OBSERVATIONS: Point dry; unable to sample

Date: 11/5/13 By: [signature] for WF Company: ASI

ASI Analytical Services

# FIELD DATA INFORMATION LOG FOR GROUND-WATER SAMPLING

| | |
|---|---|
| Client: | Casing Diameter: 2" or 4" |
| Site Name: Cabarrus County Landfill Unit 2&3 | Casing Material: PVC |
| Field Personnel: W. Flammer R. Powe | Dedicated Pump: Yes or No |
| Well ID #: CD-4R | |
| | |
| | |
| Weather Conditions: Sunny, clear | Method of Well Evacuation: Grundfos/Bailer Peristaltic / BP |
| Total Well Depth in feet (TWD) = 19.80 | Method of Sample Collection: Grundfos/Bailer Peristaltic / BP |
| Depth to Ground Water in feet (DGW) = 10.46 | Well Yield (subjective): Good |
| Length of Water Column (LWC) = TWD - DGW = 9.34 | Sample Date and Time: 11.7.13 @ 1115 |
| 2" Well: 1 Casing Volume in gallons (CV) = LWC x 0.163 = 1.52 gal (1.75) | |
| 4" Well: 1 Casing Volume in gallons (CV) = LWC x 0.653 = / | |
| Standard Evacuation Volume (3 casing volumes) = 4.56 gal (4.75) | |
| Total Volume of Water Removed (gallons): 4.75 gal | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Time (military) | 1557 | 1559 | 1601 | 1603 | | | |
| Volume Purged (Gallons) | 0 | 1.75 | 3.50 | 4.75 | | | |
| Water Level (ft.) stable | — | — | — | — | | | |
| pH (s.u.) ±.2 | 6.51 | 6.45 | 6.24 | 6.14 | | | |
| Sp. Cond. (µmhos/cm) ±10% | 369 | 171 | 175 | 177 | | | |
| Water Temp. (°C) constant | 17.5 | 17.4 | 17.2 | 16.9 | | | |
| Turbidity (NTU) ±10% or ≤5 NTU | 12. | 800+ | 800+ | 800+ | | | |
| Dissolved Oxygen (mg/L) ±10% | 2.92 | 1.31 | 1.40 | 1.20 | | | |
| RedOx Potential/ORP (mV) | -87.4 | -86.4 | -60.6 | -44.5 | | | |
| GPM/htz | — | — | — | — | | | |

COMMENTS/OBSERVATIONS: Cloudy, strong odor. DUPLICATE TAKEN HERE VOC's & Metals taken 11.7.13 @ 1115 . NTU: 26

Date: 11.7.13 By: [signature]

WF

ASI

# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

## Laboratory Report

Report Number: AWK0130

Project: Cabarrus Co - C&D

Project #:[none]

Prepared For:
Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh, NC 27612

Attention: Mr. Mat Colone

December 03, 2013

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call. Analytical Services, Inc. certifies that the following analytical results meet all requirements of the National Environmental Laboratory Accreditation Conference(NELAC).All test results relate only to the samples analyzed.

Approved:

Elizabeth Bryant
Project Manager

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ASI

# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| 1302-CD1s | AWK0130-01 | Ground Water | 11/05/13 09:43 | 11/06/13 08:55 |
| 1302-CD1s | AWK0130-02 | Ground Water | 11/05/13 16:58 | 11/06/13 08:55 |
| 1302-CD1d | AWK0130-03 | Ground Water | 11/05/13 12:13 | 11/06/13 08:55 |
| 1302-CD1d | AWK0130-04 | Ground Water | 11/05/13 16:54 | 11/06/13 08:55 |
| 1302-CD2 | AWK0130-05 | Ground Water | 11/05/13 10:33 | 11/07/13 09:45 |
| 1302-CD2 | AWK0130-06 | Ground Water | 11/06/13 08:54 | 11/07/13 09:45 |
| 1302-CD3 | AWK0130-07 | Ground Water | 11/05/13 11:05 | 11/07/13 09:45 |
| 1302-CD3 | AWK0130-08 | Ground Water | 11/06/13 08:33 | 11/07/13 09:45 |
| 1302-Equipment Blank | AWK0130-09 | Water | 11/06/13 16:49 | 11/07/13 09:45 |
| 1302-Trip Blank | AWK0130-10 | Water | 11/04/13 16:49 | 11/07/13 09:45 |

ASI

# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1s
**Lab No:** AWK0130-01
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 09:43
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Specific Conductance | EPA 9050A | NA | 100 | 1 | 1 | umhos/cm | | 1 | COND | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Dissolved Oxygen | SM 4500-O G | NA | 1740 | 0.00 | 1 | ug/L | | 0.00 | DO | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Ferrous Iron | NA | NA | 2420 | 200 | 1 | ug/L | | 200 | FE2 | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - pH | EPA 9040C | NA | 6.06 | | 1 | pH Units | | | PH | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Redox | NA | NA | 347 | | 1 | mV | | | REDOX | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Temperature | SM 2550 B | NA | 13.0 | | 1 | °C | | | TEMP | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Turbidity | EPA 180.1 | NA | 185 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Water Level | NA | NA | 24.80 | | 1 | feet | | | WL | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| Field - Well Depth | NA | NA | 29.80 | | 1 | feet | | | | 11/05/13 09:43 | 11/05/13 09:43 | 3110253 |
| General Chemistry | | | | | | | | | | | | |
| Alkalinity as CaCO3 | SM 2320 B | SM 2320 B | 30000 | 1000 | 1 | ug/L | | 1000 | ALK | 11/08/13 13:30 | 11/08/13 13:30 | 3110189 |
| Biochemical Oxygen Demand | SM 5210 B | SM 5210 B | ND | 2000 | 1 | ug/L | | 2000 | E-10106 | 11/06/13 10:29 | 11/11/13 11:32 | 3110122 |
| Chemical Oxygen Demand | SM 5220 D | SM 5220 D | ND | 10000 | 1 | ug/L | | 10000 | E-10117 | 11/20/13 09:30 | 11/20/13 14:30 | 3110387 |
| Total Sulfide | SM 4500-S D | SM 4500-S D | ND | 200 | 1 | ug/L | | 200 | 18496-25-8 | 11/07/13 17:30 | 11/07/13 17:30 | 3110140 |
| Total Dissolved Solids | SM 2540 C | SM 2540 C | 80500 | 5000 | 1 | ug/L | | 5000 | E-10173 | 11/07/13 16:22 | 11/07/13 16:22 | 3110154 |
| Total Organic Carbon | EPA 9060A | EPA 9060A | ND | 1000 | 1 | ug/L | | 1000 | E-10195 | 11/12/13 09:00 | 11/13/13 09:57 | 3110218 |
| Inorganic Anions | | | | | | | | | | | | |
| Chloride | EPA 9056A | EPA 300.0 | 3800 | 1000 | 1 | ug/L | | 1000 | 16887-00-6 | 11/06/13 23:52 | 11/06/13 23:52 | 3110145 |
| Nitrate as N | EPA 9056A | EPA 300.0 | 82 | 50 | 1 | ug/L | | 50 | 14797-55-8 | 11/06/13 23:52 | 11/06/13 23:52 | 3110145 |
| Sulfate | EPA 9056A | EPA 300.0 | ND | 5000 | 1 | ug/L | | 5000 | 14808-79-8 | 11/06/13 23:52 | 11/06/13 23:52 | 3110145 |

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# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1s
**Lab No:** AWK0130-01
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 09:43
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1s
**Lab No:** AWK0130-01
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 09:43
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |

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5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1s
**Lab No:** AWK0130-01
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 09:43
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 93 % | | 80-120 | | | | 1868-53-7 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 106 % | | 78-120 | | | | 17060-07-0 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 99 % | | 80-120 | | | | 2037-26-5 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 106 % | | 80-120 | | | | 460-00-4 | 11/06/13 12:00 | 11/06/13 13:21 | 3110117 |

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110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1s
**Lab No:** AWK0130-02
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 16:58
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Turbidity | EPA 180.1 | NA | 42.0 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 16:58 | 11/05/13 16:58 | 3110253 |
| Metals, Total | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | ND | 6.00 | 1 | ug/L | | 0.22 | 7440-36-0 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Barium | EPA 6020A | EPA 3005A | 46.8 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Beryllium | EPA 6020A | EPA 3005A | 0.12 | 1.00 | 1 | ug/L | J | 0.11 | 7440-41-7 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Cadmium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.06 | 7440-43-9 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Chromium | EPA 6020A | EPA 3005A | 3.59 | 10.0 | 1 | ug/L | J | 0.58 | 7440-47-3 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Cobalt | EPA 6020A | EPA 3005A | 1.63 | 10.0 | 1 | ug/L | J | 0.12 | 7440-48-4 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Copper | EPA 6020A | EPA 3005A | 10.2 | 10.0 | 1 | ug/L | | 0.38 | 7440-50-8 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Lead | EPA 6020A | EPA 3005A | 1.35 | 10.0 | 1 | ug/L | J | 0.05 | 7439-92-1 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Nickel | EPA 6020A | EPA 3005A | 3.50 | 50.0 | 1 | ug/L | J | 0.41 | 7440-02-0 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Thallium | EPA 6020A | EPA 3005A | ND | 5.50 | 1 | ug/L | | 0.06 | 7440-28-0 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Vanadium | EPA 6020A | EPA 3005A | 18.4 | 25.0 | 1 | ug/L | B-01, J | 1.97 | 7440-62-2 | 11/08/13 12:40 | 11/20/13 15:42 | 3110174 |
| Zinc | EPA 6020A | EPA 3005A | 15.4 | 10.0 | 1 | ug/L | B-01 | 0.87 | 7440-66-6 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Iron | EPA 6020A | EPA 3005A | 4200 | 40.0 | 1 | ug/L | | 3.0 | 7439-89-6 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Manganese | EPA 6020A | EPA 3005A | 82.2 | 10.0 | 1 | ug/L | | 0.6 | 7439-96-5 | 11/08/13 12:40 | 11/12/13 17:19 | 3110174 |
| Mercury | EPA 7470A | EPA 7470A | ND | 0.200 | 1 | ug/L | | 0.061 | 7439-97-6 | 11/14/13 13:15 | 11/15/13 15:03 | 3110247 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1d
**Lab No:** AWK0130-03
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 12:13
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Specific Conductance | EPA 9050A | NA | 119 | 1 | 1 | umhos/cm | | 1 | COND | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Dissolved Oxygen | SM 4500-O G | NA | 1710 | 0.00 | 1 | ug/L | | 0.00 | DO | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Ferrous Iron | NA | NA | 700 | 200 | 1 | ug/L | | 200 | FE2 | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - pH | EPA 9040C | NA | 6.03 | | 1 | pH Units | | | PH | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Redox | NA | NA | 320 | | 1 | mV | | | REDOX | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Temperature | SM 2550 B | NA | 14.5 | | 1 | °C | | | TEMP | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Turbidity | EPA 180.1 | NA | 153 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Water Level | NA | NA | 27.40 | | 1 | feet | | | WL | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| Field - Well Depth | NA | NA | 52.37 | | 1 | feet | | | | 11/05/13 12:13 | 11/05/13 12:13 | 3110253 |
| General Chemistry | | | | | | | | | | | | |
| Alkalinity as CaCO3 | SM 2320 B | SM 2320 B | 42000 | 1000 | 1 | ug/L | | 1000 | ALK | 11/08/13 13:30 | 11/08/13 13:30 | 3110189 |
| Total Dissolved Solids | SM 2540 C | SM 2540 C | 104000 | 5000 | 1 | ug/L | | 5000 | E-10173 | 11/07/13 16:22 | 11/07/13 16:22 | 3110154 |
| Inorganic Anions | | | | | | | | | | | | |
| Chloride | EPA 9056A | EPA 9056A | 3000 | 1000 | 1 | ug/L | | 1000 | 16887-00-6 | 11/15/13 17:59 | 11/15/13 17:59 | 3110341 |
| Sulfate | EPA 9056A | EPA 9056A | ND | 5000 | 1 | ug/L | | 5000 | 14808-79-8 | 11/15/13 17:59 | 11/15/13 17:59 | 3110341 |
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1d
**Lab No:** AWK0130-03
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 12:13
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |

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# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1d
**Lab No:** AWK0130-03
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 12:13
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1d
**Lab No:** AWK0130-03
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 12:13
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 93 % | | 80-120 | | | | 1868-53-7 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 106 % | | 78-120 | | | | 17060-07-0 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 98 % | | 80-120 | | | | 2037-26-5 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 107 % | | 80-120 | | | | 460-00-4 | 11/06/13 12:00 | 11/06/13 13:49 | 3110117 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD1d
**Lab No:** AWK0130-04
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 16:54
**Date/Time Received:** 11/06/13 08:55

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Turbidity | EPA 180.1 | NA | 32.0 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 16:54 | 11/05/13 16:54 | 3110253 |
| Metals, Total | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | ND | 6.00 | 1 | ug/L | | 0.22 | 7440-36-0 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Barium | EPA 6020A | EPA 3005A | 35.0 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Beryllium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.11 | 7440-41-7 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Cadmium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.06 | 7440-43-9 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Chromium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.58 | 7440-47-3 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Cobalt | EPA 6020A | EPA 3005A | 0.86 | 10.0 | 1 | ug/L | J | 0.12 | 7440-48-4 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Copper | EPA 6020A | EPA 3005A | 4.34 | 10.0 | 1 | ug/L | J | 0.38 | 7440-50-8 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Lead | EPA 6020A | EPA 3005A | 1.13 | 10.0 | 1 | ug/L | J | 0.05 | 7439-92-1 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Nickel | EPA 6020A | EPA 3005A | 1.90 | 50.0 | 1 | ug/L | J | 0.41 | 7440-02-0 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Thallium | EPA 6020A | EPA 3005A | ND | 5.50 | 1 | ug/L | | 0.06 | 7440-28-0 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Vanadium | EPA 6020A | EPA 3005A | 17.1 | 25.0 | 1 | ug/L | B-01, J | 1.97 | 7440-62-2 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Zinc | EPA 6020A | EPA 3005A | 10.8 | 10.0 | 1 | ug/L | B-01 | 0.87 | 7440-66-6 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Iron | EPA 6020A | EPA 3005A | 812 | 40.0 | 1 | ug/L | | 3.0 | 7439-89-6 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Manganese | EPA 6020A | EPA 3005A | 46.2 | 10.0 | 1 | ug/L | | 0.6 | 7439-96-5 | 11/08/13 12:40 | 11/12/13 17:49 | 3110174 |
| Mercury | EPA 7470A | EPA 7470A | ND | 0.200 | 1 | ug/L | | 0.061 | 7439-97-6 | 11/14/13 13:15 | 11/15/13 15:05 | 3110247 |

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Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD2
**Lab No:** AWK0130-05
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 10:33
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Specific Conductance | EPA 9050A | NA | 66 | 1 | 1 | umhos/cm | | 1 | COND | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Dissolved Oxygen | SM 4500-O G | NA | 1310 | 0.00 | 1 | ug/L | | 0.00 | DO | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - pH | EPA 9040C | NA | 5.31 | | 1 | pH Units | | | PH | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Redox | NA | NA | 388 | | 1 | mV | | | REDOX | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Temperature | SM 2550 B | NA | 16.5 | | 1 | °C | | | TEMP | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Turbidity | EPA 180.1 | NA | 800 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Water Level | NA | NA | 15.78 | | 1 | feet | | | WL | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| Field - Well Depth | NA | NA | 25.83 | | 1 | feet | | | | 11/05/13 10:33 | 11/05/13 10:33 | 3110253 |
| General Chemistry | | | | | | | | | | | | |
| Alkalinity as CaCO3 | SM 2320 B | SM 2320 B | 28000 | 1000 | 1 | ug/L | | 1000 | ALK | 11/08/13 13:30 | 11/08/13 13:30 | 3110189 |
| Total Dissolved Solids | SM 2540 C | SM 2540 C | 55000 | 5000 | 1 | ug/L | | 5000 | E-10173 | 11/07/13 16:22 | 11/07/13 16:22 | 3110154 |
| Inorganic Anions | | | | | | | | | | | | |
| Chloride | EPA 9056A | EPA 9056A | 6600 | 1000 | 1 | ug/L | | 1000 | 16887-00-6 | 11/15/13 18:20 | 11/15/13 18:20 | 3110341 |
| Sulfate | EPA 9056A | EPA 9056A | ND | 5000 | 1 | ug/L | | 5000 | 14808-79-8 | 11/15/13 18:20 | 11/15/13 18:20 | 3110341 |
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |

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Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD2
**Lab No:** AWK0130-05
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 10:33
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD2
**Lab No:** AWK0130-05
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 10:33
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |

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# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD2
**Lab No:** AWK0130-05
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 10:33
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 94 % | | 80-120 | | | | 1868-53-7 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 108 % | | 78-120 | | | | 17060-07-0 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 100 % | | 80-120 | | | | 2037-26-5 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 107 % | | 80-120 | | | | 460-00-4 | 11/08/13 10:00 | 11/08/13 16:47 | 3110185 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD2
**Lab No:** AWK0130-06
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 08:54
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Turbidity | EPA 180.1 | NA | 70.0 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/06/13 08:54 | 11/06/13 08:54 | 3110253 |
| Metals, Total | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | ND | 6.00 | 1 | ug/L | | 0.22 | 7440-36-0 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Barium | EPA 6020A | EPA 3005A | 45.1 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Beryllium | EPA 6020A | EPA 3005A | 0.20 | 1.00 | 1 | ug/L | J | 0.11 | 7440-41-7 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Cadmium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.06 | 7440-43-9 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Chromium | EPA 6020A | EPA 3005A | 0.64 | 10.0 | 1 | ug/L | J | 0.58 | 7440-47-3 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Cobalt | EPA 6020A | EPA 3005A | 3.31 | 10.0 | 1 | ug/L | J | 0.12 | 7440-48-4 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Copper | EPA 6020A | EPA 3005A | 4.01 | 10.0 | 1 | ug/L | J | 0.38 | 7440-50-8 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Lead | EPA 6020A | EPA 3005A | 1.60 | 10.0 | 1 | ug/L | J | 0.05 | 7439-92-1 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Nickel | EPA 6020A | EPA 3005A | 2.38 | 50.0 | 1 | ug/L | J | 0.41 | 7440-02-0 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Thallium | EPA 6020A | EPA 3005A | ND | 5.50 | 1 | ug/L | | 0.06 | 7440-28-0 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Vanadium | EPA 6020A | EPA 3005A | 14.0 | 25.0 | 1 | ug/L | J | 1.97 | 7440-62-2 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Zinc | EPA 6020A | EPA 3005A | 7.77 | 10.0 | 1 | ug/L | B-01, J | 0.87 | 7440-66-6 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Iron | EPA 6020A | EPA 3005A | 1600 | 40.0 | 1 | ug/L | | 3.0 | 7439-89-6 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Manganese | EPA 6020A | EPA 3005A | 68.8 | 10.0 | 1 | ug/L | | 0.6 | 7439-96-5 | 11/13/13 09:40 | 11/13/13 19:53 | 3110246 |
| Mercury | EPA 7470A | EPA 7470A | 0.087 | 0.200 | 1 | ug/L | J | 0.061 | 7439-97-6 | 11/14/13 13:15 | 11/15/13 15:07 | 3110247 |

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110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD3
**Lab No:** AWK0130-07
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 11:05
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Specific Conductance | EPA 9050A | NA | 227 | 1 | 1 | umhos/cm | | 1 | COND | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Dissolved Oxygen | SM 4500-O G | NA | 1690 | 0.00 | 1 | ug/L | | 0.00 | DO | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - pH | EPA 9040C | NA | 5.92 | | 1 | pH Units | | | PH | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Redox | NA | NA | 350 | | 1 | mV | | | REDOX | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Temperature | SM 2550 B | NA | 16.5 | | 1 | °C | | | TEMP | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Turbidity | EPA 180.1 | NA | 800 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Water Level | NA | NA | 47.81 | | 1 | feet | | | WL | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| Field - Well Depth | NA | NA | 62.70 | | 1 | feet | | | | 11/05/13 11:05 | 11/05/13 11:05 | 3110253 |
| General Chemistry | | | | | | | | | | | | |
| Alkalinity as CaCO3 | SM 2320 B | SM 2320 B | 59000 | 1000 | 1 | ug/L | | 1000 | ALK | 11/08/13 13:30 | 11/08/13 13:30 | 3110189 |
| Total Dissolved Solids | SM 2540 C | SM 2540 C | 121000 | 5000 | 1 | ug/L | | 5000 | E-10173 | 11/07/13 16:22 | 11/07/13 16:22 | 3110154 |
| Inorganic Anions | | | | | | | | | | | | |
| Chloride | EPA 9056A | EPA 9056A | 4500 | 1000 | 1 | ug/L | | 1000 | 16887-00-6 | 11/15/13 18:40 | 11/15/13 18:40 | 3110341 |
| Sulfate | EPA 9056A | EPA 9056A | ND | 5000 | 1 | ug/L | | 5000 | 14808-79-8 | 11/15/13 18:40 | 11/15/13 18:40 | 3110341 |
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD3
**Lab No:** AWK0130-07
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 11:05
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD3
**Lab No:** AWK0130-07
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 11:05
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |

ASI

# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD3
**Lab No:** AWK0130-07
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/05/13 11:05
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 94 % | | 80-120 | | | | 1868-53-7 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 109 % | | 78-120 | | | | 17060-07-0 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 100 % | | 80-120 | | | | 2037-26-5 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 105 % | | 80-120 | | | | 460-00-4 | 11/08/13 10:00 | 11/08/13 17:16 | 3110185 |

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(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD3
**Lab No:** AWK0130-08
**Matrix:** Ground Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 08:33
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Turbidity | EPA 180.1 | NA | 61.0 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/06/13 08:33 | 11/06/13 08:33 | 3110253 |
| Metals, Total | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | ND | 6.00 | 1 | ug/L | | 0.22 | 7440-36-0 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Barium | EPA 6020A | EPA 3005A | 64.0 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Beryllium | EPA 6020A | EPA 3005A | 0.21 | 1.00 | 1 | ug/L | J | 0.11 | 7440-41-7 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Cadmium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.06 | 7440-43-9 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Chromium | EPA 6020A | EPA 3005A | 0.74 | 10.0 | 1 | ug/L | J | 0.58 | 7440-47-3 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Cobalt | EPA 6020A | EPA 3005A | 3.47 | 10.0 | 1 | ug/L | J | 0.12 | 7440-48-4 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Copper | EPA 6020A | EPA 3005A | 10.6 | 10.0 | 1 | ug/L | | 0.38 | 7440-50-8 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Lead | EPA 6020A | EPA 3005A | 2.06 | 10.0 | 1 | ug/L | J | 0.05 | 7439-92-1 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Nickel | EPA 6020A | EPA 3005A | 3.25 | 50.0 | 1 | ug/L | J | 0.41 | 7440-02-0 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Thallium | EPA 6020A | EPA 3005A | ND | 5.50 | 1 | ug/L | | 0.06 | 7440-28-0 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Vanadium | EPA 6020A | EPA 3005A | 21.2 | 25.0 | 1 | ug/L | J | 1.97 | 7440-62-2 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Zinc | EPA 6020A | EPA 3005A | 12.2 | 10.0 | 1 | ug/L | B-01 | 0.87 | 7440-66-6 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Iron | EPA 6020A | EPA 3005A | 5170 | 40.0 | 1 | ug/L | | 3.0 | 7439-89-6 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Manganese | EPA 6020A | EPA 3005A | 139 | 10.0 | 1 | ug/L | | 0.6 | 7439-96-5 | 11/13/13 09:40 | 11/13/13 19:59 | 3110246 |
| Mercury | EPA 7470A | EPA 7470A | ND | 0.200 | 1 | ug/L | | 0.061 | 7439-97-6 | 11/14/13 13:15 | 11/15/13 15:09 | 3110247 |

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Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Equipment Blank
**Lab No:** AWK0130-09
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry** | | | | | | | | | | | | |
| Alkalinity as CaCO3 | SM 2320 B | SM 2320 B | 4000 | 1000 | 1 | ug/L | | 1000 | ALK | 11/08/13 13:30 | 11/08/13 13:30 | 3110189 |
| Total Dissolved Solids | SM 2540 C | SM 2540 C | ND | 5000 | 1 | ug/L | | 5000 | E-10173 | 11/07/13 16:22 | 11/07/13 16:22 | 3110154 |
| **Inorganic Anions** | | | | | | | | | | | | |
| Chloride | EPA 9056A | EPA 9056A | ND | 1000 | 1 | ug/L | | 1000 | 16887-00-6 | 11/15/13 20:03 | 11/15/13 20:03 | 3110341 |
| Sulfate | EPA 9056A | EPA 9056A | ND | 5000 | 1 | ug/L | | 5000 | 14808-79-8 | 11/15/13 20:03 | 11/15/13 20:03 | 3110341 |
| **Metals, Total** | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | ND | 6.00 | 1 | ug/L | | 0.22 | 7440-36-0 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Barium | EPA 6020A | EPA 3005A | 1.71 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Beryllium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.11 | 7440-41-7 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Cadmium | EPA 6020A | EPA 3005A | ND | 1.00 | 1 | ug/L | | 0.06 | 7440-43-9 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Chromium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.58 | 7440-47-3 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Cobalt | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.12 | 7440-48-4 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Copper | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.38 | 7440-50-8 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Lead | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.05 | 7439-92-1 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Nickel | EPA 6020A | EPA 3005A | ND | 50.0 | 1 | ug/L | | 0.41 | 7440-02-0 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Thallium | EPA 6020A | EPA 3005A | ND | 5.50 | 1 | ug/L | | 0.06 | 7440-28-0 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Vanadium | EPA 6020A | EPA 3005A | 3.44 | 25.0 | 1 | ug/L | J | 1.97 | 7440-62-2 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |

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5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Equipment Blank
**Lab No:** AWK0130-09
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Metals, Total | | | | | | | | | | | | |
| Zinc | EPA 6020A | EPA 3005A | 1.00 | 10.0 | 1 | ug/L | B-01, J | 0.87 | 7440-66-6 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Iron | EPA 6020A | EPA 3005A | ND | 40.0 | 1 | ug/L | | 3.0 | 7439-89-6 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Manganese | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.6 | 7439-96-5 | 11/13/13 09:40 | 11/13/13 20:05 | 3110246 |
| Mercury | EPA 7470A | EPA 7470A | ND | 0.200 | 1 | ug/L | | 0.061 | 7439-97-6 | 11/14/13 13:15 | 11/15/13 15:12 | 3110247 |
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | 2.3 | 100 | 1 | ug/L | J | 1.6 | 67-64-1 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |

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Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Equipment Blank
**Lab No:** AWK0130-09
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |

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Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Equipment Blank
**Lab No:** AWK0130-09
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/06/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 95 % | | 80-120 | | | | 1868-53-7 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 109 % | | 78-120 | | | | 17060-07-0 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 100 % | | 80-120 | | | | 2037-26-5 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 108 % | | 80-120 | | | | 460-00-4 | 11/08/13 10:00 | 11/08/13 17:43 | 3110185 |

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# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Trip Blank
**Lab No:** AWK0130-10
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/04/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Trip Blank
**Lab No:** AWK0130-10
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/04/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Toluene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 108-88-3 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-Trip Blank
**Lab No:** AWK0130-10
**Matrix:** Water

**Project:** Cabarrus Co - C&D
**Date/Time Sampled:** 11/04/13 16:49
**Date/Time Received:** 11/07/13 09:45

**Report No.:** AWK0130

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Tetrahydrofuran | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.8 | 109-99-9 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 95 % | | 80-120 | | | | 1868-53-7 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 109 % | | 78-120 | | | | 17060-07-0 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 100 % | | 80-120 | | | | 2037-26-5 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 107 % | | 80-120 | | | | 460-00-4 | 11/08/13 10:00 | 11/08/13 18:11 | 3110185 |

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Attention: Mr. Mat Colone

December 03, 2013

## General Chemistry - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110122 - SM 5210 B** | | | | | | | | | | |
| **Blank (3110122-BLK1)** | | | | | | | Prepared: 11/06/13 Analyzed: 11/11/13 | | | |
| Biochemical Oxygen Demand | ND | 2000 | ug/L | | | | | | | |
| **LCS (3110122-BS1)** | | | | | | | Prepared: 11/06/13 Analyzed: 11/11/13 | | | |
| Biochemical Oxygen Demand | 180000 | 2000 | ug/L | 198000 | | 91 | 85-115 | | | |
| **Duplicate (3110122-DUP1)** | | Source: AWK0125-02 | | | | | Prepared: 11/06/13 Analyzed: 11/11/13 | | | |
| Biochemical Oxygen Demand | 471000 | 13000 | ug/L | | 468000 | | | 0.6 | 20 | |
| **Batch 3110140 - SM 4500-S D** | | | | | | | | | | |
| **Blank (3110140-BLK1)** | | | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Sulfide | ND | 200 | ug/L | | | | | | | |
| **LCS (3110140-BS1)** | | | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Sulfide | 511 | 200 | ug/L | 532.16 | | 96.0 | 80-120 | | | |
| **Matrix Spike (3110140-MS1)** | | Source: AWK0029-01 | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Sulfide | 626 | 200 | ug/L | 532.16 | ND | 118 | 30-129 | | | |
| **Matrix Spike Dup (3110140-MSD1)** | | Source: AWK0029-01 | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Sulfide | 617 | 200 | ug/L | 532.16 | ND | 116 | 30-129 | 1.45 | 10 | |
| **Batch 3110154 - SM 2540 C** | | | | | | | | | | |
| **Blank (3110154-BLK1)** | | | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Dissolved Solids | ND | 5000 | ug/L | | | | | | | |

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December 03, 2013

## General Chemistry - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110154 - SM 2540 C** | | | | | | | | | | |
| **LCS (3110154-BS1)** | | | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Dissolved Solids | 368000 | 5000 | ug/L | 400000 | | 92 | 84-108 | | | |
| **Duplicate (3110154-DUP1)** | | **Source: AWK0130-09** | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Total Dissolved Solids | ND | 5000 | ug/L | | ND | | | | 10 | |
| **Batch 3110189 - SM 2320 B** | | | | | | | | | | |
| **Blank (3110189-BLK1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Alkalinity as CaCO3 | ND | 1000 | ug/L | | | | | | | |
| **LCS (3110189-BS1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Alkalinity as CaCO3 | 94000 | 1000 | ug/L | 100000 | | 94 | 85-115 | | | |
| **Duplicate (3110189-DUP1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Alkalinity as CaCO3 | 128000 | 1000 | ug/L | | 128000 | | | 0 | 10 | |
| **Duplicate (3110189-DUP2)** | | **Source: AWK0130-03** | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Alkalinity as CaCO3 | 41000 | 1000 | ug/L | | 42000 | | | 2 | 10 | |
| **Batch 3110218 - EPA 9060A** | | | | | | | | | | |
| **Blank (3110218-BLK1)** | | | | | | | Prepared: 11/12/13 Analyzed: 11/13/13 | | | |
| Total Organic Carbon | ND | 1000 | ug/L | | | | | | | |
| **LCS (3110218-BS1)** | | | | | | | Prepared: 11/12/13 Analyzed: 11/13/13 | | | |
| Total Organic Carbon | 19000 | 1000 | ug/L | 20000 | | 95 | 88-112 | | | |

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## General Chemistry - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110218 - EPA 9060A** | | | | | | | | | | |
| **Matrix Spike (3110218-MS1)** | | **Source: AWK0128-01** | | | | | Prepared: 11/12/13 Analyzed: 11/13/13 | | | |
| Total Organic Carbon | 24300 | 1000 | ug/L | 20000 | 2530 | 109 | 67-141 | | | |
| **Matrix Spike Dup (3110218-MSD1)** | | **Source: AWK0128-01** | | | | | Prepared: 11/12/13 Analyzed: 11/13/13 | | | |
| Total Organic Carbon | 24400 | 1000 | ug/L | 20000 | 2530 | 109 | 67-141 | 0.3 | 16 | |
| **Batch 3110387 - SM 5220 D** | | | | | | | | | | |
| **Blank (3110387-BLK1)** | | | | | | | Prepared & Analyzed: 11/20/13 | | | |
| Chemical Oxygen Demand | ND | 10000 | ug/L | | | | | | | |
| **LCS (3110387-BS1)** | | | | | | | Prepared & Analyzed: 11/20/13 | | | |
| Chemical Oxygen Demand | 203000 | 10000 | ug/L | 200000 | | 102 | 90-110 | | | |
| **Matrix Spike (3110387-MS1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/20/13 | | | |
| Chemical Oxygen Demand | 203000 | 10000 | ug/L | 200000 | ND | 101 | 90-110 | | | |
| **Matrix Spike (3110387-MS2)** | | **Source: AWK0128-02** | | | | | Prepared & Analyzed: 11/20/13 | | | |
| Chemical Oxygen Demand | 220000 | 10000 | ug/L | 200000 | 24600 | 98 | 90-110 | | | |
| **Matrix Spike Dup (3110387-MSD1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/20/13 | | | |
| Chemical Oxygen Demand | 200000 | 10000 | ug/L | 200000 | ND | 100 | 90-110 | 1 | 10 | |

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## Inorganic Anions - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110145 - EPA 300.0** | | | | | | | | | | |
| **Blank (3110145-BLK1)** | | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Chloride | ND | 1000 | ug/L | | | | | | | |
| Sulfate | ND | 5000 | ug/L | | | | | | | |
| **LCS (3110145-BS1)** | | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Chloride | 9620 | 1000 | ug/L | 10000 | | 96 | 90-110 | | | |
| Sulfate | 9740 | 5000 | ug/L | 10000 | | 97 | 90-110 | | | |
| **Matrix Spike (3110145-MS1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Chloride | 28900 | 1000 | ug/L | 10000 | 19700 | 92 | 90-110 | | | |
| Sulfate | 12600 | 5000 | ug/L | 10000 | 2980 | 96 | 90-110 | | | |
| **Matrix Spike (3110145-MS2)** | | **Source: AWJ0927-09** | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Chloride | 14600 | 1000 | ug/L | 10000 | 4890 | 97 | 90-110 | | | |
| Sulfate | 15900 | 5000 | ug/L | 10000 | 6690 | 92 | 90-110 | | | |
| **Matrix Spike Dup (3110145-MSD1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/07/13 | | | |
| Chloride | 28900 | 1000 | ug/L | 10000 | 19700 | 92 | 90-110 | 0.1 | 15 | |
| Sulfate | 12600 | 5000 | ug/L | 10000 | 2980 | 96 | 90-110 | 0.07 | 15 | |
| **Batch 3110341 - EPA 9056A** | | | | | | | | | | |
| **Blank (3110341-BLK1)** | | | | | | | Prepared & Analyzed: 11/15/13 | | | |
| Chloride | ND | 1000 | ug/L | | | | | | | |
| Sulfate | ND | 5000 | ug/L | | | | | | | |
| **LCS (3110341-BS1)** | | | | | | | Prepared & Analyzed: 11/15/13 | | | |
| Chloride | 9430 | 1000 | ug/L | 10000 | | 94 | 90-110 | | | |
| Sulfate | 9480 | 5000 | ug/L | 10000 | | 95 | 90-110 | | | |

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## Inorganic Anions - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110341 - EPA 9056A** | | | | | | | | | | |
| **Matrix Spike (3110341-MS1)** | | **Source: AWK0130-07** | | | | | Prepared & Analyzed: 11/15/13 | | | |
| Chloride | 14000 | 1000 | ug/L | 10000 | 4540 | 94 | 90-110 | | | |
| Sulfate | 10600 | 5000 | ug/L | 10000 | ND | 106 | 90-110 | | | |
| **Matrix Spike Dup (3110341-MSD1)** | | **Source: AWK0130-07** | | | | | Prepared & Analyzed: 11/15/13 | | | |
| Chloride | 14000 | 1000 | ug/L | 10000 | 4540 | 95 | 90-110 | 0.3 | 15 | |
| Sulfate | 10600 | 5000 | ug/L | 10000 | ND | 106 | 90-110 | 0.07 | 15 | |

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Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110174 - EPA 3005A** | | | | | | | | | | |
| **Blank (3110174-BLK1)** | | | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | ND | 6.00 | ug/L | | | | | | | |
| Arsenic | ND | 10.0 | ug/L | | | | | | | |
| Barium | ND | 100 | ug/L | | | | | | | |
| Beryllium | ND | 1.00 | ug/L | | | | | | | |
| Cadmium | ND | 1.00 | ug/L | | | | | | | |
| Chromium | ND | 10.0 | ug/L | | | | | | | |
| Cobalt | ND | 10.0 | ug/L | | | | | | | |
| Copper | ND | 10.0 | ug/L | | | | | | | |
| Iron | ND | 40.0 | ug/L | | | | | | | |
| Lead | ND | 10.0 | ug/L | | | | | | | |
| Manganese | ND | 10.0 | ug/L | | | | | | | |
| Nickel | ND | 50.0 | ug/L | | | | | | | |
| Selenium | ND | 10.0 | ug/L | | | | | | | |
| Silver | ND | 10.0 | ug/L | | | | | | | |
| Thallium | ND | 5.50 | ug/L | | | | | | | |
| Vanadium | 3.80 | 25.0 | ug/L | | | | | | | J |
| Zinc | 4.07 | 10.0 | ug/L | | | | | | | J |
| **LCS (3110174-BS1)** | | | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | 95.5 | 6.00 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Arsenic | 97.9 | 10.0 | ug/L | 100.00 | | 98 | 80-120 | | | |
| Barium | 95.8 | 100 | ug/L | 100.00 | | 96 | 80-120 | | | J |
| Beryllium | 92.2 | 1.00 | ug/L | 100.00 | | 92 | 80-120 | | | |
| Cadmium | 93.3 | 1.00 | ug/L | 100.00 | | 93 | 80-120 | | | |
| Chromium | 92.7 | 10.0 | ug/L | 100.00 | | 93 | 80-120 | | | |
| Cobalt | 94.9 | 10.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Copper | 94.5 | 10.0 | ug/L | 100.00 | | 94 | 80-120 | | | |

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December 03, 2013

## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110174 - EPA 3005A** | | | | | | | | | | |
| **LCS (3110174-BS1)** | | | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Iron | 947 | 40.0 | ug/L | 1000.0 | | 95 | 80-120 | | | |
| Lead | 94.9 | 10.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Manganese | 95.0 | 10.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Nickel | 95.4 | 50.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Selenium | 95.4 | 10.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Silver | 93.2 | 10.0 | ug/L | 100.00 | | 93 | 80-120 | | | |
| Thallium | 96.8 | 5.50 | ug/L | 100.00 | | 97 | 80-120 | | | |
| Vanadium | 98.2 | 25.0 | ug/L | 100.00 | | 98 | 80-120 | | | |
| Zinc | 96.7 | 10.0 | ug/L | 100.00 | | 97 | 80-120 | | | |
| **Duplicate (3110174-DUP1)** | | **Source: AWJ0977-09RE1** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | ND | 6.00 | ug/L | | ND | | | | 20 | |
| Arsenic | ND | 10.0 | ug/L | | ND | | | | 20 | |
| Barium | 10.7 | 100 | ug/L | | 10.5 | | | 2 | 20 | J |
| Beryllium | ND | 1.00 | ug/L | | ND | | | | 20 | |
| Cadmium | 0.31 | 1.00 | ug/L | | 0.30 | | | 3 | 20 | J |
| Chromium | 153 | 10.0 | ug/L | | 163 | | | 6 | 20 | |
| Cobalt | 51.7 | 10.0 | ug/L | | 51.2 | | | 0.9 | 20 | |
| Copper | 6.86 | 10.0 | ug/L | | 6.54 | | | 5 | 20 | J |
| Iron | 2440 | 40.0 | ug/L | | 2410 | | | 1 | 20 | |
| Lead | 2.09 | 10.0 | ug/L | | 2.11 | | | 1 | 20 | J |
| Manganese | 35.2 | 10.0 | ug/L | | 33.7 | | | 4 | 20 | |
| Nickel | 110 | 50.0 | ug/L | | 109 | | | 1 | 20 | |
| Selenium | ND | 10.0 | ug/L | | ND | | | | 20 | |
| Silver | 1.11 | 10.0 | ug/L | | 1.11 | | | 0 | 20 | J |
| Thallium | 0.15 | 5.50 | ug/L | | ND | | | | 20 | J |
| Vanadium | 8.05 | 25.0 | ug/L | | ND | | | | 20 | J |

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Attention: Mr. Mat Colone

December 03, 2013

## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110174 - EPA 3005A** | | | | | | | | | | |
| **Duplicate (3110174-DUP1)** | | **Source: AWJ0977-09RE1** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Zinc | 6.92 | 10.0 | ug/L | | 6.64 | | | 4 | 20 | J |
| **Matrix Spike (3110174-MS1)** | | **Source: AWK0128-25** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | 88.8 | 6.00 | ug/L | 100.00 | ND | 89 | 75-125 | | | |
| Arsenic | 86.0 | 10.0 | ug/L | 100.00 | ND | 86 | 75-125 | | | |
| Barium | 107 | 100 | ug/L | 100.00 | 17.8 | 89 | 75-125 | | | |
| Beryllium | 88.0 | 1.00 | ug/L | 100.00 | ND | 88 | 75-125 | | | |
| Cadmium | 89.0 | 1.00 | ug/L | 100.00 | ND | 89 | 75-125 | | | |
| Chromium | 94.3 | 10.0 | ug/L | 100.00 | ND | 94 | 75-125 | | | |
| Cobalt | 89.6 | 10.0 | ug/L | 100.00 | 0.79 | 89 | 75-125 | | | |
| Copper | 90.5 | 10.0 | ug/L | 100.00 | 1.43 | 89 | 75-125 | | | |
| Iron | 2490 | 40.0 | ug/L | 1000.0 | 1760 | 73 | 75-125 | | | QM-02 |
| Lead | 92.0 | 10.0 | ug/L | 100.00 | 0.91 | 91 | 75-125 | | | |
| Manganese | 157 | 10.0 | ug/L | 100.00 | 62.0 | 95 | 75-125 | | | |
| Nickel | 88.3 | 50.0 | ug/L | 100.00 | 2.28 | 86 | 75-125 | | | |
| Selenium | 88.7 | 10.0 | ug/L | 100.00 | ND | 89 | 75-125 | | | |
| Silver | 87.5 | 10.0 | ug/L | 100.00 | ND | 87 | 75-125 | | | |
| Thallium | 98.0 | 5.50 | ug/L | 100.00 | ND | 98 | 75-125 | | | |
| Vanadium | 114 | 25.0 | ug/L | 100.00 | 21.4 | 93 | 75-125 | | | |
| Zinc | 95.6 | 10.0 | ug/L | 100.00 | 4.73 | 91 | 75-125 | | | |
| **Matrix Spike Dup (3110174-MSD1)** | | **Source: AWK0128-25** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | 90.8 | 6.00 | ug/L | 100.00 | ND | 91 | 75-125 | 2 | 20 | |
| Arsenic | 88.0 | 10.0 | ug/L | 100.00 | ND | 88 | 75-125 | 2 | 20 | |
| Barium | 108 | 100 | ug/L | 100.00 | 17.8 | 90 | 75-125 | 1 | 20 | |
| Beryllium | 87.3 | 1.00 | ug/L | 100.00 | ND | 87 | 75-125 | 0.8 | 20 | |
| Cadmium | 90.2 | 1.00 | ug/L | 100.00 | ND | 90 | 75-125 | 1 | 20 | |

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## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110174 - EPA 3005A** | | | | | | | | | | |
| **Matrix Spike Dup (3110174-MSD1)** | | **Source: AWK0128-25** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Chromium | 92.9 | 10.0 | ug/L | 100.00 | ND | 93 | 75-125 | 2 | 20 | |
| Cobalt | 91.1 | 10.0 | ug/L | 100.00 | 0.79 | 90 | 75-125 | 2 | 20 | |
| Copper | 92.9 | 10.0 | ug/L | 100.00 | 1.43 | 91 | 75-125 | 3 | 20 | |
| Iron | 2750 | 40.0 | ug/L | 1000.0 | 1760 | 99 | 75-125 | 10 | 20 | |
| Lead | 92.6 | 10.0 | ug/L | 100.00 | 0.91 | 92 | 75-125 | 0.6 | 20 | |
| Manganese | 164 | 10.0 | ug/L | 100.00 | 62.0 | 102 | 75-125 | 4 | 20 | |
| Nickel | 92.6 | 50.0 | ug/L | 100.00 | 2.28 | 90 | 75-125 | 5 | 20 | |
| Selenium | 88.0 | 10.0 | ug/L | 100.00 | ND | 88 | 75-125 | 0.8 | 20 | |
| Silver | 89.1 | 10.0 | ug/L | 100.00 | ND | 89 | 75-125 | 2 | 20 | |
| Thallium | 97.1 | 5.50 | ug/L | 100.00 | ND | 97 | 75-125 | 0.9 | 20 | |
| Vanadium | 113 | 25.0 | ug/L | 100.00 | 21.4 | 92 | 75-125 | 0.9 | 20 | |
| Zinc | 95.0 | 10.0 | ug/L | 100.00 | 4.73 | 90 | 75-125 | 0.6 | 20 | |
| **Post Spike (3110174-PS1)** | | **Source: AWK0128-25** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Antimony | 85.2 | | ug/L | 100.00 | -0.38 | 86 | 80-120 | | | |
| Arsenic | 88.2 | | ug/L | 100.00 | -1.93 | 90 | 80-120 | | | |
| Barium | 109 | | ug/L | 100.00 | 17.8 | 91 | 80-120 | | | |
| Beryllium | 89.9 | | ug/L | 100.00 | 0.03 | 90 | 80-120 | | | |
| Cadmium | 89.6 | | ug/L | 100.00 | -0.01 | 90 | 80-120 | | | |
| Chromium | 93.7 | | ug/L | 100.00 | 0.07 | 94 | 80-120 | | | |
| Cobalt | 90.0 | | ug/L | 100.00 | 0.79 | 89 | 80-120 | | | |
| Copper | 91.2 | | ug/L | 100.00 | 1.43 | 90 | 80-120 | | | |
| Iron | 2760 | | ug/L | 1000.0 | 1760 | 100 | 80-120 | | | |
| Lead | 91.6 | | ug/L | 100.00 | 0.91 | 91 | 80-120 | | | |
| Manganese | 165 | | ug/L | 100.00 | 62.0 | 103 | 80-120 | | | |
| Nickel | 90.7 | | ug/L | 100.00 | 2.28 | 88 | 80-120 | | | |
| Selenium | 89.1 | | ug/L | 100.00 | -0.68 | 90 | 80-120 | | | |

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## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110174 - EPA 3005A** | | | | | | | | | | |
| **Post Spike (3110174-PS1)** | | **Source: AWK0128-25** | | | | | Prepared: 11/08/13 Analyzed: 11/12/13 | | | |
| Silver | 88.4 | | ug/L | 100.00 | -0.01 | 88 | 80-120 | | | |
| Thallium | 97.6 | | ug/L | 100.00 | -0.16 | 98 | 80-120 | | | |
| Vanadium | 120 | | ug/L | 100.00 | 21.4 | 98 | 80-120 | | | |
| Zinc | 94.6 | | ug/L | 100.00 | 4.73 | 90 | 80-120 | | | |
| **Batch 3110246 - EPA 3005A** | | | | | | | | | | |
| **Blank (3110246-BLK1)** | | | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Antimony | ND | 6.00 | ug/L | | | | | | | |
| Arsenic | ND | 10.0 | ug/L | | | | | | | |
| Barium | ND | 100 | ug/L | | | | | | | |
| Beryllium | ND | 1.00 | ug/L | | | | | | | |
| Cadmium | ND | 1.00 | ug/L | | | | | | | |
| Chromium | ND | 10.0 | ug/L | | | | | | | |
| Cobalt | ND | 10.0 | ug/L | | | | | | | |
| Copper | ND | 10.0 | ug/L | | | | | | | |
| Iron | ND | 40.0 | ug/L | | | | | | | |
| Lead | ND | 10.0 | ug/L | | | | | | | |
| Manganese | ND | 10.0 | ug/L | | | | | | | |
| Nickel | ND | 50.0 | ug/L | | | | | | | |
| Selenium | ND | 10.0 | ug/L | | | | | | | |
| Silver | ND | 10.0 | ug/L | | | | | | | |
| Thallium | ND | 5.50 | ug/L | | | | | | | |
| Vanadium | 2.18 | 25.0 | ug/L | | | | | | | J |
| Zinc | 1.63 | 10.0 | ug/L | | | | | | | J |
| **LCS (3110246-BS1)** | | | | | | | Prepared & Analyzed: 11/13/13 | | | |

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## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110246 - EPA 3005A** | | | | | | | | | | |
| **LCS (3110246-BS1)** | | | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Antimony | 106 | 6.00 | ug/L | 100.00 | | 106 | 80-120 | | | |
| Arsenic | 99.2 | 10.0 | ug/L | 100.00 | | 99 | 80-120 | | | |
| Barium | 102 | 100 | ug/L | 100.00 | | 102 | 80-120 | | | |
| Beryllium | 103 | 1.00 | ug/L | 100.00 | | 103 | 80-120 | | | |
| Cadmium | 102 | 1.00 | ug/L | 100.00 | | 102 | 80-120 | | | |
| Chromium | 95.9 | 10.0 | ug/L | 100.00 | | 96 | 80-120 | | | |
| Cobalt | 99.2 | 10.0 | ug/L | 100.00 | | 99 | 80-120 | | | |
| Copper | 96.4 | 10.0 | ug/L | 100.00 | | 96 | 80-120 | | | |
| Iron | 980 | 40.0 | ug/L | 1000.0 | | 98 | 80-120 | | | |
| Lead | 105 | 10.0 | ug/L | 100.00 | | 105 | 80-120 | | | |
| Manganese | 97.6 | 10.0 | ug/L | 100.00 | | 98 | 80-120 | | | |
| Nickel | 98.6 | 50.0 | ug/L | 100.00 | | 99 | 80-120 | | | |
| Selenium | 95.1 | 10.0 | ug/L | 100.00 | | 95 | 80-120 | | | |
| Silver | 103 | 10.0 | ug/L | 100.00 | | 103 | 80-120 | | | |
| Thallium | 103 | 5.50 | ug/L | 100.00 | | 103 | 80-120 | | | |
| Vanadium | 102 | 25.0 | ug/L | 100.00 | | 102 | 80-120 | | | |
| Zinc | 98.0 | 10.0 | ug/L | 100.00 | | 98 | 80-120 | | | |
| **Matrix Spike (3110246-MS1)** | | **Source: AWK0128-30** | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Antimony | 100 | 6.00 | ug/L | 100.00 | 1.36 | 99 | 75-125 | | | |
| Arsenic | 95.1 | 10.0 | ug/L | 100.00 | ND | 95 | 75-125 | | | |
| Barium | 157 | 100 | ug/L | 100.00 | 60.4 | 97 | 75-125 | | | |
| Beryllium | 97.0 | 1.00 | ug/L | 100.00 | 0.35 | 97 | 75-125 | | | |
| Cadmium | 97.5 | 1.00 | ug/L | 100.00 | 0.07 | 97 | 75-125 | | | |
| Chromium | 93.7 | 10.0 | ug/L | 100.00 | 0.77 | 93 | 75-125 | | | |
| Cobalt | 102 | 10.0 | ug/L | 100.00 | 5.31 | 97 | 75-125 | | | |
| Copper | 93.6 | 10.0 | ug/L | 100.00 | 1.83 | 92 | 75-125 | | | |

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## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110246 - EPA 3005A** | | | | | | | | | | |
| **Matrix Spike (3110246-MS1)** | | **Source: AWK0128-30** | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Iron | 2100 | 40.0 | ug/L | 1000.0 | 1100 | 100 | 75-125 | | | |
| Lead | 100 | 10.0 | ug/L | 100.00 | 0.57 | 100 | 75-125 | | | |
| Manganese | 869 | 10.0 | ug/L | 100.00 | 764 | 105 | 75-125 | | | |
| Nickel | 99.3 | 50.0 | ug/L | 100.00 | 5.11 | 94 | 75-125 | | | |
| Selenium | 90.2 | 10.0 | ug/L | 100.00 | ND | 90 | 75-125 | | | |
| Silver | 96.6 | 10.0 | ug/L | 100.00 | ND | 97 | 75-125 | | | |
| Thallium | 99.4 | 5.50 | ug/L | 100.00 | 0.13 | 99 | 75-125 | | | |
| Vanadium | 121 | 25.0 | ug/L | 100.00 | 32.0 | 89 | 75-125 | | | |
| Zinc | 96.9 | 10.0 | ug/L | 100.00 | 4.40 | 92 | 75-125 | | | |
| **Matrix Spike Dup (3110246-MSD1)** | | **Source: AWK0128-30** | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Antimony | 98.5 | 6.00 | ug/L | 100.00 | 1.36 | 97 | 75-125 | 2 | 20 | |
| Arsenic | 92.4 | 10.0 | ug/L | 100.00 | ND | 92 | 75-125 | 3 | 20 | |
| Barium | 160 | 100 | ug/L | 100.00 | 60.4 | 99 | 75-125 | 2 | 20 | |
| Beryllium | 95.8 | 1.00 | ug/L | 100.00 | 0.35 | 95 | 75-125 | 1 | 20 | |
| Cadmium | 96.6 | 1.00 | ug/L | 100.00 | 0.07 | 97 | 75-125 | 1 | 20 | |
| Chromium | 91.6 | 10.0 | ug/L | 100.00 | 0.77 | 91 | 75-125 | 2 | 20 | |
| Cobalt | 97.1 | 10.0 | ug/L | 100.00 | 5.31 | 92 | 75-125 | 5 | 20 | |
| Copper | 95.9 | 10.0 | ug/L | 100.00 | 1.83 | 94 | 75-125 | 2 | 20 | |
| Iron | 2100 | 40.0 | ug/L | 1000.0 | 1100 | 100 | 75-125 | 0.05 | 20 | |
| Lead | 100 | 10.0 | ug/L | 100.00 | 0.57 | 100 | 75-125 | 0.2 | 20 | |
| Manganese | 882 | 10.0 | ug/L | 100.00 | 764 | 118 | 75-125 | 1 | 20 | |
| Nickel | 98.2 | 50.0 | ug/L | 100.00 | 5.11 | 93 | 75-125 | 1 | 20 | |
| Selenium | 89.0 | 10.0 | ug/L | 100.00 | ND | 89 | 75-125 | 1 | 20 | |
| Silver | 96.8 | 10.0 | ug/L | 100.00 | ND | 97 | 75-125 | 0.2 | 20 | |
| Thallium | 99.1 | 5.50 | ug/L | 100.00 | 0.13 | 99 | 75-125 | 0.2 | 20 | |
| Vanadium | 126 | 25.0 | ug/L | 100.00 | 32.0 | 93 | 75-125 | 4 | 20 | |

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## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110246 - EPA 3005A** | | | | | | | | | | |
| **Matrix Spike Dup (3110246-MSD1)** | | **Source: AWK0128-30** | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Zinc | 94.6 | 10.0 | ug/L | 100.00 | 4.40 | 90 | 75-125 | 2 | 20 | |
| **Post Spike (3110246-PS1)** | | **Source: AWK0128-30** | | | | | Prepared & Analyzed: 11/13/13 | | | |
| Antimony | 90.2 | | ug/L | 100.00 | 1.36 | 89 | 80-120 | | | |
| Arsenic | 92.2 | | ug/L | 100.00 | 0.73 | 91 | 80-120 | | | |
| Barium | 155 | | ug/L | 100.00 | 60.4 | 95 | 80-120 | | | |
| Beryllium | 96.8 | | ug/L | 100.00 | 0.35 | 96 | 80-120 | | | |
| Cadmium | 96.0 | | ug/L | 100.00 | 0.07 | 96 | 80-120 | | | |
| Chromium | 88.6 | | ug/L | 100.00 | 0.77 | 88 | 80-120 | | | |
| Cobalt | 95.7 | | ug/L | 100.00 | 5.31 | 90 | 80-120 | | | |
| Copper | 90.8 | | ug/L | 100.00 | 1.83 | 89 | 80-120 | | | |
| Iron | 2010 | | ug/L | 1000.0 | 1100 | 91 | 80-120 | | | |
| Lead | 99.4 | | ug/L | 100.00 | 0.57 | 99 | 80-120 | | | |
| Manganese | 849 | | ug/L | 100.00 | 764 | 85 | 80-120 | | | |
| Nickel | 97.2 | | ug/L | 100.00 | 5.11 | 92 | 80-120 | | | |
| Selenium | 84.6 | | ug/L | 100.00 | 0.11 | 85 | 80-120 | | | |
| Silver | 95.8 | | ug/L | 100.00 | 0.01 | 96 | 80-120 | | | |
| Thallium | 100 | | ug/L | 100.00 | 0.13 | 100 | 80-120 | | | |
| Vanadium | 123 | | ug/L | 100.00 | 32.0 | 91 | 80-120 | | | |
| Zinc | 90.3 | | ug/L | 100.00 | 4.40 | 86 | 80-120 | | | |
| **Batch 3110247 - EPA 7470A** | | | | | | | | | | |
| **Blank (3110247-BLK1)** | | | | | | | Prepared: 11/14/13 Analyzed: 11/15/13 | | | |
| Mercury | ND | 0.200 | ug/L | | | | | | | |
| **LCS (3110247-BS1)** | | | | | | | Prepared: 11/14/13 Analyzed: 11/15/13 | | | |
| Mercury | 2.47 | 0.200 | ug/L | 2.5000 | | 99 | 80-120 | | | |

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Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

## Metals, Total - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110247 - EPA 7470A** | | | | | | | | | | |
| **Matrix Spike (3110247-MS1)** | | **Source: AWK0288-22** | | | | | Prepared: 11/14/13 | Analyzed: 11/15/13 | | |
| Mercury | 2.37 | 0.200 | ug/L | 2.5000 | ND | 95 | 75-125 | | | |
| **Matrix Spike Dup (3110247-MSD1)** | | **Source: AWK0288-22** | | | | | Prepared: 11/14/13 | Analyzed: 11/15/13 | | |
| Mercury | 2.27 | 0.200 | ug/L | 2.5000 | ND | 91 | 75-125 | 4 | 20 | |
| **Post Spike (3110247-PS1)** | | **Source: AWK0288-22** | | | | | Prepared: 11/14/13 | Analyzed: 11/15/13 | | |
| Mercury | 1.70 | | ug/L | 1.6667 | -0.004 | 102 | 80-120 | | | |

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## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110117 - EPA 5030B** | | | | | | | | | | |
| **Blank (3110117-BLK1)** | | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Acetone | ND | 100 | ug/L | | | | | | | |
| Acrylonitrile | ND | 200 | ug/L | | | | | | | |
| Benzene | ND | 1.0 | ug/L | | | | | | | |
| Bromochloromethane | ND | 3.0 | ug/L | | | | | | | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | | | | | |
| Bromoform | ND | 3.0 | ug/L | | | | | | | |
| Bromomethane | ND | 10 | ug/L | | | | | | | |
| Carbon Disulfide | ND | 100 | ug/L | | | | | | | |
| Carbon Tetrachloride | ND | 1.0 | ug/L | | | | | | | |
| Chlorobenzene | ND | 3.0 | ug/L | | | | | | | |
| Chloroethane | ND | 10 | ug/L | | | | | | | |
| Chloroform | ND | 5.0 | ug/L | | | | | | | |
| Chloromethane | ND | 1.0 | ug/L | | | | | | | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 13 | ug/L | | | | | | | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | | | | | |
| Dibromomethane | ND | 10 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | | | | | |
| trans-1,4-Dichloro-2-butene | ND | 100 | ug/L | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | | | | | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | | | | | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | | | | | |

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December 03, 2013

## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110117 - EPA 5030B** | | | | | | | | | | |
| **Blank (3110117-BLK1)** | | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| trans-1,3-Dichloropropene | ND | 1.0 | ug/L | | | | | | | |
| Ethylbenzene | ND | 1.0 | ug/L | | | | | | | |
| Iodomethane | ND | 10 | ug/L | | | | | | | |
| Methyl Butyl Ketone (2-Hexanone) | ND | 50 | ug/L | | | | | | | |
| Methylene Chloride | ND | 1.0 | ug/L | | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 100 | ug/L | | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | ND | 100 | ug/L | | | | | | | |
| Styrene | ND | 1.0 | ug/L | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | | | | | |
| Tetrachloroethene | ND | 1.0 | ug/L | | | | | | | |
| Toluene | 0.3 | 1.0 | ug/L | | | | | | | J |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | | | | | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | | | | | |
| Trichloroethene | ND | 1.0 | ug/L | | | | | | | |
| Trichlorofluoromethane | ND | 1.0 | ug/L | | | | | | | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | | | | | |
| Vinyl Acetate | ND | 50 | ug/L | | | | | | | |
| Vinyl Chloride | ND | 1.0 | ug/L | | | | | | | |
| Xylenes, total | ND | 5.0 | ug/L | | | | | | | |
| Tetrahydrofuran | ND | 10 | ug/L | | | | | | | |
| *Surr: Dibromofluoromethane* | *47* | | *ug/L* | *50.000* | | *94* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *53* | | *ug/L* | *50.000* | | *106* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *100* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *106* | *80-120* | | | |

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December 03, 2013

## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110117 - EPA 5030B** | | | | | | | | | | |
| **LCS (3110117-BS1)** | | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Benzene | 50 | | ug/L | 50.000 | | 99 | 67-134 | | | |
| Chlorobenzene | 51 | | ug/L | 50.000 | | 102 | 69-122 | | | |
| 1,1-Dichloroethene | 48 | | ug/L | 50.000 | | 97 | 58-142 | | | |
| Toluene | 51 | | ug/L | 50.000 | | 101 | 68-127 | | | |
| Trichloroethene | 47 | | ug/L | 50.000 | | 94 | 72-132 | | | |
| *Surr: Dibromofluoromethane* | *46* | | *ug/L* | *50.000* | | *93* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *52* | | *ug/L* | *50.000* | | *105* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *99* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *52* | | *ug/L* | *50.000* | | *105* | *80-120* | | | |
| **Matrix Spike (3110117-MS1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Benzene | 57 | | ug/L | 50.000 | 11 | 93 | 67-134 | | | |
| Chlorobenzene | 49 | | ug/L | 50.000 | 1.4 | 95 | 69-122 | | | |
| 1,1-Dichloroethene | 47 | | ug/L | 50.000 | 0.3 | 93 | 58-142 | | | |
| Toluene | 48 | | ug/L | 50.000 | 0.2 | 96 | 68-127 | | | |
| Trichloroethene | 48 | | ug/L | 50.000 | 3.8 | 88 | 72-132 | | | |
| *Surr: Dibromofluoromethane* | *47* | | *ug/L* | *50.000* | | *94* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *53* | | *ug/L* | *50.000* | | *107* | *78-120* | | | |
| *Surr: Toluene-d8* | *49* | | *ug/L* | *50.000* | | *99* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *106* | *80-120* | | | |
| **Matrix Spike Dup (3110117-MSD1)** | | **Source: AWK0128-01** | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Benzene | 54 | | ug/L | 50.000 | 11 | 88 | 67-134 | 5 | 9 | |
| Chlorobenzene | 47 | | ug/L | 50.000 | 1.4 | 90 | 69-122 | 5 | 13 | |
| 1,1-Dichloroethene | 44 | | ug/L | 50.000 | 0.3 | 87 | 58-142 | 6 | 9 | |

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## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110117 - EPA 5030B** | | | | | | | | | | |
| **Matrix Spike Dup (3110117-MSD1)** | **Source: AWK0128-01** | | | | | | Prepared & Analyzed: 11/06/13 | | | |
| Toluene | 46 | | ug/L | 50.000 | 0.2 | 91 | 68-127 | 5 | 9 | |
| Trichloroethene | 45 | | ug/L | 50.000 | 3.8 | 83 | 72-132 | 6 | 11 | |
| *Surr: Dibromofluoromethane* | *47* | | *ug/L* | *50.000* | | *95* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *53* | | *ug/L* | *50.000* | | *106* | *78-120* | | | |
| *Surr: Toluene-d8* | *49* | | *ug/L* | *50.000* | | *99* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *105* | *80-120* | | | |
| **Batch 3110185 - EPA 5030B** | | | | | | | | | | |
| **Blank (3110185-BLK1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Acetone | ND | 100 | ug/L | | | | | | | |
| Acrylonitrile | ND | 200 | ug/L | | | | | | | |
| Benzene | ND | 1.0 | ug/L | | | | | | | |
| Bromochloromethane | ND | 3.0 | ug/L | | | | | | | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | | | | | |
| Bromoform | ND | 3.0 | ug/L | | | | | | | |
| Bromomethane | ND | 10 | ug/L | | | | | | | |
| Carbon Disulfide | ND | 100 | ug/L | | | | | | | |
| Carbon Tetrachloride | ND | 1.0 | ug/L | | | | | | | |
| Chlorobenzene | ND | 3.0 | ug/L | | | | | | | |
| Chloroethane | ND | 10 | ug/L | | | | | | | |
| Chloroform | ND | 5.0 | ug/L | | | | | | | |
| Chloromethane | ND | 1.0 | ug/L | | | | | | | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 13 | ug/L | | | | | | | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | | | | | |

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December 03, 2013

## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110185 - EPA 5030B** | | | | | | | | | | |
| **Blank (3110185-BLK1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Dibromomethane | ND | 10 | ug/L | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | | | | | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | | | | | |
| trans-1,4-Dichloro-2-butene | ND | 100 | ug/L | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | | | | | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | | | | | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | | | | | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | | | | | |
| trans-1,3-Dichloropropene | ND | 1.0 | ug/L | | | | | | | |
| Ethylbenzene | ND | 1.0 | ug/L | | | | | | | |
| Iodomethane | ND | 10 | ug/L | | | | | | | |
| Methyl Butyl Ketone (2-Hexanone) | ND | 50 | ug/L | | | | | | | |
| Methylene Chloride | ND | 1.0 | ug/L | | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 100 | ug/L | | | | | | | |
| 4-Methyl-2-pentanone (MIBK) | ND | 100 | ug/L | | | | | | | |
| Styrene | ND | 1.0 | ug/L | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | | | | | |
| Tetrachloroethene | ND | 1.0 | ug/L | | | | | | | |
| Toluene | ND | 1.0 | ug/L | | | | | | | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | | | | | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | | | | | |
| Trichloroethene | ND | 1.0 | ug/L | | | | | | | |
| Trichlorofluoromethane | ND | 1.0 | ug/L | | | | | | | |

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## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110185 - EPA 5030B** | | | | | | | | | | |
| **Blank (3110185-BLK1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | | | | | |
| Vinyl Acetate | ND | 50 | ug/L | | | | | | | |
| Vinyl Chloride | ND | 1.0 | ug/L | | | | | | | |
| Xylenes, total | ND | 5.0 | ug/L | | | | | | | |
| Tetrahydrofuran | ND | 10 | ug/L | | | | | | | |
| *Surr: Dibromofluoromethane* | *46* | | *ug/L* | *50.000* | | *93* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *53* | | *ug/L* | *50.000* | | *105* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *100* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *106* | *80-120* | | | |
| **LCS (3110185-BS1)** | | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Benzene | 51 | | ug/L | 50.000 | | 102 | 67-134 | | | |
| Chlorobenzene | 52 | | ug/L | 50.000 | | 103 | 69-122 | | | |
| 1,1-Dichloroethene | 50 | | ug/L | 50.000 | | 100 | 58-142 | | | |
| Toluene | 51 | | ug/L | 50.000 | | 103 | 68-127 | | | |
| Trichloroethene | 47 | | ug/L | 50.000 | | 94 | 72-132 | | | |
| *Surr: Dibromofluoromethane* | *46* | | *ug/L* | *50.000* | | *93* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *52* | | *ug/L* | *50.000* | | *104* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *100* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *107* | *80-120* | | | |
| **Matrix Spike (3110185-MS1)** | **Source: AWK0128-07** | | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Benzene | 50 | | ug/L | 50.000 | 0.9 | 99 | 67-134 | | | |
| Chlorobenzene | 50 | | ug/L | 50.000 | ND | 100 | 69-122 | | | |
| 1,1-Dichloroethene | 50 | | ug/L | 50.000 | 0.9 | 99 | 58-142 | | | |

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## Volatile Organic Compounds by EPA 8260 - Quality Control

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 3110185 - EPA 5030B** | | | | | | | | | | |
| **Matrix Spike (3110185-MS1)** | | **Source: AWK0128-07** | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Toluene | 50 | | ug/L | 50.000 | ND | 100 | 68-127 | | | |
| Trichloroethene | 49 | | ug/L | 50.000 | 3.9 | 91 | 72-132 | | | |
| *Surr: Dibromofluoromethane* | *47* | | *ug/L* | *50.000* | | *94* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *54* | | *ug/L* | *50.000* | | *107* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *100* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *53* | | *ug/L* | *50.000* | | *106* | *80-120* | | | |
| **Matrix Spike Dup (3110185-MSD1)** | | **Source: AWK0128-07** | | | | | Prepared & Analyzed: 11/08/13 | | | |
| Benzene | 48 | | ug/L | 50.000 | 0.9 | 94 | 67-134 | 5 | 9 | |
| Chlorobenzene | 47 | | ug/L | 50.000 | ND | 94 | 69-122 | 6 | 13 | |
| 1,1-Dichloroethene | 47 | | ug/L | 50.000 | 0.9 | 91 | 58-142 | 8 | 9 | |
| Toluene | 47 | | ug/L | 50.000 | ND | 94 | 68-127 | 5 | 9 | |
| Trichloroethene | 46 | | ug/L | 50.000 | 3.9 | 85 | 72-132 | 6 | 11 | |
| *Surr: Dibromofluoromethane* | *48* | | *ug/L* | *50.000* | | *96* | *80-120* | | | |
| *Surr: 1,2-Dichloroethane-d4* | *54* | | *ug/L* | *50.000* | | *109* | *78-120* | | | |
| *Surr: Toluene-d8* | *50* | | *ug/L* | *50.000* | | *100* | *80-120* | | | |
| *Surr: 4-Bromofluorobenzene* | *54* | | *ug/L* | *50.000* | | *108* | *80-120* | | | |

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# Laboratory Certifications

| Code | Description | Number | Expires |
|---|---|---|---|
| LA | Louisiana | 02069 | 06/30/2014 |
| NC | North Carolina | 381 | 12/31/2013 |
| NELAC | FL DOH (Non-Pot. Water, Solids) Eff:: 07/01/2013 | E87315 | 06/30/2014 |
| NELDW | FL DOH NELAC (Drinking Water) Eff: 07/01/2013 | E87315 | 06/30/2014 |
| SC | South Carolina | 98011001 | 06/30/2014 |
| TX | Texas | T104704397-08-TX | 03/31/2014 |
| VA | Virginia | 1340 | 12/14/2013 |

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# Legend

**Defination of Laboratory Terms**

**ND** - Not Detected at levels greater than or equal to SWSL/RL
**SWSL/RL** - NC DENR Solid Waste Section LImit/Reporting Limit (Adjusted for DF/Prep Factor)
**DF** - Dilution Factor
**MDL** - Method Detection Limit

**Qualifiers**

**QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

**J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

**B-01** Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

**Note: Unless otherwise noted, all results are reported on an as received basis.**

# ANALYTICAL SERVICES, INC.

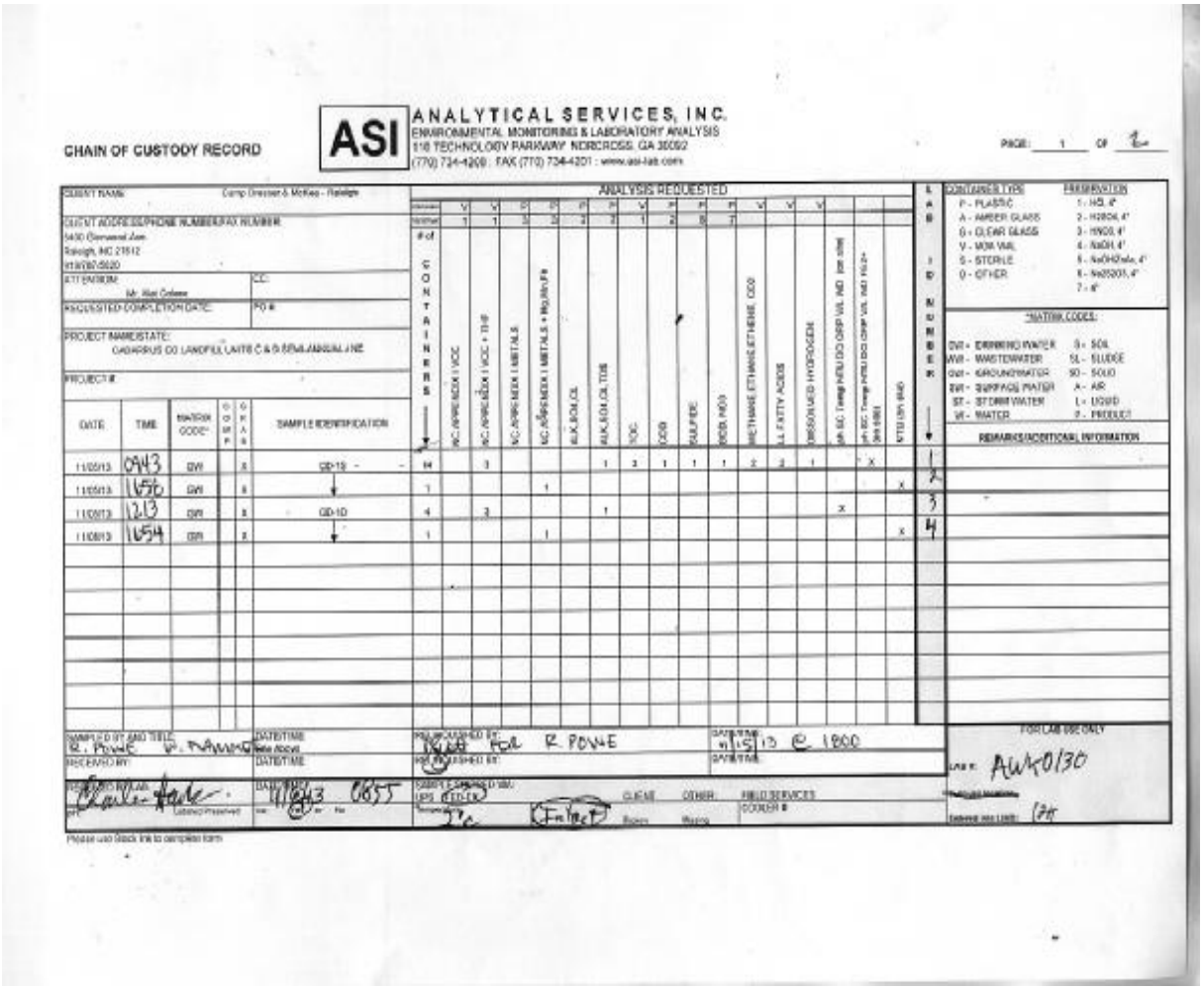
Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Camp Dresser & McKee Inc. - Raleigh
5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013



CHAIN OF CUSTODY RECORD

ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CLIENT NAME: Camp Dresser & McKee - Raleigh

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 5400 Glenwood Ave. Raleigh, NC 27612 919/787-5620

ATTENTION: Mr. Mat Colone

CC:

REQUESTED COMPLETION DATE:

PO #:

PROJECT NAME/STATE: CABARRUS CO LANDFILL LAITE C & D SEMI-ANNUAL LINE

PROJECT #:

ANALYSIS REQUESTED

| DATE | TIME | MATRIX CODE* | GRAB | SAMPLE IDENTIFICATION | # of CONTAINERS | VC APPENDIX I VOC | VC APPENDIX I VOC + TIP | VC APPENDIX I METALS | VC APPENDIX I METALS + Hg,Mn,Fe | ALK,SO4,Cl | ALK,SO4,Cl, TDS | TOC | COD | SULFIDE | BOD, NO3 | METHANE ETHANE ETHENE, CO2 | LC FATTY ACIDS | DISSOLVED HYDROGEN | pH SC Temp HCO3 CO3 ORP VOL IND (per site) | pH SC Temp HCO3 CO3 ORP VOL IND Fe2+ (per site) | NTU/SVI IND | LAB ID NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/05/13 | 0943 | GW | X | GD-19 | 14 | | 3 | | | | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | | X | | 1 |
| 11/05/13 | 1650 | GW | X | ↓ | 1 | | | | 1 | | | | | | | | | | | | X | 2 |
| 11/06/13 | 1213 | GW | X | GD-10 | 4 | | 3 | | | | 1 | | | | | | | | X | | | 3 |
| 11/06/13 | 1654 | GW | X | ↓ | 1 | | | | 1 | | | | | | | | | | | | X | 4 |

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - MOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, 4°; 2 - H2SO4, 4°; 3 - HNO3, 4°; 4 - NaOH, 4°; 5 - NaOH/NaAs, 4°; 6 - Na2S2O3, 4°; 7 - 4°

*MATRIX CODES: GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SO - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: R. Ponke W. Dawkins — DATE/TIME: Date Above

RELINQUISHED BY: R. Ponke FOR R. PONKE — DATE/TIME: 11/15/13 @ 1800

RECEIVED BY: Charlie Hale — DATE/TIME: 11/15/13 0855

RELINQUISHED BY: — DATE/TIME:

SAMPLE SHIPPED VIA: UPS FEDEX — Tracking #: 3 — Cooler Intact — CLIENT — OTHER — FIELD SERVICES — COOLER #:

FOR LAB USE ONLY: LAB #: AW40130

Please use black ink to complete form

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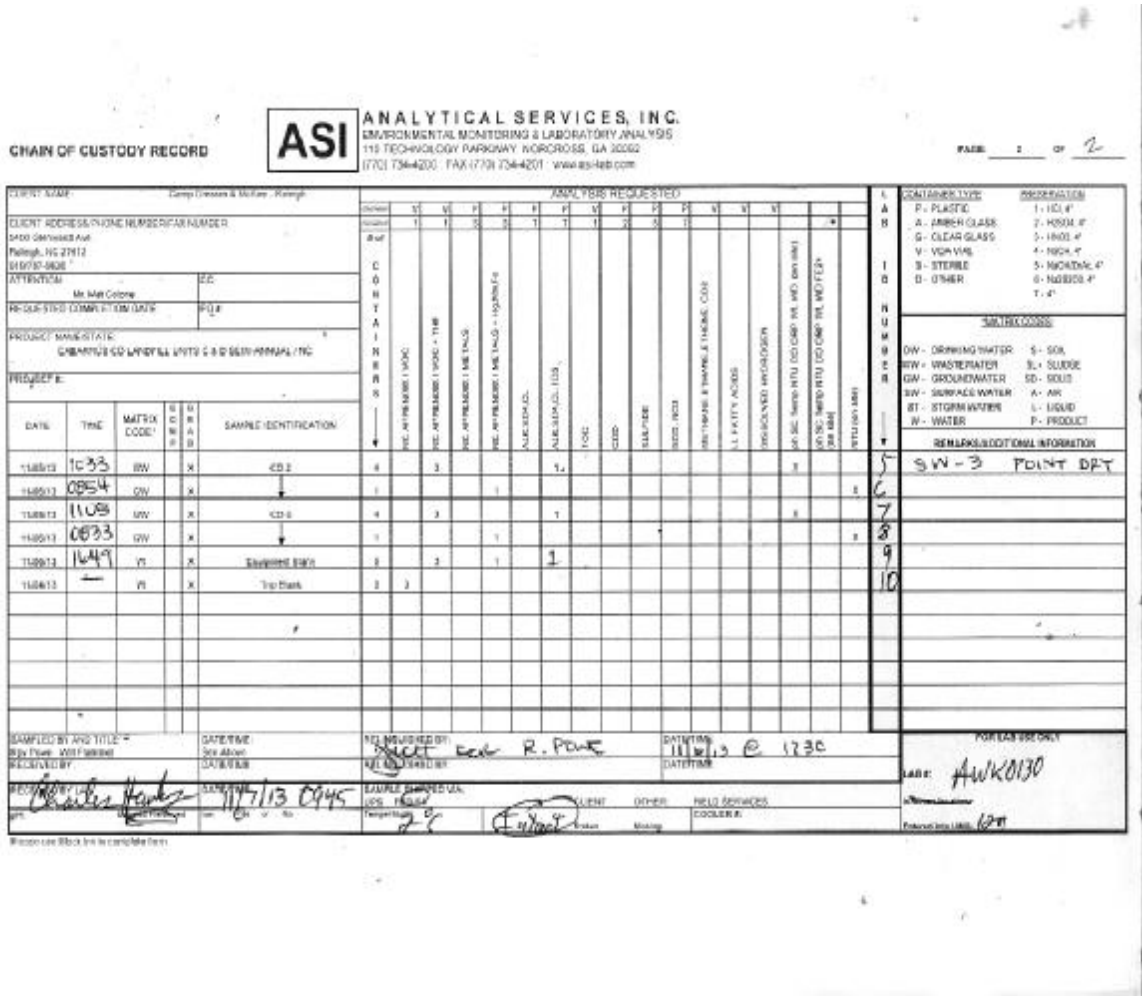

CHAIN OF CUSTODY RECORD

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PAGE 2 OF 2

CLIENT NAME: Camp Dresser & McKee - Raleigh

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 5400 Glenwood Ave, Raleigh, NC 27612, 919/787-9600

ATTENTION: Mr. Mat Colone

PROJECT MANAGER/STATE: CAMP/TUSCO LANDFILL UNITS 2 & 3 GW ANNUAL / NC

PROJECT #:

ANALYSIS REQUESTED

| DATE | TIME | MATRIX CODE | SAMPLE IDENTIFICATION | CONTAINERS | VOC | VOC + TIM | VOC + MEOH | VOC + Hydrox Fe | SULFATE | SULFIDE | TOC | COD | SULFIDE | SOD. ROD | METHANE ETHANE ETHENE CO2 | LL FATTY ACIDS | DISSOLVED METALS | VOC | | | LAB NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/05/13 | 1033 | GW | CD 2 | 4 | | 3 | | | | 1 | | | | | | | | 3 | | | 5 |
| 11/05/13 | 0854 | GW | ↓ | 1 | | | | 1 | | | | | | | | | | | | 1 | 6 |
| 11/06/13 | 1105 | GW | CD 3 | 4 | | 3 | | | | 1 | | | | | | | | 3 | | | 7 |
| 11/06/13 | 0833 | GW | ↓ | 1 | | | | 1 | | | | | 1 | | | | | | | 1 | 8 |
| 11/06/13 | 1649 | W | Equipment Blank | 3 | | 3 | | 1 | | 1 | | | | | | | | | | | 9 |
| 11/06/13 | — | W | Trip Blank | 3 | 3 | | | | | | | | | | | | | | | | 10 |

CONTAINER TYPE: P - PLASTIC, A - AMBER GLASS, G - CLEAR GLASS, V - VOA VIAL, S - STERILE, O - OTHER

PRESERVATION: 1 - HCL 4°, 2 - H2SO4 4°, 3 - HNO3 4°, 4 - NaOH 4°, 5 - NaOH/ZnAc 4°, 6 - NaBSO3 4°, 7 - 4°

MATRIX CODES: GW - GROUNDWATER, SW - SURFACE WATER, ST - STORM WATER, W - WATER, S - SOIL, SL - SLUDGE, SD - SOLID, A - AIR, L - LIQUID, P - PRODUCT

REMARKS/ADDITIONAL INFORMATION: SW-3 POINT DRT

SAMPLED BY AND TITLE: Billy Power - WW Technician

DATE/TIME: See Above

RECEIVED BY: Charles Hardy

DATE/TIME: 11/7/13 0945

RELINQUISHED BY: R. Power

DATE/TIME: 11/6/13 @ 1230

SAMPLE SHIPPED VIA: UPS FedEx

Temperature: 2°C

CLIENT OTHER FIELD SERVICES

COOLER #:

FOR LAB USE ONLY

Log #: AWK0130

Received Intact: Y/N

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# ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

**LOG-IN CHECKLIST** **Printed: 12/3/2013 3:11:14PM**

**Attn:** Mr. Mat Colone

**Client:** Camp Dresser & McKee Inc. - Raleigh
**Project:** Cabarrus Co - C&D
**Date Received:** 11/06/13 08:55
**Work Order:** AWK0130
**Logged In By:** Charles Hawks

## OBSERVATIONS

**#Samples:** 10 **#Containers:** 38

**Minimum Temp(C):** 2.0 **Maximum Temp(C):** 2.0 **Custody Seal(s) Used:** Yes

## CHECKLIST ITEMS

| | |
|---|---|
| COC included with Samples | YES |
| Sample Container(s) Intact | YES |
| Chain of Custody Complete | YES |
| Sample Container(s) Match COC | YES |
| Custody seal Intact | YES |
| Temperature in Compliance | YES |
| Sufficient Sample Volume for Analysis | YES |
| Zero Headspace Maintained for VOA Analyses | YES |
| Samples labeled preserved (If Applicable) | YES |
| Samples received within Allowable Hold Times | YES |
| Samples Received on Ice | YES |
| Preservation Confirmed | YES |

**Comments:**

The samples were received over two days, 11/06/13 at 0855 and 11/07/13 at 0945. CFH

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5400 Glenwood Ave., Suite 300
Raleigh NC, 27612

Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD4Rep
**Lab No:** AWK0128-30
**Matrix:** Ground Water

**Project:** Cabarrus Co - 2 & 3
**Date/Time Sampled:** 11/07/13 11:15
**Date/Time Received:** 11/08/13 12:25

**Report No.:** AWK0128

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On Site | | | | | | | | | | | | |
| Field - Specific Conductance | EPA 9050A | NA | 177 | 1 | 1 | umhos/cm | | 1 | COND | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Dissolved Oxygen | SM 4500-O G | NA | 1200 | 0.00 | 1 | ug/L | | 0.00 | DO | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - pH | EPA 9040C | NA | 6.14 | | 1 | pH Units | | | PH | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Redox | NA | NA | -44 | | 1 | mV | | | REDOX | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Temperature | SM 2550 B | NA | 16.9 | | 1 | °C | | | TEMP | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Turbidity | EPA 180.1 | NA | 26.0 | 0.10 | 1 | NTU | | 0.10 | TURB | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Water Level | NA | NA | 10.46 | | 1 | feet | | | WL | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Field - Well Depth | NA | NA | 19.80 | | 1 | feet | | | | 11/07/13 11:15 | 11/07/13 11:15 | 3110253 |
| Metals, Total | | | | | | | | | | | | |
| Antimony | EPA 6020A | EPA 3005A | 1.36 | 6.00 | 1 | ug/L | J | 0.22 | 7440-36-0 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Arsenic | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.78 | 7440-38-2 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Barium | EPA 6020A | EPA 3005A | 60.4 | 100 | 1 | ug/L | J | 0.25 | 7440-39-3 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Beryllium | EPA 6020A | EPA 3005A | 0.35 | 1.00 | 1 | ug/L | J | 0.11 | 7440-41-7 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Cadmium | EPA 6020A | EPA 3005A | 0.07 | 1.00 | 1 | ug/L | J | 0.06 | 7440-43-9 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Chromium | EPA 6020A | EPA 3005A | 0.77 | 10.0 | 1 | ug/L | J | 0.58 | 7440-47-3 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Cobalt | EPA 6020A | EPA 3005A | 5.31 | 10.0 | 1 | ug/L | J | 0.12 | 7440-48-4 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Copper | EPA 6020A | EPA 3005A | 1.83 | 10.0 | 1 | ug/L | J | 0.38 | 7440-50-8 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Lead | EPA 6020A | EPA 3005A | 0.57 | 10.0 | 1 | ug/L | J | 0.05 | 7439-92-1 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Nickel | EPA 6020A | EPA 3005A | 5.11 | 50.0 | 1 | ug/L | J | 0.41 | 7440-02-0 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Selenium | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.77 | 7782-49-2 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD4Rep
**Lab No:** AWK0128-30
**Matrix:** Ground Water

**Project:** Cabarrus Co - 2 & 3
**Date/Time Sampled:** 11/07/13 11:15
**Date/Time Received:** 11/08/13 12:25

**Report No.:** AWK0128

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metals, Total** | | | | | | | | | | | | |
| Silver | EPA 6020A | EPA 3005A | ND | 10.0 | 1 | ug/L | | 0.24 | 7440-22-4 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Thallium | EPA 6020A | EPA 3005A | 0.13 | 5.50 | 1 | ug/L | J | 0.06 | 7440-28-0 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| Vanadium | EPA 6020A | EPA 3005A | 32.0 | 25.0 | 2 | ug/L | | 3.94 | 7440-62-2 | 11/13/13 09:40 | 11/25/13 11:34 | 3110246 |
| Zinc | EPA 6020A | EPA 3005A | 4.40 | 10.0 | 1 | ug/L | B-01, J | 0.87 | 7440-66-6 | 11/13/13 09:40 | 11/13/13 18:49 | 3110246 |
| **Volatile Organic Compounds by EPA 8260** | | | | | | | | | | | | |
| Acetone | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.6 | 67-64-1 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Acrylonitrile | EPA 8260B | EPA 5030B | ND | 200 | 1 | ug/L | | 0.8 | 107-13-1 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Benzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 71-43-2 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Bromochloromethane | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.4 | 74-97-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Bromodichloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 75-27-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Bromoform | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 1.6 | 75-25-2 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Bromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.9 | 74-83-9 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Carbon Disulfide | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.2 | 75-15-0 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Carbon Tetrachloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 56-23-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Chlorobenzene | EPA 8260B | EPA 5030B | ND | 3.0 | 1 | ug/L | | 0.3 | 108-90-7 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Chloroethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.6 | 75-00-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Chloroform | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 67-66-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Chloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 74-87-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Dibromochloromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 124-48-1 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | EPA 5030B | ND | 13 | 1 | ug/L | | 1.0 | 96-12-8 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2-Dibromoethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 106-93-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |

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Attention: Mr. Mat Colone

December 03, 2013

**Client ID:** 1302-CD4Rep
**Lab No:** AWK0128-30
**Matrix:** Ground Water

**Project:** Cabarrus Co - 2 & 3
**Date/Time Sampled:** 11/07/13 11:15
**Date/Time Received:** 11/08/13 12:25

**Report No.:** AWK0128

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Dibromomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 0.4 | 74-95-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 95-50-1 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,4-Dichlorobenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 106-46-7 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| trans-1,4-Dichloro-2-butene | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.9 | 110-57-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1-Dichloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-34-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2-Dichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 107-06-2 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 75-35-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| cis-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-59-2 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| trans-1,2-Dichloroethene | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.4 | 156-60-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2-Dichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 78-87-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| cis-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.6 | 10061-01-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| trans-1,3-Dichloropropene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 10061-02-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Ethylbenzene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.5 | 100-41-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Iodomethane | EPA 8260B | EPA 5030B | ND | 10 | 1 | ug/L | | 1.0 | 74-88-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Methyl Butyl Ketone (2-Hexanone) | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 1.9 | 591-78-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Methylene Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 75-09-2 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Methyl Ethyl Ketone (2-Butanone) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 0.8 | 78-93-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | EPA 5030B | ND | 100 | 1 | ug/L | | 1.8 | 108-10-1 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Styrene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 100-42-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.3 | 630-20-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-34-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |

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**Matrix:** Ground Water

**Project:** Cabarrus Co - 2 & 3
**Date/Time Sampled:** 11/07/13 11:15
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**Report No.:** AWK0128

| Analyte | Analytical Method | Prep Method | Result | SWSL/ RL | DF | Units | Qual | MDL | CAS # | Prep Date/Time | Analysis Date/Time | Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds by EPA 8260 | | | | | | | | | | | | |
| Tetrachloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 127-18-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Toluene | EPA 8260B | EPA 5030B | 0.6 | 1.0 | 1 | ug/L | J | 0.3 | 108-88-3 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1,1-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.8 | 71-55-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,1,2-Trichloroethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-00-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Trichloroethene | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.3 | 79-01-6 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Trichlorofluoromethane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 75-69-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| 1,2,3-Trichloropropane | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.4 | 96-18-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Vinyl Acetate | EPA 8260B | EPA 5030B | ND | 50 | 1 | ug/L | | 0.6 | 108-05-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Vinyl Chloride | EPA 8260B | EPA 5030B | ND | 1.0 | 1 | ug/L | | 0.2 | 75-01-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Xylenes, total | EPA 8260B | EPA 5030B | ND | 5.0 | 1 | ug/L | | 0.6 | 1330-20-7 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Surr: Dibromofluoromethane | EPA 8260B | EPA 5030B | 99 % | | 80-120 | | | | 1868-53-7 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Surr: 1,2-Dichloroethane-d4 | EPA 8260B | EPA 5030B | 106 % | | 78-120 | | | | 17060-07-0 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Surr: Toluene-d8 | EPA 8260B | EPA 5030B | 95 % | | 80-120 | | | | 2037-26-5 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |
| Surr: 4-Bromofluorobenzene | EPA 8260B | EPA 5030B | 100 % | | 80-120 | | | | 460-00-4 | 11/11/13 10:00 | 11/11/13 13:38 | 3110221 |

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