Alternate Source Demonstration
Lincoln County C&D Landfill Permit #55-03
Crouse, North Carolina
S&ME Project No. 7235-14-019

Prepared for:
Lincoln County
5291 Crouse Road
Crouse, NC 28033

Prepared by:
S&ME, Inc.
9751 Southern Pine Boulevard
Charlotte, NC 28273

March 11, 2016

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).
- In Accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- 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 - S&ME, INC.

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

Name: Julie P. Robertson, P.G. Phone: 704-523-4726

E-mail: jrobertson@smeinc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Lincoln County Landfill	5291 Crouse Rd. Crouse, NC 28033	55-03	.0500 and .1600	April 15, 2014; May 12, 2014; June 16, 2014; July 16, 2014.

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 or explosive methane gas limits 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.

Julie P. Robertson, P.G.	Project Manager	704-523-4726
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

Signature 3/11/16 Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

NORTH CAROLINA LICENSED SEAL 1995 GEOLOGIST JULIE PAIGE ROBERTSON

Revised 10/2006

March 11, 2016

Lincoln County
5291 Crouse Road
Crouse, NC 28033

Attention: Mr. Mark Bivins

Reference: **Alternate Source Demonstration**
Lincoln County C&D Landfill Permit #55-03
Crouse, North Carolina
S&ME Project No. 7235-14-019

Dear Mr. Bivins:

The enclosed is our Alternate Source Demonstration (ASD) for the Lincoln County C&D Landfill. This ASD was prepared in accordance with our Assessment Work Plan that was approved the North Carolina Department of Environmental Quality (NCDEQ) Solid Waste Section. If you have any questions or if we can provide any further services please contact us at your convenience.

Sincerely,

S&ME, Inc.

Jasmine Tayouga, E.I.
Staff Professional

Julie P. Robertson, P.G.
Project Manager/Senior Geologist
NC Registration No. 1995

NORTH CAROLINA LICENSED SEAL 1995 GEOLOGIST JULIE PAIGE ROBERTSON

Cc: Jaclynne Drummond – NCDEQ Solid Waste Section

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1.0 Introduction

S&ME was contracted by Lincoln County to perform an Alternate Source Demonstration (ASD) for the Construction and Demolition (C&D) landfill at the Lincoln County Landfill facility. The purpose of the ASD was to attempt to characterize the source exceedances of Terachloroethene (PCE) in groundwater monitoring well MW-28.

Compliance groundwater monitoring well MW-28 monitors groundwater up-gradient of the C&D Landfill and is positioned in a buffer area between the unlined MSW landfill "Area E" to the west and Phase I of the C&D Landfill to the east (here forward referred to as "buffer area"). The location of Area E, the C&D Landfill, and groundwater monitoring well MW-28 are shown on the attached ***Figure 1*** in ***Appendix I***. Concentrations of PCE in monitoring well MW-28 have exceeded 2L Standards since April 2008 and have been generally increasing in concentration since that time.

Due to groundwater monitoring well MW-28's close proximity to the unlined Area E, it was suspected that the PCE exceedances are coming from Area E and not the C&D Phase I landfill. Additional characterization was needed within the buffer area to determine the source of the PCE exceedances.

On April 18, 2013, S&ME on behalf of Lincoln County, submitted a letter to the North Carolina Department of Environment and Natural Resources Solid Waste Section (NCDENR-SWS) which acknowledged the PCE exceedances in groundwater monitoring well MW-28 and voluntarily entered Lincoln County into the applicable Assessment Program. The April 18, 2013 letter detailed initial actions of installing a down-gradient compliance boundary groundwater monitoring well and preparing an assessment work plan. The compliance boundary well location and installation and assessment work plan preparation was approved by the NCDENR-SWS in a letter dated May 29, 2013.

The approved down-gradient compliance boundary well, MW-36, was installed in June 2013 and a Groundwater Monitoring Well Installation Report was submitted by S&ME on behalf of Lincoln County to the NCDENR-SWS on August 14, 2013. On August 20, 2013, via email, the NCDENR-SWS accepted the Groundwater Monitoring Well Installation Report and requested proceeding with an assessment work plan.

On November 5, 2013, S&ME on behalf of Lincoln County, submitted an Assessment Work Plan for the C&D Landfill to the NCDENR-SWS which focused on an Alternate Source Demonstration for the exceedances in groundwater monitoring well MW-28. The Assessment Work Plan was subsequently approved by the NCDENR-SWS on November 20, 2013. The following report details the work and analysis performed for the Alternate Source Demonstration.

2.0 Methodology

This Alternate Source Demonstration was designed to investigate as to whether Area "E" is the source of the PCE exceedances in monitoring well MW-28. The purpose of the ASD was to further characterize the "buffer area" in regards to hydrogeologic connection and migration potential from Area "E" to the C&D Landfill. This ASD has a two part approach, the first was to establish a specific subset of wells within the buffer area to further evaluate the hydrogeologic characteristics between Area "E" and the C&D landfill.

The second was to establish a groundwater monitoring period in the subset of wells to evaluate temporal groundwater quality within the buffer area.

2.1 Wells Selected/Installed for Assessment

S&ME targeted select monitoring and observation wells within the buffer area along with additionally installed monitoring wells to establish groundwater flow and quality within the buffer area. Seven (7) groundwater wells were selected and are as follows:

- Three (3) existing observation wells that were a part of previous site studies:
  - OW-1
  - OW-4A
  - OW-16
- Two (2) existing monitoring wells:
  - MW-17
  - MW-28
- Two (2) newly installed monitoring wells for this study:
  - MW-17R
  - MW-37

The locations of these monitoring wells are depicted on ***Figure 1*** in ***Appendix I***.

2.1.1 Monitoring Well Installation

The two (2) newly installed groundwater monitoring wells (MW-17R and MW-37) were installed utilizing an ATV drill rig with 4.25-inch hollow-stem augers. Split-spoon samples were collected every five (5) feet for soil classification and select laboratory testing. The groundwater wells were constructed of 2-inch diameter Schedule 40 PVC casing with 15-feet of 0.010-inch machine slotted PVC screen. The sand pack consists of #2 silica sand extending from the base of the screen to approximately 2-feet above the screen. An approximate 2-foot bentonite seal was placed on top of the sand pack then completed to ground surface with a neat cement grout. Well screen elevations were determined in the field by a North Carolina Registered Professional Geologist (PG) so that well screens bracket the groundwater surface.

The groundwater monitoring wells were completed with an above grade 4-inch by 4-inch steel protective cover with a lockable cap and sealed in the center of a 2-foot by 2-foot concrete pad. The protective cover is identified with a permanently affixed well I.D. tag in accordance with North Carolina well regulations.

After construction was complete, the groundwater monitoring wells were surveyed by a North Carolina registered land surveyor to obtain ground surface elevations and top of PVC casing elevations. A table summarizing well construction and survey data is provided as ***Table 1*** in ***Appendix II***. Boring Logs and Well Construction Records for MW-17R and MW-37 are included within ***Appendix III***.

S&ME performed laboratory grain-size distributions with hydrometer and specific gravity tests on selected split-spoon soil samples recovered from the saturated portion of the screened interval from each of the two (2) newly installed groundwater monitoring wells. S&ME used the results of the laboratory grain size distribution with hydrometer and specific gravity tests to estimate effective porosity of the formation adjacent to the screened intervals of the groundwater monitoring wells.

Effective porosity estimates calculated from the grain-size data are based on the soil classification and the "Variation of porosity, specific yield, and specific retention with grain size" table (Bear, J., 1972) in conjunction with the textural classification triangle for unconsolidated materials showing the relationship between particle size and specific yield (Fetter, C.W., 1994). Porosity calculation sheets along with the soil laboratory data sheets are included in ***Appendix IV***.

2.1.2 Well Development

Following well installation, the newly installed groundwater monitoring wells, as well as the four (4) observation wells in the buffer area, were developed/redeveloped to reduce the amount of clay, silt, and sand particles that may potentially be within the well due to installation activities or limited use.

Development was performed using a field-cleaned well pump and polyethylene tubing. Development was be conducted by removing field specified amounts of water from the well while moving the pump up and down the well screen. Development continued until the water removed appeared visually clear or a minimum purge of five (5) well volumes was achieved.

2.2 Groundwater Monitoring Period

The select subset of wells were sampled on a monthly basis beginning in April 2014 and ending in July 2014. Groundwater samples were analyzed for Appendix I volatile organic constituents (VOCs) and Appendix I inorganic constituents (total metals).

2.2.1 Well Purging

Groundwater wells were purged using a disposable Teflon® bailer. Purging consisted of removing a minimum of three (3) consecutive well volumes and measuring field parameters of pH, conductivity, and temperature. Purging continued until field parameters stabilized or the well was evacuated to dryness. Field parameters are considered stabilized within ±0.2 pH units and ±10% for temperature and conductivity over 3 to 5 well volumes

2.2.2 Well Sampling

Sampling was performed within twenty-four (24) hours of purging. Samples were collected using a disposable Teflon® bailer and placed in laboratory provided sample bottles. Sample bottles were packaged on ice and sent to a North Carolina certified laboratory for analysis.

3.0 Hydrogeologic Findings

3.1 Groundwater Occurrence and Surface

The water level elevations calculated from the depth to water measurements and measuring point elevations were contoured to determine groundwater flow directions within the buffer area. Groundwater flow directions are perpendicular to the water table surface contours. The groundwater level data collected in April 2014 is presented on ***Figure 2*** in ***Appendix I***. The calculated water level elevations from the wells in the buffer area and the site topography were used to create ***Figure 2***. The site topography was used to guide contours as control points so that water table contours would not extend

above land surface (e.g. dry ravines and ditches). In addition, groundwater discharge areas (e.g. the unnamed tributaries) on ***Figure 2*** were assumed to have a groundwater discharge elevation at the ground surface elevation at the centerline of the stream. Water level elevations measured during the period of this study are summarized in ***Table 2*** in ***Appendix II*** for reference.

Based upon the groundwater elevations in the vicinity of the buffer area and surrounding landfills, groundwater flows primarily toward the south, with secondary flow toward the unnamed tributaries to the southeast and southwest of the landfills. Based on the groundwater flow direction in the buffer area and C&D landfill, it is likely these areas are receiving a partial amount of flow from beneath Area "E".

3.2 Estimation of Hydraulic Conductivity

In order to evaluate the hydrogeological characteristics of the subsurface materials, S&ME performed in-situ permeability tests (slug tests) in each of the selected buffer area wells where water column was sufficient for testing. Slug tests was performed in the field using the rising-head method, in which water is pumped from the well and recharge is recorded with time.

Rising-head permeability tests were computed from the field data using the Bouwer and Rice Graphical Method. In the Bouwer and Rice Method a plot of the displacement in water level versus time is generated and a slope line is automatically calculated or manually selected to calculate the hydraulic conductivity. The slope line can be manually selected to capture isolated segments of the curve if desired. Typically the displacement versus time plot produces one of three types of graphs:

1. A straight line segment early in the test from water draining to or from the sandpack in partially submerged sandpacked wells, if present ("A" segment of curve). This is typically not observed where the sandpack is fully submerged.
2. A straight line during the middle portion of the test representing drainage to or from the aquifer and is the desired portion of the data for the calculation of hydraulic conductivity ("B" segment of curve). In some cases this is a curved line between the "A" segment and the "C" segment.
3. A curved line during the later portion of the test tending to asymptotic conditions ("C" segment of curve). This curve may not be present in slow recharging wells (low hydraulic conductivity).

In general, the methodology of selecting the slope line to calculate the K values is as follows:

1. The "A" segment of the curve, if present, was excluded.
2. The "B" segment of the curve was selected.
3. The "C" segment of the curve, if present, was excluded.

Graph Reports for each well tested are included in ***Appendix V*** for reference.

3.3 Horizontal Groundwater Gradients

The horizontal gradient, or degree of slope, of the groundwater table has a directly proportional effect on the rate of groundwater flow (considered in Section 3.4).

The hydraulic gradient (i) in the vicinity of selected well in the buffer area was estimated by calculating the vertical difference between the groundwater elevation at each well and one or more nearby contour lines from ***Figure 2***. This value was then divided by the horizontal distance measured from the well to the selected groundwater elevation contour line.

3.4 Groundwater Flow Rates

Horizontal permeability calculated from slug tests was used in conjunction with porosity calculated from grain-size analyses from saturated well screened intervals (where available) to calculate groundwater flow velocities. Groundwater velocity was calculated by multiplying the gradient (i) by the hydraulic conductivity (k) and dividing by the estimated effective porosity (ne) of the aquifer. ***Table 3*** in ***Appendix II*** summarizes the groundwater flow rates for the selected wells within the buffer area.

Based on the estimated flow rates in Table 3, it appears that that the wells within the buffer area range from 2 to 112 feet per year.

4.0 Analytical Findings

Analytical results for the groundwater wells monitored during the ASD are summarized in ***Tables 5 through 8*** in ***Appendix II***. Detections above the NCAC 2L Groundwater Quality Standards (2L standards) or the Solid Waste Groundwater Protection Standards (SW GWP) are highlighted in gray. Field parameters measured during the sampling events are summarized in ***Table 4*** in ***Appendix II***. Field well sampling logs and laboratory data reports are included in ***Appendix VI*** for reference.

4.1 April 2014 Summary of Results

Based on the laboratory analytical reports, six (6) VOCs and five (5) metals were detected above their respective 2L Standard or SW GWP Standard during the April 2014 monitoring event for buffer area wells. Results are summarized in ***Table 5*** in ***Appendix II***.

Volatile Organic Compounds (VOCs)

Monitoring wells MW-17R and OW-16 had multiple detections of VOCs above their respective 2L or SW GWP Standard. The detections exceeding standards are as follows:

MW-17R

- 1,2-Dichloroethane detected at 0.48 J µg/L. 2L Standard is 0.4 µg/L.
- Benzene detected at 4.7 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 43 µg/L. 2L Standard is 5 µg/L.

OW-16

- 1,2-Dichloroethane detected at 0.57 J µg/L. 2L Standard is 0.4 µg/L.
- 1,4-Dicholorbenzene detected at 7.2 µg/L. 2L Standard is 6 µg/L.
- Benzene detected at 7.7 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride at 17 µg/L. 2L Standard is 5 µg/L.
- Tetrachloroethane detected at 4.8 µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.86 J. 2L Standard is 0.03 µg/L.

Singular detections of Tetrachloroethene exceeding its respective 2L Standard of 0.7 µg/L were found in the following monitoring wells:

- MW-17 at 1.2 µg/L,
- MW-28 at 6.6 µg/L,
- OW-1 at 1.8 µg/L, and
- OW-4A at 5.4 µg/L.

Inorganic Constituents (Metals)

Thirteen (13) Appendix I metals were detected in the well sampled, five (5) of which were detected above their respective 2L Standard or SW GWP Standard: Chromium, Manganese, Nickel, Thallium, and Vanadium.

- Chromium was detected above its 2L Standard of 10 µg/L in groundwater monitoring wells MW-17R and OW-1 at concentrations of 27.0 µg/L and 11.2 µg/L, respectively.
- Manganese was detected above its 2L Standard of 50 µg/L in groundwater monitoring well MW-28 at a concentration of 87.8 µg/L.
- Nickel was detected above its 2L Standard of 100 µg/L in groundwater monitoring well OW-1 at a concentration of 168 µg/L.
- Thallium was detected above its SW GWP Standard of 0.28 µg/L in groundwater monitoring wells MW-17R, OW-1, and OW-16 at concentrations of 0.513 J, 0.619 J, and 0.690 J µg/L, respectively.
- Vanadium was detected above its SW GWP Standard of 0.3 µg/L in groundwater monitoring wells MW-17R, MW-37, and OW-1 at concentrations ranging from 1.47 J to 34.6 µg/L.

4.2 May 2014 Summary of Results

Based on the laboratory analytical reports, six (6) VOCs and five (5) metals were detected above their respective 2L Standard or SW GWP Standard during the May 2014 monitoring event. Results are summarized in ***Table 6*** in ***Appendix II***.

Volatile Organic Compounds (VOCs)

Monitoring wells MW-17, MW-17R, MW28, and OW-16 had multiple detections of VOCs above their respective 2L or SW GWP Standard. The detections exceeding standards are as follows:

MW-17

- Tetrachloroethane detected at 1.3 J µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.43 J µg/L. 2L Standard is 0.03 µg/L.

MW-17R

- Benzene detected at 4.8 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 41 µg/L. 2L Standard is 5 µg/L.
- Vinyl Chloride detected at 0.44 J µg/L. 2L Standard is 0.3 µg/L.

MW-28

- Tetrachloroethane detected at 7.1 J µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.87 J µg/L. 2L Standard is 0.03 µg/L.

OW-16

- 1,4-Dicholorbenzene detected at 7.4 µg/L. 2L Standard is 6 µg/L.
- Benzene detected at 6.8 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 10 µg/L. 2L Standard is 5 µg/L.
- Tetrachloroethane detected at 4.3 µg/L. 2L Standard is 0.7 µg/L.
- Trichloroethene detected at 3 µg/L. 2L Standard is 3 µg/L.
- Vinyl Chloride detected at 0.83 J. 2L Standard is 0.03 µg/L.

Singular detections of Tetrachloroethene exceeding its respective 2L Standard of 0.7 µg/L were found in the following monitoring wells:

- OW-1 at 1.2 µg/L, and
- OW-4A at 5.2 µg/L.

Inorganic Constituents (Metals)

Thirteen (13) Appendix I metals were detected in the wells sampled, five (5) of which were detected above their respective 2L Standard or SW GWP Standard: Chromium, Lead, Nickel, Thallium, and Vanadium.

- Chromium was detected above its 2L Standard of 10 µg/L in groundwater monitoring well OW-1 at a concentration of 17.8 µg/L.
- Lead was detected above its 2L Standard of 15 µg/L in groundwater monitoring well OW-1 at a concentration of 29.3 µg/L.
- Nickel was detected above its 2L Standard of 100 µg/L in groundwater monitoring well OW-1 at a concentration of 180 µg/L.
- Thallium was detected above its SW GWP Standard of 0.28 µg/L in groundwater monitoring wells OW-1 and OW-16 at concentrations of 0.702 J µg/L and 0.619 J µg/L, respectively.
- Vanadium was detected above its SW GWP Standard of 0.3 µg/L in groundwater monitoring wells MW-17R, MW-37, OW-1, OW-4A, and OW-16 at concentrations ranging from 2.40 J µg/L to 10.1 J µg/L.

4.3 June 2014 Summary of Results

Based on the laboratory analytical reports, six (6) VOCs and five (5) metals were detected above their respective 2L Standard or SW GWP Standard during the June 2014 monitoring event. Results are summarized in ***Table 7*** in ***Appendix II***.

Volatile Organic Compounds (VOCs)

Monitoring wells MW-17R, MW28, MW-37, OW-4A, and OW-16 had multiple detections of VOCs above their respective 2L or SW GWP Standard. The detections exceeding standards are as follows:

MW-17R

- 1,1-Dicholoroethane at 6.0 µg/L. 2L Standard is 6 µg/L.
- Benzene detected at 5.0 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 52 µg/L. 2L Standard is 5 µg/L.

- Tetrachloroethane detected at 0.87 J µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.72 J µg/L. 2L Standard is 0.03 µg/L.

MW-28

- Tetrachloroethane detected at 8.4 µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 1.1 µg/L. 2L Standard is 0.03 µg/L.

MW-37

- Methylene Chloride detected at 5.8 µg/L. 2L Standard is 5 µg/L.
- Tetrachloroethane detected at 0.93 J µg/L. 2L Standard is 0.7 µg/L.

OW-4A

- Tetrachloroethane detected at 9.3 µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.76 J µg/L. 2L Standard is 0.03 µg/L.

OW-16

- 1,4-Dicholorbenzene detected at 9.2 µg/L. 2L Standard is 6 µg/L.
- Benzene detected at 8.5 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 11 µg/L. 2L Standard is 5 µg/L.
- Tetrachloroethane detected at 4.8 µg/L. 2L Standard is 0.7 µg/L.
- Trichloroethene detected at 3.6 µg/L. 2L Standard is 3 µg/L.
- Vinyl Chloride detected at 1.4 µg/L. 2L Standard is 0.03 µg/L.

Singular detections of Tetrachloroethene exceeding its respective 2L Standard of 0.7 µg/L were found in the following monitoring wells:

- MW-17 at 2.2 µg/L, and
- OW-1 at 1.8 µg/L.

Inorganic Constituents (Metals)

Twelve (12) Appendix I metals were detected in the wells sampled, five (5) of which were detected above their respective 2L Standard or SW GWP Standard: Chromium, Lead, Nickel, Thallium, and Vanadium.

- Chromium was detected above its 2L Standard of 10 µg/L in groundwater monitoring well OW-1 at a concentration of 58.2 µg/L.
- Lead was detected above its 2L Standard of 15.8 µg/L in groundwater monitoring well OW-1 at a concentration of 31.8 µg/L.
- Nickel was detected above its 2L Standard of 100 µg/L in groundwater monitoring well OW-1 at a concentration of 181 µg/L.
- Thallium was detected above its SW GWP Standard of 0.28 µg/L in groundwater monitoring wells MW-17R, OW-1, and OW-16 at concentrations of 0.315 J µg/L, 0.890 J µg/L and 0.590 J µg/L, respectively.

- Vanadium was detected above its SW GWP Standard of 0.3 µg/L in groundwater monitoring wells MW-17R, MW-37, OW-1, OW-4A, and OW-16 at concentrations ranging from 2.17 J µg/L to 29.1 µg/L.

4.4 July 2014 Summary of Results

Based on the laboratory analytical reports, six (6) VOCs and five (5) metals were detected above their respective 2L Standard or SW GWP Standard during the July 2014 monitoring event. Results are summarized in ***Table 8*** in ***Appendix II***.

Volatile Organic Compounds (VOCs)

Monitoring wells MW-17, MW-17R, and OW-16 had multiple detections of VOCs above their respective 2L or SW GWP Standard. The detections exceeding standards are as follows:

MW-17

- Tetrachloroethane detected at 2.2 µg/L. 2L Standard is 0.7 µg/L.
- Vinyl Chloride detected at 0.90 J µg/L. 2L Standard is 0.03 µg/L.

MW-17R

- 1,2-Dichloroethane detected at 0.48 J µg/L. 2L Standard is 0.4 µg/L.
- Benzene detected at 5.8 µg/L. 2L Standard is 1 µg/L.
- Methylene Chloride detected at 48 µg/L. 2L Standard is 5 µg/L.
- Vinyl Chloride detected at 0.68 J µg/L. 2L Standard is 0.03 µg/L.

OW-16

- 1,2-Dichloroethane detected at 0.69 J. 2L Standard is 0.4 J µg/L.
- 1,4-Dichlorbenzene detected at 11 µg/L. 2L Standard is 6 µg/L.
- Benzene detected at 10 µg/L. 2L Standard is 1 µg/L.
- Tetrachloroethane detected at 4.2 µg/L. 2L Standard is 0.7 µg/L.
- Trichloroethene detected at 3.5 µg/L. 2L Standard is 3 µg/L.
- Vinyl Chloride detected at 1.5 µg/L. 2L Standard is 0.03 µg/L.

Singular detections of Tetrachloroethene exceeding its respective 2L Standard of 0.7 µg/L were found in the following monitoring wells:

- MW-28 at 0.99 J µg/L, and
- OW-4A at 5.6 µg/L.

Inorganic Constituents (Metals)

Seven (7) constituents were detected above their respective 2L Standard or SW GWP Standard: Barium, Chromium, Cobalt, Lead, Nickel, Thallium and Vanadium.

- Barium was detected above its 2L Standard of 700 µg/L in groundwater monitoring well OW-1 at a concentration of 1,070 µg/L.
- Chromium was detected above its 2L Standard of 10 µg/L in groundwater monitoring wells MW-17R, MW-37, OW-1, and OW-16 at concentrations ranging from 14.8 µg/L to 226 µg/L.
- Cobalt was detected above its SW GWP Standard of 10 µg/L in groundwater monitoring well OW-1 at a concentration of 75.2 µg/L.
- Lead was detected above its 2L Standard of 15µg/L in groundwater monitoring wells OW-1 and OW-16 at concentrations of 71 µg/L and 15.6 µg/L, respectively.
- Nickel was detected above its respective 2L Standard of 100 µg/L in groundwater monitoring well OW-1 at a concentration of 278 µg/L.
- Thallium was detected above its respective SW GWP Standard of 0.28 µg/L in groundwater monitoring wells MW-17R, OW-1 and OW-16 at concentrations of 0.683 J, 2.81 JD, and 1.11 J respectively.
- Vanadium was detected above its SW GWP Standard of 0.3 µg/L in groundwater monitoring wells MW-17R and OW-1 at concentrations of 58.1 µg/L and 126 µg/L, respectively.

5.0 Conclusions

Historically PCE has been detected in groundwater monitoring wells MW-13, MW-14, MW-17, MW-19, MW-20 and MW-28. Each of these wells are located hydraulically down or side gradient of the unlined "Area E" landfill. A summary of historical concentrations of PCE detected in on-site monitoring wells is included in ***Appendix IV*** for reference.

Concentrations of PCE within the groundwater monitoring wells began being detected in monitoring well MW-13 beginning in April 1996, but for the remaining wells detected concentrations of PCE began during or after the October 2005 sampling event when detection limits were lowered. Monitoring wells MW-13, MW-19, and MW-28 have the most consistent detections, while MW-14, MW-17, and MW-20 vary from non-detect to detect. Detected concentrations of PCE range on site from 0.43 µg/L to 8.2 µg/L. The majority of which exceed the 2L standard of 0.7 µg/L. The highest concentrations have most recently been detected in MW-28.

The specific subset of wells sampled during this study referred to as the "buffer area" wells each had detections of PCE during the four groundwater monitoring events except for MW-37. MW-37 did not have a detection during the April 2014 sampling event.

Concentrations of PCE in the "buffer area" wells ranged from 0.42 µg/L (MW-37) to 9.3 µg/L (OW-4A). The majority of concentrations exceed the 2L Standard, with the highest concentrations in MW-28 and its nested deep well OW-4A.

The "buffer area" wells not only contained concentrations of PCE, but also twelve other volatile organic compounds, some of which were above their respective 2L or SW GWP Standards as discussed in Section 4.0. These volatile organic compounds are the same constituents that are consistently detected in the "Area E" monitoring wells during semi-annual monitoring events.

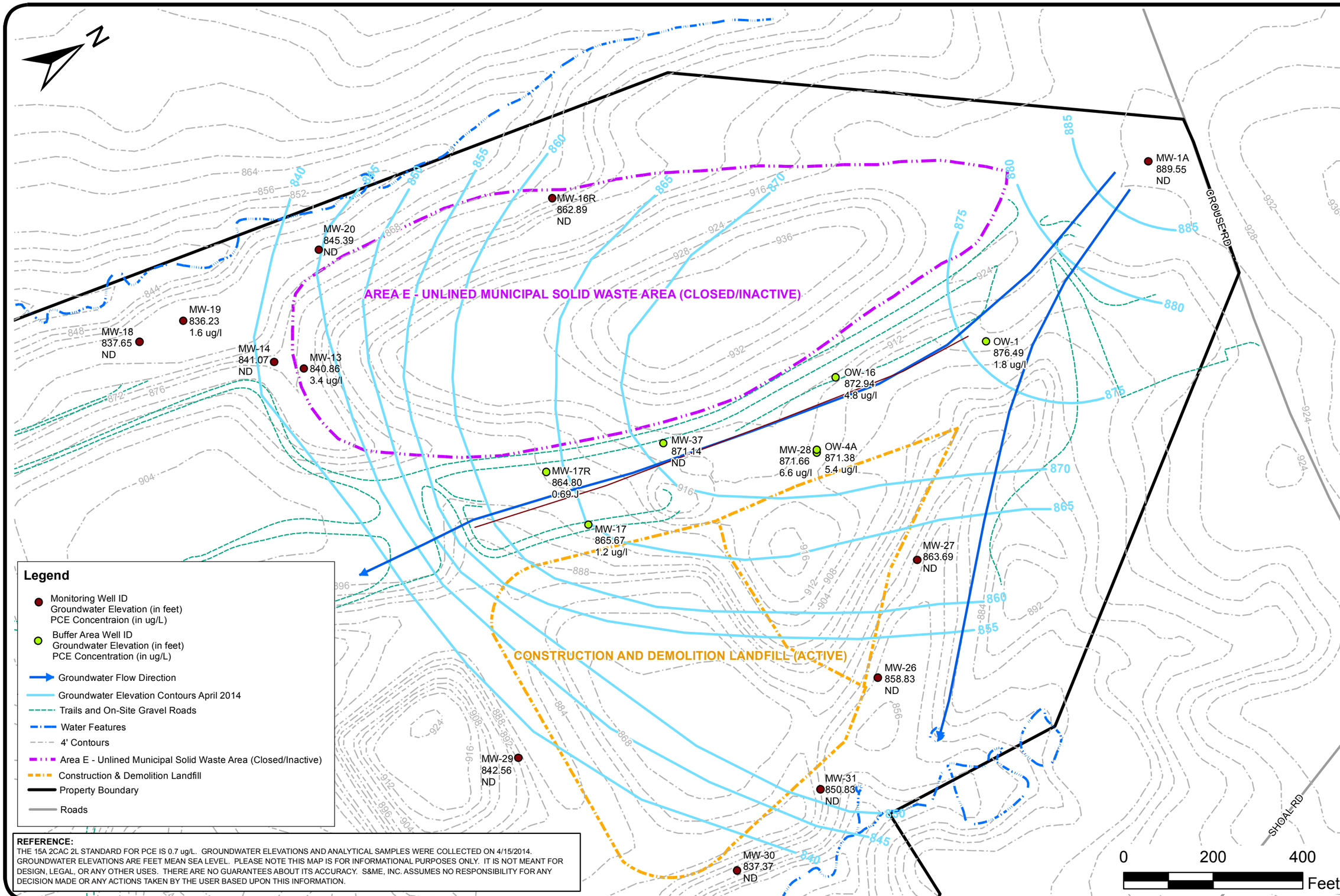
The data collected and analyzed during the study provide the following information:

- Groundwater flow directions on site indicate that the buffer area and C&D landfill receive a partial amount of flow from beneath Area "E";
- MW-28 is located hydraulically up-gradient from the C&D Landfill;
- PCE has been historically detected downgradient and side gradient of "Area E";
- PCE was detected in each of the "buffer area" wells sampled during this study; and
- VOCs typically detected in the "Area E" monitoring wells were also detected in the "buffer area" wells.

Given the data collected during this demonstration, it appears that the PCE concentrations present in groundwater monitoring well MW-28 are associated with migration of contaminants from the unlined "Area E" landfill and not from the C&D Landfill.

Appendices

Appendix I –Figures



REFERENCE:
THE 15A 2CAC 2L STANDARD FOR PCE IS 0.7 ug/L. GROUNDWATER ELEVATIONS AND ANALYTICAL SAMPLES WERE COLLECTED ON 4/15/2014. GROUNDWATER ELEVATIONS ARE FEET MEAN SEA LEVEL. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS INFORMATION.

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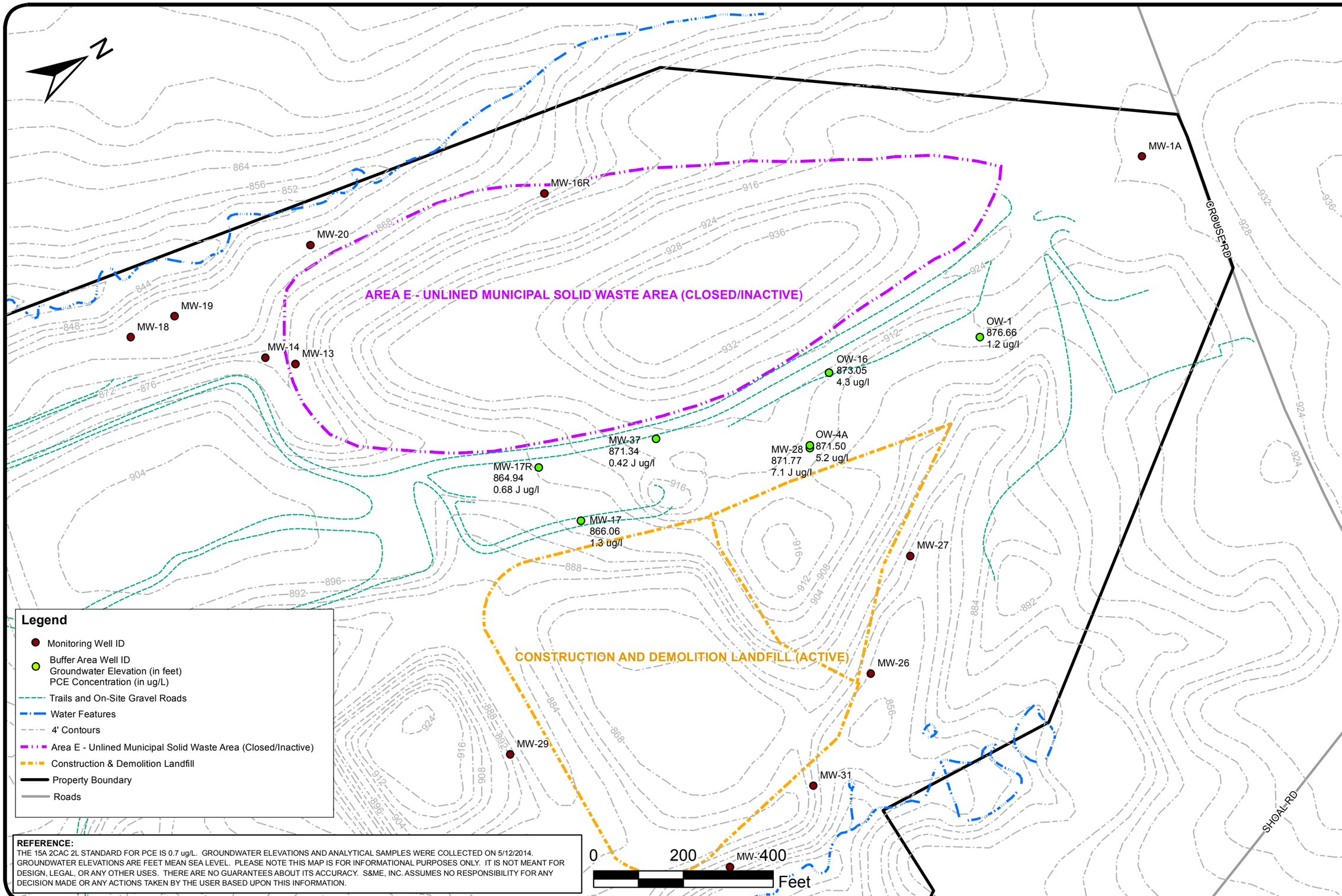
BUFFER AREA WELLS APRIL 2014 GROUNDWATER ELEVATIONS AND PCE CONCENTRAIONS (ug/L)
LINCOLN COUNTY LANDFILL
CROUSE, NORTH CAROLINA

FIGURE NO.
1

Q:\7235\14\019 LCLF C&D Assessment\April 2014.mxd



REFERENCE:
THE 15A 2CAC 2L STANDARD FOR PCE IS 0.7 ug/L. GROUNDWATER ELEVATIONS AND ANALYTICAL SAMPLES WERE COLLECTED ON 5/12/2014. GROUNDWATER ELEVATIONS ARE FEET MEAN SEA LEVEL. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS INFORMATION.

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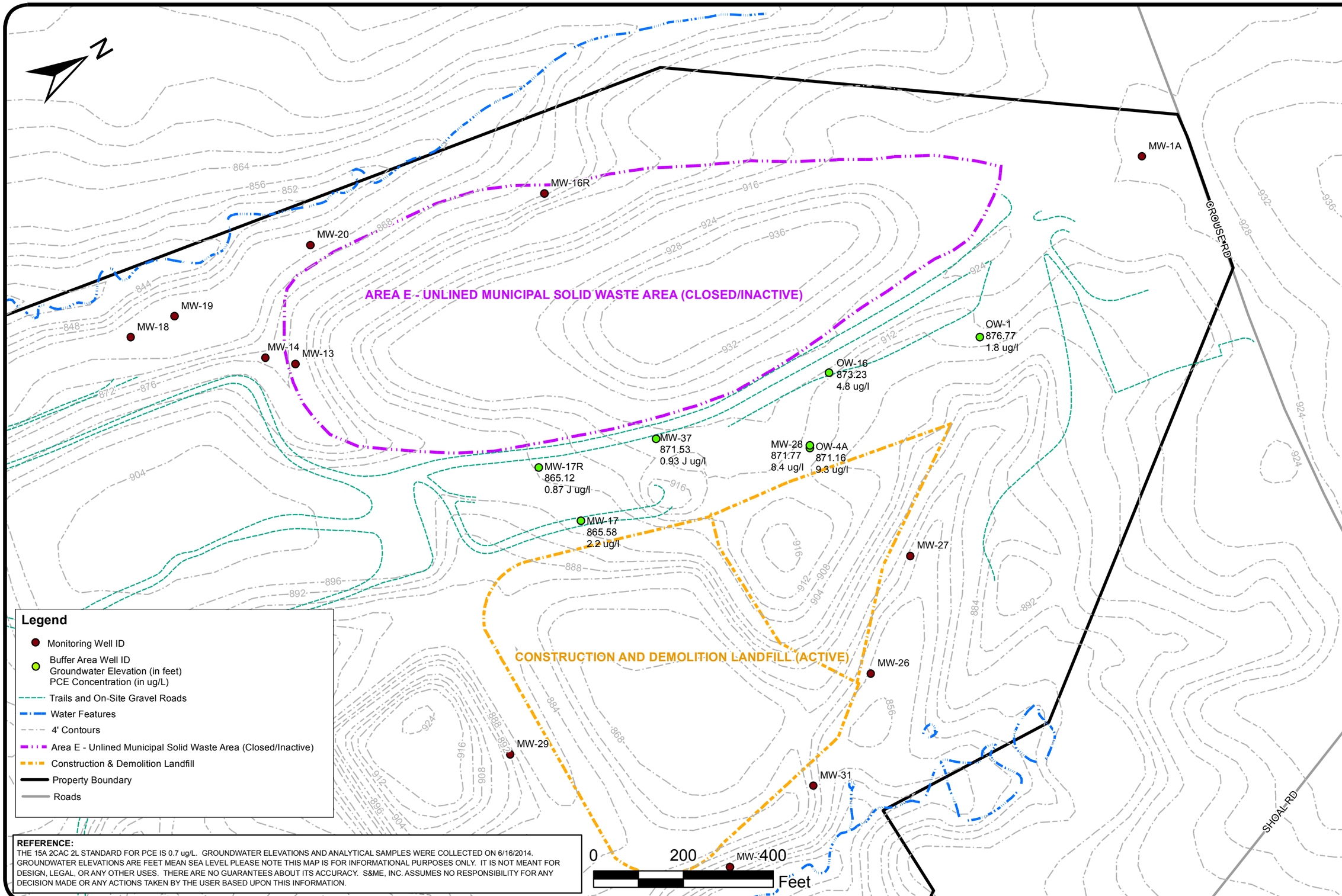
BUFFER AREA WELLS MAY 2014
GROUNDWATER ELEVATIONS AND PCE CONCENTRAIONS (ug/L)
LINCOLN COUNTY LANDFILL
CROUSE, NORTH CAROLINA

FIGURE NO.
2

Q:\7235\14\019 LCLF C&D Assessment\May 2014.mxd



REFERENCE:
THE 15A 2CAC 2L STANDARD FOR PCE IS 0.7 ug/L. GROUNDWATER ELEVATIONS AND ANALYTICAL SAMPLES WERE COLLECTED ON 6/16/2014. GROUNDWATER ELEVATIONS ARE FEET MEAN SEA LEVEL PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS INFORMATION.

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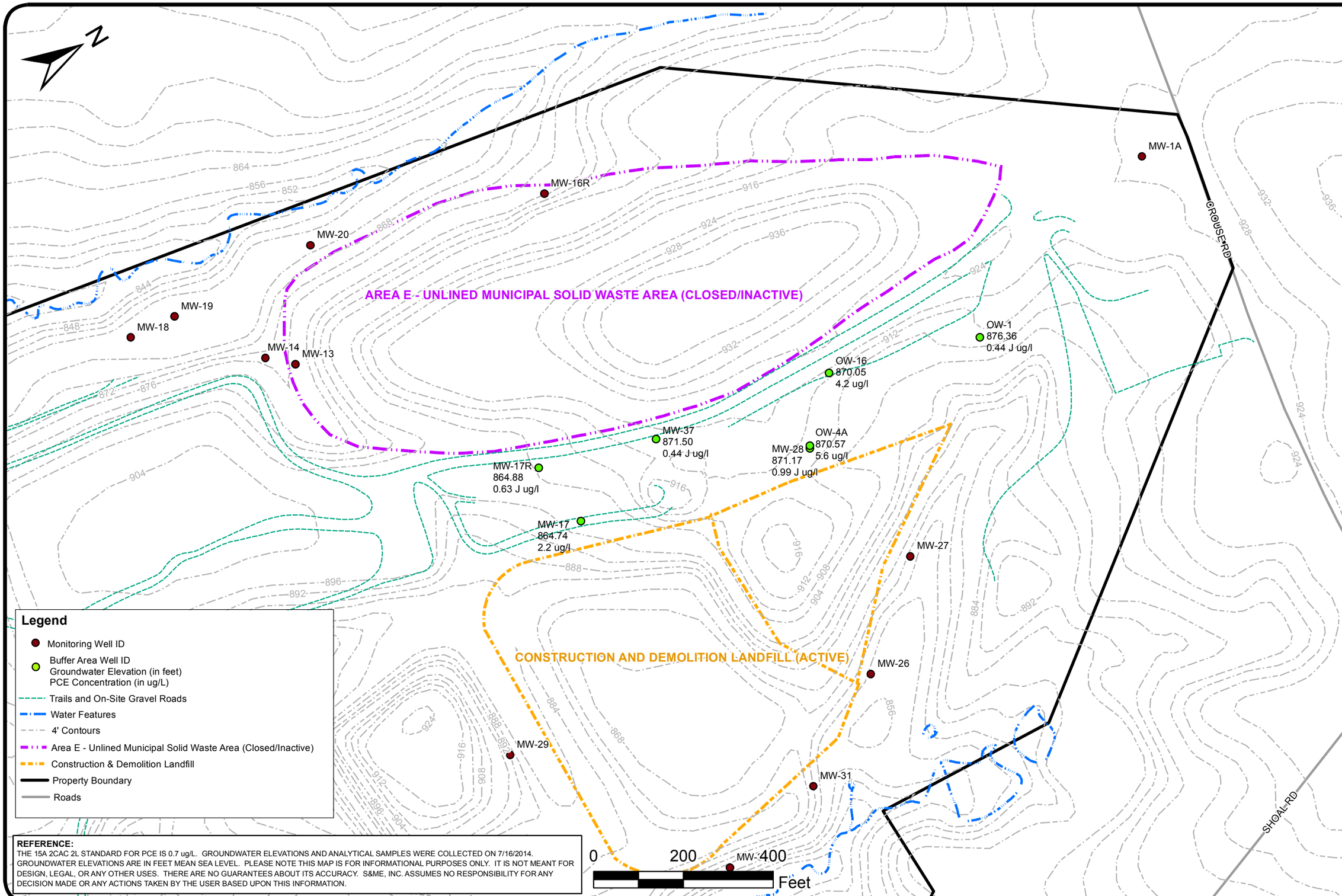
BUFFER AREA WELLS JUNE 2014 GROUNDWATER ELEVATIONS AND PCE CONCENTRAIONS (ug/L)
LINCOLN COUNTY LANDFILL
CROUSE, NORTH CAROLINA

FIGURE NO.
3

Q:\7235\14\019 LCLF C&D Assessment\June 2014.mxd



REFERENCE:
THE 15A 2CAC 2L STANDARD FOR PCE IS 0.7 ug/L. GROUNDWATER ELEVATIONS AND ANALYTICAL SAMPLES WERE COLLECTED ON 7/16/2014. GROUNDWATER ELEVATIONS ARE IN FEET MEAN SEA LEVEL. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS INFORMATION.

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BUFFER AREA WELLS JULY 2014
GROUNDWATER ELEVATIONS AND PCE CONCENTRAIONS (ug/L)
LINCOLN COUNTY LANDFILL
CROUSE, NORTH CAROLINA

FIGURE NO.
4

Q:\7235\14\019 LCLF C&D Assessment\July 2014.mxd

Appendix II –Tables

Table 1
Well Construction Summary
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No: 7235-14-019

Well ID	Install Date (MM/DD/YY)	GPS Coordinates (decimal degrees)		Survey Elevations (ft-MSL)		Casing Interval 2-inch, SCH. 40, PVC (ft-bls)			Screen Interval 2-inch, 0.010 Slot, PVC (ft-bls)			Grout Interval Neat Cement (ft-bls)			Seal Interval Bentonite (ft-bls)			Filter Pack Interval #2 Filter Sand (ft-bls)			Geology in Screen Interval
		Latitude	Longitude	Ground	TOC																
MW-17	07/20/93	35.426255°	-81.354866°	898.14	899.64	0.0	to	20.0	20.0	to	35.0	0.0	to	16.0	16.0	to	18.0	18.0	to	45.5	- - -
MW-17R	03/31/14	35.426203°	-81.355175°	903.90	906.10	0.0	to	32.5	32.5	to	47.5	0.0	to	28.5	28.5	to	30.5	30.5	to	48.0	Saprolite
MW-28	04/01/99	35.427697°	-81.354272°	912.29	915.15	0.0	to	36.0	36.0	to	51.0	0.0	to	32.0	32.0	to	34.0	34.0	to	51.0	Saprolite
MW-37	04/01/14	35.426911°	-81.354913°	914.87	917.15	0.0	to	40.0	40.0	to	55.0	0.0	to	35.0	35.0	to	37.5	37.5	to	55.5	Saprolite
OW-1	- - -	35.428933°	-81.354337°	911.26	914.27	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -
OW-4A	- - -	35.428027°	-81.354681°	912.30	915.12	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -
OW-16	- - -	35.427701°	-81.354285°	911.25	913.55	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -		- - -	- - -

Notes:

(ft-MSL)	Feet Mean Sea Level	**0.010 Slot**	0.010-Inch Machine-Slotted PVC Pipe	**Sch. 40**	Schedule 40 PVC Pipe
(ft-bls)	Feet Below Land Surface	**Neat Cement**	Cement Mixture without Bentonite	- - -	Not Available
TOC	Top of Casing	**#2 Filter Sand**	Medium to Fine Grained Silica Sand		
Ground	Ground Surface	**Bentonite**	Bentonite Pellets		

Table 2
Water Level Data Summary
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No: 7235-14-019

Well ID	Survey Elevations		April 2014		May 2014		June 2014		July 2014	
	Ground	TOC	DTW - TOC (ft)	GW ELEV. (ft-MSL)	DTW - TOC (ft)	GW ELEV. (ft-MSL)	DTW - TOC (ft)	GW ELEV. (ft-MSL)	DTW - TOC (ft)	GW ELEV. (ft-MSL)
	(ft-MSL)									
MW-17	898.14	899.64	33.97	865.67	33.58	866.06	34.06	865.58	34.90	864.74
MW-17R	903.90	906.10	41.3	864.80	41.16	864.94	40.98	865.12	41.22	864.88
MW-28	912.29	915.15	43.49	871.66	43.38	871.77	43.38	871.77	43.98	871.17
MW-37	914.87	917.15	46.01	871.14	45.81	871.34	45.62	871.53	45.65	871.50
OW-1	911.26	914.27	37.78	876.49	37.61	876.66	37.5	876.77	37.91	876.36
OW-4A	912.30	915.12	43.74	871.38	43.62	871.50	43.96	871.16	44.55	870.57
OW-16	911.25	913.55	46.01	867.54	40.50	873.05	40.32	873.23	43.50	870.05

Notes:

(ft-MSL) Feet Mean Sea Level
(ft) Feet
TOC Top of Casing
Ground Ground Surface
DTW Depth to Water
GW ELEV. Groundwater Elevation

Table 3
Groundwater Flow Data
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No: 7235-14-019

			April 2014		May 2014		June 2014		July 2014	
	K	*n*	*I*	*v*	*I*	*v*	*I*	*v*	*I*	*v*
Well ID	**Hydraulic Cond. (ft/day)**	**Eff. Porosity (n_e)**	**Gradient (ft/ft)**	**Flow Velocity (ft/yr)**	**Gradient (ft/ft)**	**Flow Velocity (ft/yr)**	**Gradient (ft/ft)**	**Flow Velocity (ft/yr)**	**Gradient (ft/ft)**	**Flow Velocity (ft/yr)**
MW-17	1.4E+00	17%	0.01	37	0.01	35	0.01	38	0.01	41
MW-17R	2.1E+00	22%	0.03	112	0.03	87	0.03	87	0.03	90
MW-28	2.6E-01	22%	0.01	5	0.01	5	0.01	4	0.01	4
MW-37	1.7E-01	21%	0.008	2	0.01	2	0.01	3	0.01	2
OW-1	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
OW-4A	5.1E-02	5%	0.01	4	0.01	4	0.01	4	0.01	4
OW-16	1.2E+00	22%	0.01	21	0.01	93	0.01	21	0	37

Notes:
(1) Hydraulic Conductivity was estimated from slug tests performed during this study. Please note that OW-1 and MW-17 were not tested due to lack of suffient water column. The value from MW-17 used was from historical data.
(2) Effective porosity was estimated from soils collected within the saturated portion of screen interval during well construction, or estimated based on bedrock type and fractures or similar soils.
(3) flow velocity $v = (K*i)/n_e$
- - - Not Available
(ft/ft) Feet per feet
(ft/yr) Feet per year

Table 4
Field Parameters in Monitoring Wells
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No. 7235-14-019

	Well ID	DTW TOC (ft-bls)	pH	Temp (°C)	Conductance (µS)
April, 2014	MW-17	33.97	5.63	16.6	65
	MW-17R	41.30	5.46	17.1	72
	MW-28	43.49	5.28	16.8	32
	MW-37	46.01	5.98	18.3	57
	OW-1	37.78	6.03	16.7	135
	OW-4A	43.74	5.86	16.9	22
	OW-16	46.01	5.47	17.7	87
May, 2014	MW-17	33.58	5.08	17.7	54
	MW-17R	41.16	4.86	19.1	57
	MW-28	43.38	4.73	18.5	28
	MW-37	45.81	5.47	20.6	26
	OW-1	37.61	5.72	19.6	165
	OW-4A	43.62	5.47	21.5	24
	OW-16	40.50	4.90	19.1	93
June, 2014	MW-17	34.06	5.21	18.2	109
	MW-17R	40.98	4.73	18.3	59
	MW-28	43.38	4.69	20.2	28
	MW-37	45.62	5.22	19.9	41
	OW-1	37.50	5.90	19.2	240
	OW-4A	43.96	5.17	18.8	22
	OW-16	40.32	4.90	19.7	108
July, 2014	MW-17	34.90	5.64	16.9	93
	MW-17R	41.22	5.37	17.9	57
	MW-28	43.98	5.30	17.5	33
	MW-37	45.65	5.88	19.5	31
	OW-1	37.91	6.21	17.7	218
	OW-4A	44.55	5.76	17.8	23
	OW-16	43.50	5.47	18.2	119

Notes:

°C	degrees celcius
µS	micro siemems
DTW	Depth to Water
TOC	Top of Casing
ft-bls	feet below land surface

Table 5
April 2014 - Summary of Detected Analytes
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No. 7235-14-019

EPA Appendix I Volatile Organic Compounds Method 8260 (ug/L)	NCDENR SWSL	15A NCAC 2L	Soild Waste GWP ST	MW-17	MW-17R	MW-28	MW-37	OW-1	OW-4A	OW-16
1,1-Dichloroethane	5	6	NE	1.2 J	5.7		0.71 J			4.1 J
1,2-Dichloroethane	1	0.4	NE		**0.48 J**					**0.57 J**
1,2-Dichlorobenzene	5	20	NE							1.0 J
1,4-Dichlorobenzene	1	6	NE		2.2					**7.2**
cis-1,2,-Dichloroethene	5	70	NE		2.6 J		0.88 J			13
Acetone	100	6000	NE	69 J		14 J		320		53 J
Benzene	1	1	NE		**4.7**					**7.7**
Methylene Chloride	1	5	NE		**43**		4.2			**17**
Tetrachloroethene	1	0.7	NE	**1.2**	0.69 J	**6.6**		**1.8**	**5.4**	**4.8**
Trichloroethene	1	3	NE	0.84 J	1.3			0.54 J		2.9
Trichlorofluoromethane	1	2000	NE		0.55 J				0.96 J	1.5
Vinyl chloride	1	0.03	NE							**0.86 J**
Xylenes (total)	5	500	NE		12		0.50 J			33
EPA Appendix I Metals Method 6010B/6020 (ug/L)										
Arsenic	10	10	NE					7.59 J		
Barium	100	700	NE	85.3 J	230	92.3 J	56.3 J	292	40.0 J	210
Beryllium	1	NE	4	0.342 J	1.08	0.210 J		0.841 J		0.467 J
Cadmium	1	2	NE							0.736 J
Chromium	10	10	NE		**27.0**		3.11 J	**11.2**	1.73 J	
Cobalt	10	NE	70	26.7	26.7	4.10 J	1.34 J	61.5	1.34 J	18.7
Copper	10	1000	NE	12.1	14.0			15.5	1.75 J	1.72 J
Iron	300	300	NE			56.8 J				
Lead	10	15	NE		5.69 J			14.6		
Manganese	50	50	NE			**87.8**				
Nickel	50	100	NE	30.7 J	19.7 J	5.67 J	3.49 J	**168**	2.58 J	19.8 J
Thallium	5.5	NE	0.28		**0.513 J**	0.112 J		**0.619 J**		**0.690 J**
Vanadium	25	NE	0.3		**34.6**		**1.47 J**	**5.08 J**		**1.68 J**
Zinc	10	1000	NE	11.0	47.5	9.04 J	5.38 J	57.9	4.29 J	19.5

Table 6
May 2014 - Summary of Detected Analytes
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No. 7235-14-019

EPA Appendix I Volatile Organic Compounds Method 8260 (ug/L)	NCDENR SWSL	15A NCAC 2L	Soild Waste GWP ST	MW-17	MW-17R	MW-28	MW-37	OW-1	OW-4A	OW-16
1,1-Dichloroethane	5	6	NE	0.87 J	5.1		0.60 J			3.5 J
1,2-Dichlorobenzene	5	20	NE							1.3 J
1,4-Dichlorobenzene	1	6	NE		2.5					**7.4**
cis-1,2,-Dichloroethene	5	70	NE		3.0 J		0.63 J			13
Acetone	100	6000	NE	46 J				210		80 J
Benzene	1	1	NE		**4.8**					**6.8**
Chlorobenzene	3	50	NE							0.51 J
Methylene Chloride	1	5	NE		**41**					**10**
Tetrachloroethene	1	0.7	NE	**1.3**	0.68 J	**7.1**	0.42 J	**1.2**	**5.2**	**4.3**
Trichloroethene	1	3	NE	0.70 J	1.2					**3**
Trichlorofluoromethane	1	2000	NE						0.60 J	0.82 J
Vinyl chloride	1	0.03	NE	**0.43 J**	**0.44 J**	**0.87 J**				**0.83 J**
Xylenes (total)	5	500	NE	0.66 J	15		1.6 J			37
EPA Appendix I Metals Method 6010B/6020 (ug/L)										
Antimony	6	NE	1.4						1.14 J	
Barium	100	700	NE	77.5 J	142	97.9 J	56.3 J	363	59.3 J	186
Beryllium	1	NE	4	0.377 J	0.394 J	0.196 J		1.81		0.401 J
Chromium	10	10	NE		5.25 J		5.06 J	**17.8**	9.80 J	4.50 J
Cobalt	10	NE	70	24.4	16.0	4.05 J	1.57 J	69.8	1.77 J	20.4
Copper	10	1000	NE	12.6	2.46 J	1.91 J		13.7	3.54 J	3.31 J
Lead	10	15	NE					**29.3**		
Nickel	50	100	NE	26.8 J	7.50 J	4.15 J	2.22 J	**180**	3.88 J	21.1 J
Selenium	10	20	NE					1.87 J		
Thallium	5.5	NE	0.28		0.195 J	0.115 J		**0.702 J**		**0.619 J**
Vanadium	25	NE	0.3		**6.16 J**		**2.40 J**	**10.1 J**	**5.05 J**	**3.45 J**
Zinc	10	1000	NE	10.5	26.9	9.22 J	6.61 J	77.4	11.0	23.5

Table 7
June 2014 - Summary of Detected Analytes
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No. 7235-14-019

EPA Appendix I Volatile Organic Compounds Method 8260 (ug/L)	NCDENR SWSL	15A NCAC 2L	Soild Waste GWP ST	MW-17	MW-17R	MW-28	MW-37	OW-1	OW-4A	OW-16
1,1-Dichloroethane	5	6	NE	2.5 J	**6.0**		1.3 J			4.2 J
1,2-Dichlorobenzene	5	20	NE							1.9 J
1,4-Dichlorobenzene	1	6	NE		3.0		0.56 J			**9.2**
cis-1,2,-Dichloroethene	5	70	NE		3.0 J		1.5 J			14
Acetone	100	6000	NE	55 J		7.0 J		170		31 J
Benzene	1	1	NE	0.46 J	**5.0**					**8.5**
Chlorobenzene	3	50	NE							0.71 J
Methylene Chloride	1	5	NE		**52**		**5.8**			**11**
Tetrachloroethene	1	0.7	NE	**2.2**	**0.87 J**	**8.4**	**0.93 J**	**1.8**	**9.3**	**4.8**
Trichloroethene	1	3	NE	1.5	1.4		0.49 J	0.53 J		**3.6**
Trichlorofluoromethane	1	2000	NE		0.51 J				1.4	1.1
Vinyl chloride	1	0.03	NE		**0.72 J**	**1.1**			**0.76 J**	**1.4**
Xylenes (total)	5	500	NE		15		4.9 J			48
EPA Appendix I Metals Method 6010B/6020 (ug/L)										
Antimony	6	NE	1.4					0.325 J	0.419 J	0.518 J
Arsenic	10	10	NE					6.64 J		
Barium	100	700	NE	62.7 J	152	91.9 J	53.1 J	380	43.0 J	159
Beryllium	1	NE	4	0.282 J	0.544 J	0.207 J	0.102 J	1.45		0.426 J
Chromium	10	10	NE		8.40 J		4.76 J	**58.2**		4.94 J
Cobalt	10	NE	70	45.9	15.5	3.34 J	1.79 J	69.6	1.77 J	26.6
Copper	10	1000	NE	10.7	3.89 J			13.5		2.17 J
Lead	10	15	NE		2.26 J			**31.8**		2.69 J
Nickel	50	100	NE	51.1	8.46 J	3.39 J	2.06 J	**181**		27.7 J
Thallium	5.5	NE	0.28		**0.315 J**	0.166 J		**0.890 J**		**0.590 J**
Vanadium	25	NE	0.3		**10.5 J**		**2.17 J**	**29.1**		**3.87 J**
Zinc	10	1000	NE	12.2	23.6	9.08 J	5.85 J	102	5.28 J	24.1

Table 8
July 2014 - Summary of Detected Analytes
Lincoln County Landfill Alternate Source Demonstration
S&ME Project No. 7235-14-019

EPA Appendix I Volatile Organic Compounds Method 8260 (ug/L)	NCDENR SWSL	15A NCAC 2L	Soild Waste GWP ST	MW-17	MW-17R	MW-28	MW-37	OW-1	OW-4A	OW-16
1,1-Dichloroethane	5	6	NE	2.6 J	5.7		1.1 J			4.1 J
1,2-Dichloroethane	1	0.4	NE		**0.48 J**					**0.69 J**
1,2-Dichlorobenzene	5	20	NE							2.8 J
1,4-Dichlorobenzene	1	6	NE		3.1					**11**
cis-1,2,-Dichloroethene	5	70	NE		3.2 J		0.66 J			17
Acetone	100	6000	NE	42 J		56 J		63 J		29 J
Benzene	1	1	NE	0.69 J	**5.8**					**10**
Chlorobenzene	3	50	NE							0.85 J
Chloroethane	10	3000	NE	0.88 J						1.3 J
Methylene Chloride	1	5	NE		**48**		3.0			2.3
Tetrachloroethene	1	0.7	NE	**2.2**	0.63 J	**0.99 J**	0.44 J	0.44 J	**5.6**	**4.2**
Toluene	1	600	NE							0.52 J
Trichloroethene	1	3	NE	1.7	1.3					**3.5**
Vinyl chloride	1	0.03	NE	**0.90 J**	**0.68 J**					**1.5**
Xylenes (total)	5	500	NE		14		1.7 J			62
EPA Appendix I Metals Method 6010B/6020 (ug/L)										
Antimony	6	NE	1.4	0.618 J	0.291 J				0.842 J	
Arsenic	10	10	NE					6.88 J		
Barium	100	700	NE	81.7 J	263	96.1 J	94.1 J	**1070**	66.2 J	286
Beryllium	1	NE	4	0.451 J	1.91	0.268 J	0.184 J	3.74	0.171 J	0.703 J
Chromium	10	10	NE		**45.1**		**14.8**	**226**	5.23 J	**46.6**
Cobalt	10	NE	70	41.8	30.6	3.16 J	3.04 J	**75.2**	2.17 J	42.7
Copper	10	1000	NE	6.62 J	21.2		2.54 J	39.8	2.59 J	11.7
Lead	10	15	NE		9.65 J			**71.0**		**15.6**
Nickel	50	100	NE	44.6 J	26.3 J	3.42 J	6.11 J	**278**	3.86 J	59.6
Thallium	5.5	NE	0.28		**0.683 J**	0.119 J		**2.81 JD**	0.112 J	**1.11 J**
Vanadium	25	NE	0.3		**58.1**		**9.96 J**	**126**	**4.72 J**	**33.2**
Zinc	10	1000	NE	14.1	69.1	10.3	18.6	281	10.5	75.5

Appendix III – Boring Logs and Well Construction Records

Field Boring Log

Job Name: LCLF C&D Assess. Job No.: 7235-14-019 ph01

Field Supervisor: C. Murphy Crew: Toby/Shane Rig Type: D-50 Boring # MW-37

Date: 4-1-14 Hammer Type: ✓ Auto, ____ Safety Hammer Ground Surface Elev. TBD

Dept No. 2190 Drill Method: ____ Mud Rotary (Diameter____), ✓ HSA (Diameter 4.25)

SOIL STRATA			SAMPLING					
From	To	Soil Description	No.	From	To	1st 6"	2nd 6"	3rd 6"
0	4	RES: red-br, br, mica, SI CL	1	3.5	5	6	9	11
4	7	SAP: br, mica, SI F SA	2	8.5	10	6	7	12
7	12	SAP: red-br, yel-tan, SI F SA	3	13.5	15	5	7	11
		to vf SA SI w/ Mn	4	18.5	20	6	8	10
12	27	SAP: red-tan, yel-tan, mica, SI	5	23.5	25	6	8	13
		vf SA (w/ wh & yel-tan SI F SA	6	28.5	30	6	7	12
		lense ~14.2 - 14.5) w/ Mn	7	33.5	35	3	6	9
27	32	SAP: tan, or-tan, SI F/vf SA	8	38.5	40	4	5	9
		w/ Mn & wh FSA lenses	9	43.5	45	3	3	8
32	37	SAP: tan, or-tan, mica, SI	10	48.5	50	3	8	9
		vf SA w/ Mn	11	53.5	55	3	5	9
37	55	SAP: tan or-tan mica ~~SI F/SA~~ cl F/vf SA SI w/ wh						
		m/F SA lenses & Mn						

Water Level @ TOB ~47' bls Water Level @ 24hrs 43.7' bls Wet Spoon @ moist @ 33.5-35, 53.5-55

Auger Refusal @ _____ Tube From ____ to ____ Bulk Sample From ____ to ____

CORE LOG

Run #1

From _____ to _____ ft

REC _____ ft RQD _____ ft

Run #2

From _____ to _____ ft

REC _____ ft RQD _____ ft

Run #3

From _____ to _____ ft

REC _____ ft RQD _____ ft

Run #4

From _____ to _____ ft

REC _____ ft RQD _____ ft

Run #5

From _____ to _____ ft

REC _____ ft RQD _____ ft

Run #6

From _____ to _____ ft

REC _____ ft RQD _____ ft

Classification:

Well Construction Details

Saprolite Well

Total Depth of Hole 55.5 ft bls

Cave – In to ___ ft bls

Bentonite (bottom of the hole) ___ to ___ ft bls

4-1-14 @ 1400

Sand Pack 37.5 to 55.5 ft bls

Screen Interval 40 to 55 ft bls

End Cap 55 to 55.5 ft bls

Bentonite Seal 35 to 37.5 ft bls

Grout 0 to 35 ft bls

Stickup +2.5 ft als

Rock Well

Total Depth of Hole ___ ft bls

Bentonite (bottom of the hole) ___ to ___ ft bls

Sand (if used) ___ to ___ ft bls

Screen Interval ___ to ___ ft bls

End Cap ___ to ___ ft bls

K-Packer Interval (if used) ___ to ___ ft bls

Bentonite Seal ___ to ___ ft bls

Grout ___ to ___ ft bls

Stickup ___ ft als

WELL DEVELOPMENT DETAILS

Date: 4-1-14 Approximate Gallons Removed: ~~100~~ ~15

Notes: ~~Clear at bottom of screen; stick se. turbid when surged near top of screen.~~ Clear from the start!

SLUG TESTING DETAILS

Date: 4-2-14 Initial Depth to Water 43.7 ft. bls Water Column 11.8 ft

Approximate Drawdown ~4 ft Start Time: 0920 and End Time: 1050

Notes:

Field Boring Log

Job Name: LCLF - C&D Well Installs Job No.: 7235-14-019 ph01

Field Supervisor: C. Murphy Crew: Toby/Shane Rig Type: D-50 Boring # MW-17R

Date: 3-31-14 Hammer Type: ✓ Auto, ____ Safety Hammer Ground Surface Elev. TBD

Dept No. 2190 Drill Method: ____ Mud Rotary (Diameter____), ✓ HSA (Diameter 4.25

SOIL STRATA			SAMPLING					
From	To	Soil Description	No.	From	To	1st 6"	2nd 6"	3rd 6"
0	4.5	RES: red-br, SI CL	1	3.5	5	3	2	4
4.5	7	SAP: tan, mica, SI F SA	2	8.5	10	3	6	8
7	12	SAP: red-br, wh, Sl. CL SI F SA	3	13.5	15	2	4	6
12	17	SAP: tan, red, mica, SI VF SA	4	18.5	20	2	4	7
17	27	SAP: yel-tan, wh, SI F SA w/ Mn	5	23.5	25	3	4	6
27	42	SAP: tan, wh, or-tan, mica, SI F SA	6	28.5	30	2	5	10
		w/ Mn; Bl, wh Rock Lense ~34'	7	33.5	35	3	5	6
42	50	SAP: br, wh, yel-tan SI C/F SA	8	38.5	40	5	12	20
		w/ Mica & Mn	9	43.5	45	3	8	12
			10	48.5	50	4	2	5

Water Level @ TOB 39.2' bls Water Level @ 24hrs 39.2' bls Wet Spoon @ moist @ 28.5-30, 43.5-45

Auger Refusal @ not encountered Tube From ____ to ____ Bulk Sample From ____ to ____

CORE LOG

Run #1

From ____ to ____ ft

REC ____ ft RQD ____ ft

Run #2

From ____ to ____ ft

REC ____ ft RQD ____ ft

Run #3

From ____ to ____ ft

REC ____ ft RQD ____ ft

Run #4

From ____ to ____ ft

REC ____ ft RQD ____ ft

Run #5

From ____ to ____ ft

REC ____ ft RQD ____ ft

Run #6

From ____ to ____ ft

REC ____ ft RQD ____ ft

Classification:

Well Construction Details

Saprolite Well

Total Depth of Hole 50 ft bls

Cave – In to 48 ft bls

Bentonite (bottom of the hole) ____ to ____ ft bls

Sand Pack 30.5 to 48 ft bls

Screen Interval 32.5 to 47.5 ft bls

End Cap 47.5 to 48 ft bls

Bentonite Seal 28.5 to 30.5 ft bls

Grout Ø to 28.5 ft bls

Stickup ~2.5 ft als

3-31-14 @ 1500

Rock Well

Total Depth of Hole ____ ft bls

Bentonite (bottom of the hole) ____ to ____ ft bls

Sand (if used) ____ to ____ ft bls

Screen Interval ____ to ____ ft bls

End Cap ____ to ____ ft bls

K-Packer Interval (if used) ____ to ____ ft bls

Bentonite Seal ____ to ____ ft bls

Grout ____ to ____ ft bls

Stickup ____ ft als

WELL DEVELOPMENT DETAILS

Date: 4-1-14 Approximate Gallons Removed: ~100

Notes: Clear at bottom of screen; still sl. turbid when surged near top of screen

SLUG TESTING DETAILS

Date: 4-2-14 Initial Depth to Water 39.2 ft. bls Water Column 8.8 ft

Approximate Drawdown ~2.3 ft Start Time: 1140 and End Time: 1225

Notes: wouldn't drawdown much

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3439-A

1. WELL CONTRACTOR:
JUSTIN MILLWOOD
Well Contractor (Individual) Name
S&ME,INC
Well Contractor Company Name
301 ZIMA PARK DRIVE
Street Address
SPARTANBURG SC 29301
City or Town State Zip Code
(864) 574-2360
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# N/A
OTHER ASSOCIATED PERMIT#(if applicable) N/A
SITE WELL ID #(if applicable) MW-17R

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation☐ Other ☐ (list use)
DATE DRILLED 03/31/14

4. WELL LOCATION:
5291 CROUSE RD, CROUSE, NC 28033
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: CROUSE COUNTY LINCOLN
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐Slope ☐Valley ☐Flat ☑Ridge ☐Other
LATITUDE 35 ° ' " DMS **OR** 35.4262032 DD
LONGITUDE 80 ° ' " DMS **OR** -81.3551748 DD
Latitude/longitude source: ☑GPS ☐Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
LINCOLN COUNTY LANDFILL PERMIT# 55-03
Facility Name Facility ID# (if applicable)
5291 CROUSE ROAD
Street Address
CROUSE NC 28033
City or Town State Zip Code
MARK BIVINS
Contact Name
5291 CROUSE ROAD
Mailing Address
CROUSE NC 28033
City or Town State Zip Code
(704) 732-9030
Area code Phone number

6. WELL DETAILS:
a. **TOTAL DEPTH:** 48 FT BLS
b. **DOES WELL REPLACE EXISTING WELL?** YES ☑ NO ☐
c. **WATER LEVEL** Below Top of Casing: 41.4 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2.2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. **YIELD (gpm):** N/A **METHOD OF TEST** N/A
f. **DISINFECTION: Type** N/A **Amount** N/A
g. **WATER ZONES** (depth):
Top N/A Bottom N/A Top N/A Bottom N/A
Top N/A Bottom N/A Top N/A Bottom N/A
Top N/A Bottom N/A Top N/A Bottom N/A

7. CASING:	Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 32.5	Ft.	2-inch	sch40	PVC
Top N/A	Bottom N/A	Ft.	N/A	N/A	N/A
Top N/A	Bottom N/A	Ft.	N/A	N/A	N/A

8. GROUT:	Depth		Material	Method
Top 0	Bottom 28.5	Ft.	Neat Cement	Pour
Top 28.5	Bottom 30.5	Ft.	Bentonite	Pour
Top N/A	Bottom N/A	Ft.	N/A	N/A

9. SCREEN:	Depth		Diameter	Slot Size	Material
Top 32.5	Bottom 47.5	Ft.	2 in.	0.01 in.	PVC
Top N/A	Bottom N/A	Ft.	N/A in.	N/A in.	N/A
Top N/A	Bottom N/A	Ft.	N/A in.	N/A in.	N/A

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 30.5	Bottom 48	Ft.	#2	Silica Sand
Top N/A	Bottom N/A	Ft.	N/A	N/A
Top N/A	Bottom N/A	Ft.	N/A	N/A

11. DRILLING LOG

Top	Bottom	Formation Description
0	4.5	SILTY CLAY
4.5	42	SILTY FINE SAND
42	48	SILTY COARSE TO FINE SAND

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 4/28/14

JUSTIN MILLWOOD
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3439-A

1. WELL CONTRACTOR:

JUSTIN MILLWOOD
Well Contractor (Individual) Name

S&ME,INC
Well Contractor Company Name

301 ZIMA PARK DRIVE
Street Address

SPARTANBURG SC 29301
City or Town State Zip Code

(864) 574-2360
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT# N/A

OTHER ASSOCIATED PERMIT#(if applicable) N/A

SITE WELL ID #(if applicable) MW-37

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 04/01/14

4. WELL LOCATION:

5291 CROUSE RD, CROUSE, NC 28033
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: CROUSE COUNTY LINCOLN

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☐ Flat ☑ Ridge ☐ Other

LATITUDE 35 ° ' " DMS OR 35.4269109 DD

LONGITUDE 80 ° ' " DMS OR -81.3549129 DD

Latitude/longitude source: ☑ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

LINCOLN COUNTY LANDFILL PERMIT# 55-03
Facility Name Facility ID# (if applicable)

5291 CROUSE ROAD
Street Address

CROUSE NC 28033
City or Town State Zip Code

MARK BIVINS
Contact Name

5291 CROUSE ROAD
Mailing Address

CROUSE NC 28033
City or Town State Zip Code

(704) 732-9030
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 55.5 FT BLS

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: 46 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2.3 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** N/A **METHOD OF TEST** N/A

f. **DISINFECTION: Type** N/A **Amount** N/A

g. **WATER ZONES** (depth):

Top N/A	Bottom N/A	Top N/A	Bottom N/A
Top N/A	Bottom N/A	Top N/A	Bottom N/A
Top N/A	Bottom N/A	Top N/A	Bottom N/A

7. CASING:	Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 40	Ft.	2-inch	sch40	PVC
Top N/A	Bottom N/A	Ft.	N/A	N/A	N/A
Top N/A	Bottom N/A	Ft.	N/A	N/A	N/A

8. GROUT:	Depth		Material	Method
Top 0	Bottom 35	Ft.	Neat Cement	Pour
Top 35	Bottom 37.5	Ft.	Bentonite	Pour
Top N/A	Bottom N/A	Ft.	N/A	N/A

9. SCREEN:	Depth		Diameter	Slot Size	Material
Top 40	Bottom 55	Ft.	2 in.	0.01 in.	PVC
Top N/A	Bottom N/A	Ft.	N/A in.	N/A in.	N/A
Top N/A	Bottom N/A	Ft.	N/A in.	N/A in.	N/A

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 37.5	Bottom 55.5	Ft.	#2	Silica Sand
Top N/A	Bottom N/A	Ft.	N/A	N/A
Top N/A	Bottom N/A	Ft.	N/A	N/A

11. DRILLING LOG

Top	Bottom	Formation Description
0	4	SILTY CLAY
4	37	SILTY FINE TO VF SAND
37	55.5	CLAYEY F SANDY SILT

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 4/28/14

JUSTIN MILLWOOD
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

Appendix IV – Soil Porosity Calculations

Form No. TR-D422-2
Revision No. 0
Revision Date: 02/20/08

Particle Size Analysis of Soils

ASTM D 422

S&ME, Inc. ~ 9751 Southern Pine Boulevard ~ Charlotte, NC 28273

S&ME

Project #:	**7235-14-019 Ph.01**	Report Date:	4/17/14
Project Name:	LCLF C&D Assessment-ASD	Test Date(s):	4/8-17/14
Client Name:	Lincoln County	Address:	5291 Crouse Rd., Crouse, NC 28033
Boring #:	MW-37	Sample #: 9	Sample Date: 3/31/14-4/1/14
Location:	Monitoring Well SS	Offset: NA	Elevation: 43.5-45'
Sample Description:	Tan, Orange-Tan Clayey Fine Sandy Silt		

Pan #:		Beaker #:		**Apparent Relative Density (Assumed)**		**2.650**
Hydrometer Jar #:						
Pan Tare Weight (grams):				**Moisture Content**	Hygroscopic	Natural
Total Sample Air Dried Wt. + tare wt. (grams):	143.91			Tare #	RR	
Weight of Total Sample Air Dried:	143.91		A	Tare Wt.	15.25	
Weight of Air Dried Hydrometer Sample (g):	50.00		B	Wet Wt. + A	25.55	
Total Sample Oven Dried:	142.93		C	Dry Wt. + A	25.48	
Hydrometer Sample Oven Dried (W):	49.66		D	Water Wt. (B-C)	0.07	
% Passing #10:	100.0%		E	Dry Wt. (C-A)	10.23	
Correction Factor a (Table 1):	1.02			% Moisture (100 x D/E)	0.68%	

Sieve	Retained Wt.	Percent Passing	
3.0"	0.0	Pan # (washed)	100.0%
1.5"	0.0		100.0%
1.0"	0.0		100.0%
3/4"	0.0		100.0%
1/2"	0.0		100.0%
3/8"	0.0	Soil Mortar	100.0%
#4	0.0		100.0%
#10	0.00	100.0%	100.0%
#20	0.08	99.8%	99.8%
#40	0.37	99.3%	99.3%
#60	2.47	95.0%	95.0%
#100	10.48	78.9%	78.9%
#200	24.68	50.3%	50.3%

Description of Sand & Gravel Particles Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Stirring Apparatus: A ☒ B ☐ Dispersion Time: 1 min. Sodium Hexametaphosphate: 40 g./ Liter

Balance: ID No. 3222 *Cal. Date:* 6/18/2013 Hydrometer: *ID No.* 3901 *Cal. Date:* 3/19/2014

Control Cylinder ☒ Composite Correction ☐ **Type: 151H** ☐ **152H** ☒

Time T (Min.)	Temp. (0.5 °C)	Hydrometer Reading	Corrections: Control Cylinder	Corrections: Composite Correction	Hydrometer R	Percent Passing: P(-#10) = (R x a / W) x 100	Percent Passing: P (total) = P x % Passing #10	Effective Depth L	Table 3 K	Diameter D = K x ((L/T)^1/2
1	22.0	26.0	5.0		21.00	43.1%	43.1%	12.9	0.01332	0.04775
2	22.0	21.5	5.0		16.50	33.9%	33.9%	13.6	0.01332	0.03472
5	22.0	17.0	5.0		12.00	24.6%	24.6%	14.3	0.01332	0.02255
15	22.0	12.5	5.0		7.50	15.4%	15.4%	15.1	0.01332	0.01335
30	22.0	11.0	5.0		6.00	12.3%	12.3%	15.3	0.01332	0.00952
60	22.0	9.5	5.0		4.50	9.2%	9.2%	15.6	0.01332	0.00678
250	23.0	7.0	4.5		2.50	5.1%	5.1%	15.9	0.01317	0.00332
1440	21.0	6.5	5.5		1.00	2.1%	2.1%	16.1	0.01348	0.00143

References / Comments / Deviations

Karen Warner		Julie Robertson JPR	Project Manager	4-18-14
Technician Name	*Certification #*	*Technical Responsibility*	*Position*	*Date*

Form No. TR-D422-3
Revision No. 0
Revision Date: 02/20/08

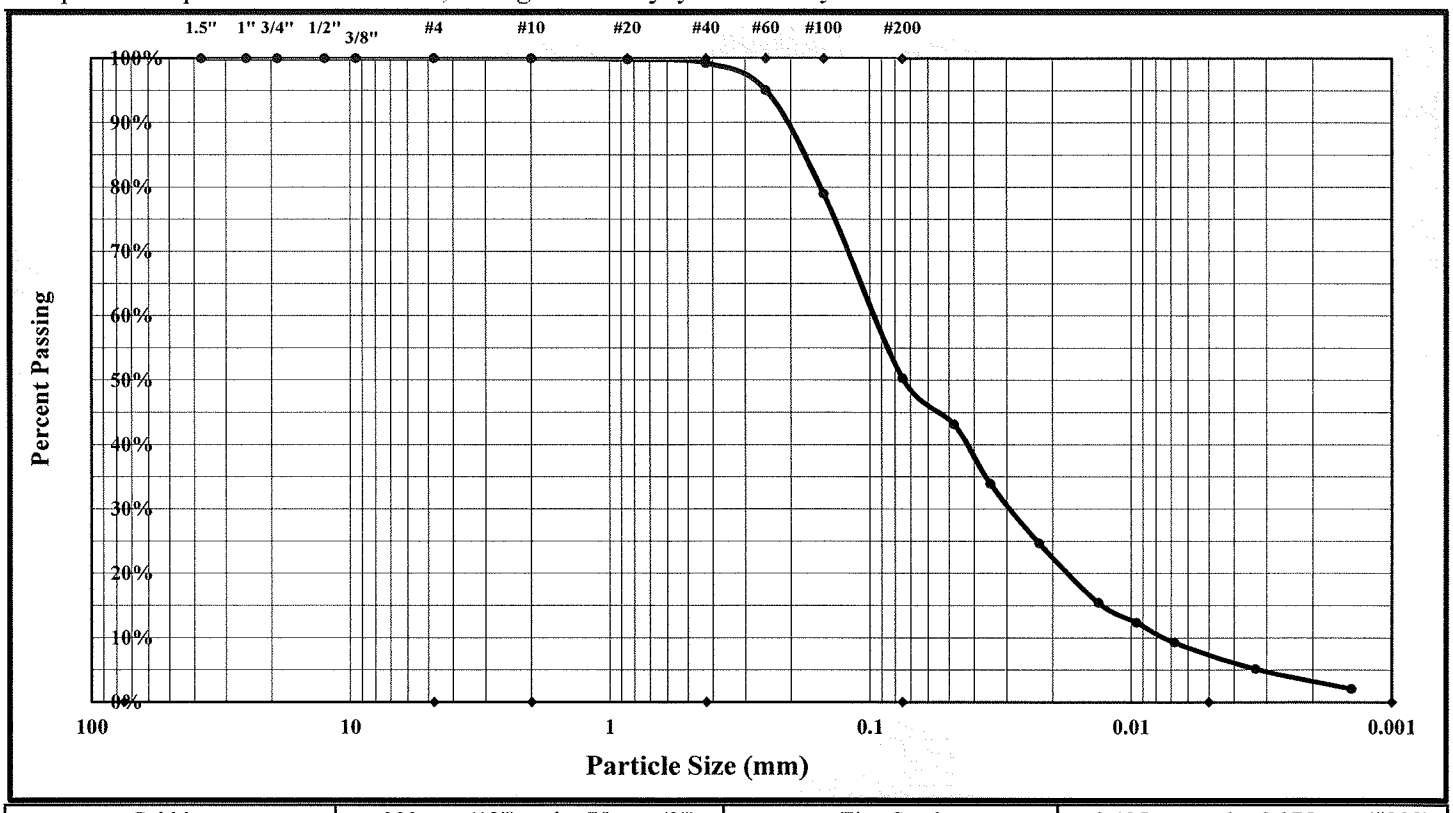
Particle Size Analysis of Soils

ASTM D422

Quality Assurance

S&ME, Inc. ~ 9751 Southern Pine Boulevard ~ Charlotte, NC 28273

S&ME Project #:	7235-14-019 Ph.01	Report Date:	4/17/14
Project Name:	LCLF C&D Assessment-ASD	Test Date(s):	4/8-17/14
Client Name:	Lincoln County		
Address:	5291 Crouse Rd., Crouse, NC 28033		
Boring #:	MW-37 Sample #: 9	Sample Date:	3/31/14-4/1/14
Location:	Monitoring Well SS Offset: NA	Elevation:	43.5-45'
Sample Description:	Tan, Orange-Tan Clayey Fine Sandy Silt		



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size:	#20	Gravel:	0.0%	Silt	43.3%
Silt & Clay (% Passing #200):	50.3%	Total Sand:	49.7%	Clay	7.0%
ent Relative Density (Assumed)	2.650	Moisture Content		Colloids	
Liquid Limit	ND	Plastic Limit	ND	Plastic Index	ND
Coarse Sand:	0.0%	Medium Sand:	0.7%	Fine Sand:	49.0%

Description of Sand and Gravel: Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Technician Name: Karen Warner **Date:** 4/17/14

Julie Robertson	[signature]	P.M.	4-18-14
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D422-2
Revision No. 0
Revision Date: 02/20/08

Particle Size Analysis of Soils

ASTM D 422

S&ME, Inc. ~ 9751 Southern Pine Boulevard ~ Charlotte, NC 28273

S&ME

Project #:	**7235-14-019 Ph.01**	Report Date:	4/17/14
Project Name:	LCLF C&D Assessment-ASD	Test Date(s):	4/8-17/14
Client Name:	Lincoln County	Address:	5291 Crouse Rd., Crouse, NC 28033
Boring #:	MW-17R	Sample #: 9	Sample Date: 3/31/14-4/1/14
Location:	Monitoring Well SS	Offset: NA	Elevation: 43.5-45'
Sample Description:	Brown,White,Yellow-Tan Clayey Silty Coarse to Fine to Medium Sand		

Pan #:		Beaker #:		**Apparent Relative Density (Assumed)**		**2.650**
Hydrometer Jar #:						
Pan Tare Weight (grams):				**Moisture Content**	Hygroscopic	Natural
Total Sample Air Dried Wt. + tare wt. (grams):		197.38		Tare #	39	
Weight of Total Sample Air Dried:		197.38	A	Tare Wt.	13.96	
Weight of Air Dried Hydrometer Sample (g):		50.00	B	Wet Wt. + A	24.53	
Total Sample Oven Dried:		196.57	C	Dry Wt. + A	24.48	
Hydrometer Sample Oven Dried (**W**):		49.76	D	Water Wt. (B-C)	0.05	
% Passing #10:		86.5%	E	Dry Wt. (C-A)	10.52	
Correction Factor a (Table 1):		1.02		% Moisture (100 x D/E)	0.48%	

Sieve	Retained Wt.	Percent Passing	
3.0"	0.0	Pan # (washed)	100.0%
1.5"	0.0		100.0%
1.0"	0.0		100.0%
3/4"	0.0		100.0%
1/2"	0.0		100.0%
3/8"	0.0	Soil Mortar	100.0%
#4	4.1		97.9%
#10	26.63	100.0%	86.5%
#20	8.35	83.2%	71.9%
#40	14.78	70.3%	60.8%
#60	18.95	61.9%	53.5%
#100	23.87	52.0%	45.0%
#200	28.91	41.9%	36.2%

Description of Sand & Gravel Particles Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Stirring Apparatus: A ☒ B ☐ Dispersion Time: 1 min. Sodium Hexametaphosphate: 40 g./ Liter

Balance: ID No. 3222 *Cal. Date:* 6/18/2013 Hydrometer: *ID No.* 3901 *Cal. Date:* 3/19/2014

Control Cylinder ☒ Composite Correction ☐ **Type: 151H** ☐ **152H** ☒

Time T (Min.)	Temp. (0.5 °C)	Hydrometer Reading	Corrections: Control Cylinder	Corrections: Composite Correction	Hydrometer R	Percent Passing: P(-#10) = (R x a / W) x 100	Percent Passing: P (total) = P x % Passing #10	Effective Depth L	Table 3 K	Diameter D = K x ((L/T)$^{1/2}$
1	22.0	23.0	5.0		18.00	36.9%	31.9%	13.3	0.01332	0.04866
2	22.0	20.0	5.0		15.00	30.7%	26.6%	13.8	0.01332	0.03503
5	22.0	16.0	5.0		11.00	22.5%	19.5%	14.5	0.01332	0.02268
15	22.0	14.5	5.0		9.50	19.5%	16.8%	14.7	0.01332	0.01320
30	22.0	12.5	5.0		7.50	15.4%	13.3%	15.1	0.01332	0.00944
60	22.0	11.0	5.0		6.00	12.3%	10.6%	15.3	0.01332	0.00673
250	23.0	8.0	4.5		3.50	7.2%	6.2%	15.7	0.01317	0.00330
1440	21.0	7.0	5.5		1.50	3.1%	2.7%	16.0	0.01348	0.00142

References / Comments / Deviations

Karen Warner		Julie Robertson JPR	P.M.	4-18-14
Technician Name	*Certification #*	*Technical Responsibility*	*Position*	*Date*

Form No. TR-D422-3
Revision No. 0
Revision Date: 02/20/08

Particle Size Analysis of Soils

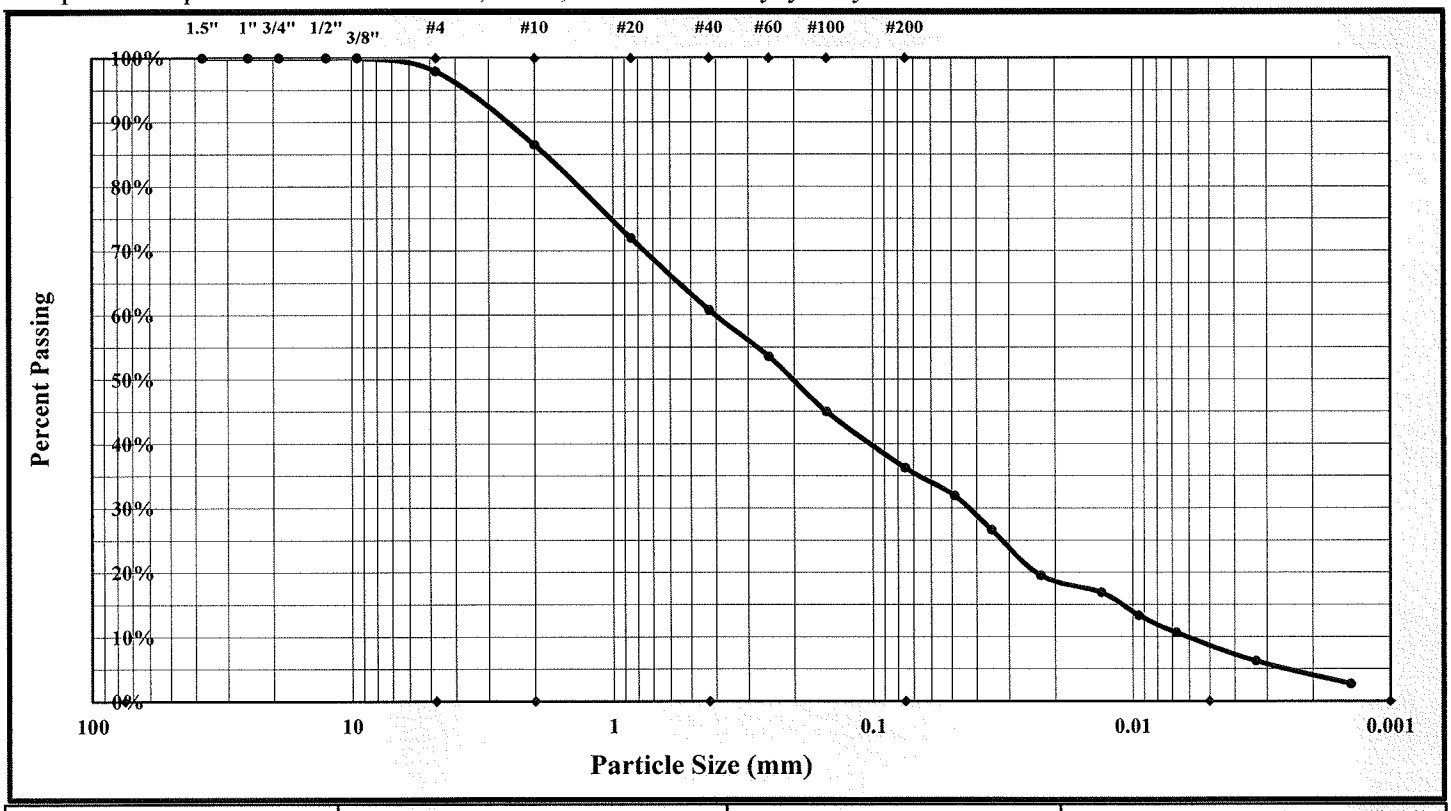
ASTM D422

Quality Assurance

S&ME, Inc. ~ 9751 Southern Pine Boulevard ~ Charlotte, NC 28273

S&ME Project #:	7235-14-019 Ph.01	Report Date:	4/17/14
Project Name:	LCLF C&D Assessment-ASD	Test Date(s):	4/8-17/14
Client Name:	Lincoln County		
Address:	5291 Crouse Rd., Crouse, NC 28033		
Boring #:	MW-17R Sample #: 9	Sample Date:	3/31/14-4/1/14
Location:	Monitoring Well SS Offset: NA	Elevation:	43.5-45'

Sample Description: Brown,White,Yellow-Tan Clayey Silty Coarse to Fine to Medium Sand



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size:	#4	Gravel:	2.1%	Silt	27.2%
Silt & Clay (% Passing #200):	36.2%	Total Sand:	61.7%	Clay	9.0%
ent Relative Density (Assumed)	2.650	Moisture Content		Colloids	
Liquid Limit	ND	Plastic Limit	ND	Plastic Index	ND
Coarse Sand:	11.5%	Medium Sand:	25.7%	Fine Sand:	24.5%

Description of Sand and Gravel: Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. — Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Technician Name: Karen Warner **Date:** 4/17/14

Julie Robertson	Julie Robertson	P.M.	4-18-14
Technical Responsibility	*Signature*	*Position*	*Date*

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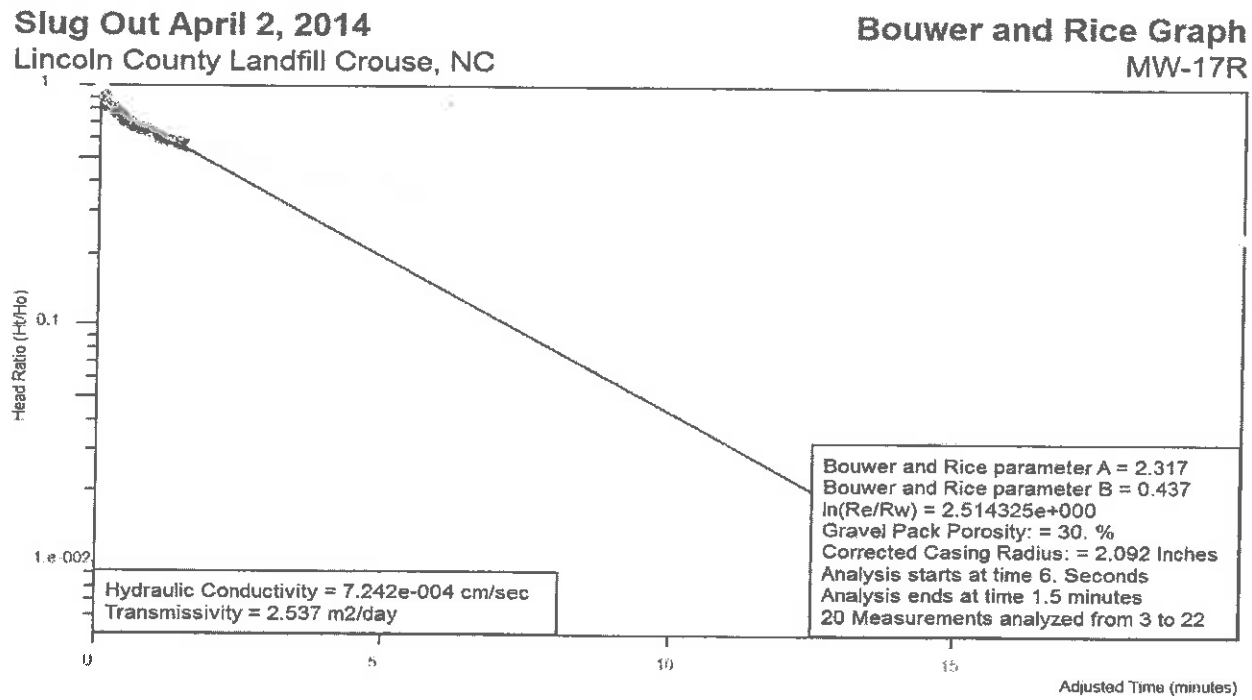
Appendix V – Slug Test Data Sheets

Calculation of Hydraulic Conductivity
Rising Head Method (Slug Test)

Well Label:	**MW-17R**
Site Name:	Lincoln County Landfill
Test Date:	2-Apr-14
Project Number:	7235-14-019
Aquifer Thickness:	13.3 feet
Screen Length:	15. feet
Casing Radius:	1. Inches
Effective Radius:	2.092 Inches
Static Water Level:	39.2 feet
Water Table to Screen Bottom:	8.3 feet
Anisotropy Ratio:	1

Time Adjustment: 0. Seconds
Test starts with trial 0
There are 64 time and drawdown measurements
Maximum head is 2.235 feet
Minimum head is 0. feet

Calculation by Bouwer and Rice Graphical Method



Project Number: 7235-14-019 for Lincoln County
Analysis by Courtney Murphy of S&ME, Inc.

HYDRAULIC CONDUCTIVITY

7.24×10^{-04} cm/sec

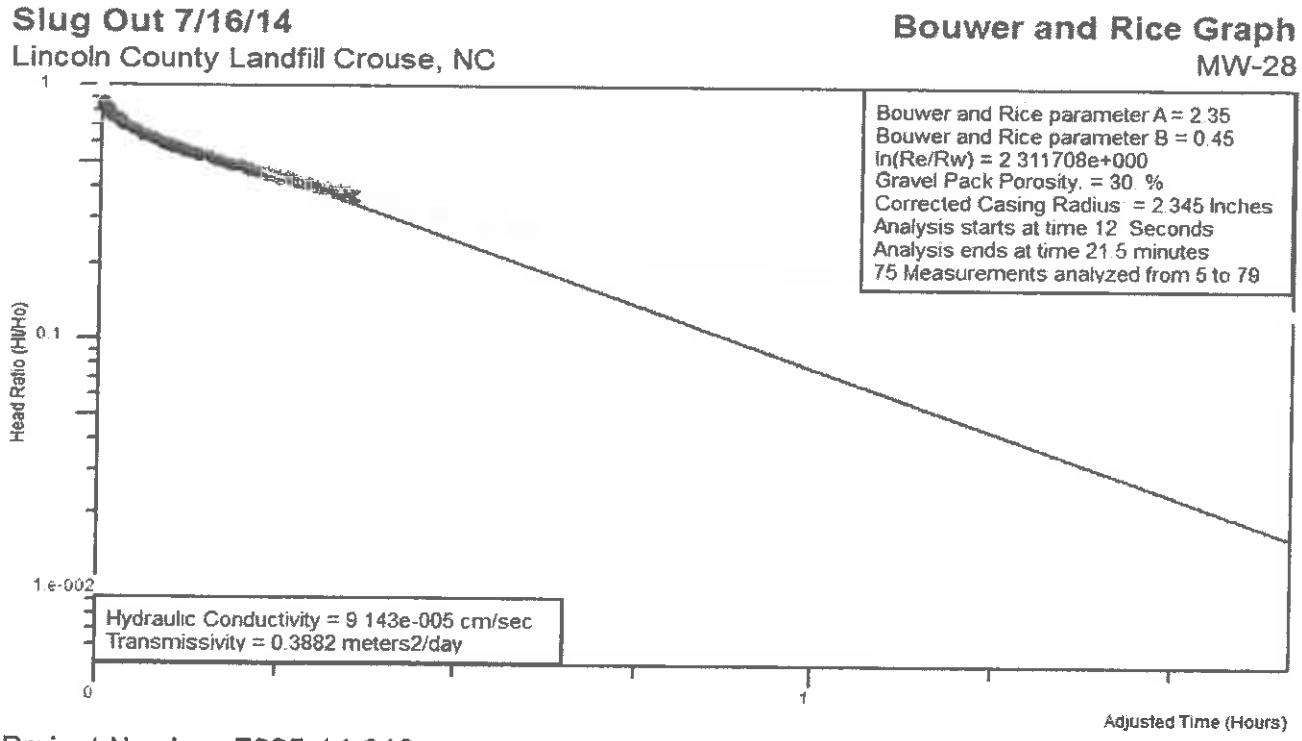
Calculation of Hydraulic Conductivity
Rising Head Method (Slug Test)

S&ME

Well Label:	**MW-28**
Site Name:	Lincoln County Landfill
Test Date:	16-Jul-14
Project Number:	7235-14-019
Aquifer Thickness:	16.12 feet
Screen Length:	10. feet
Casing Radius:	1. Inches
Effective Radius:	4. Inches
Static Water Level:	11.12 feet
Water Table to Screen Bottom:	11.12 feet
Anisotropy Ratio:	1

Time Adjustment: 0. Seconds
Test starts with trial 0
There are 142 time and drawdown measurements
Maximum head is 3.285 feet
Minimum head is 0. feet

Calculation by Bouwer and Rice Graphical Method



Project Number: 7235-14-019
Analysis by Starpoint Software

HYDRAULIC CONDUCTIVITY

9.143×10^{-05} cm/sec

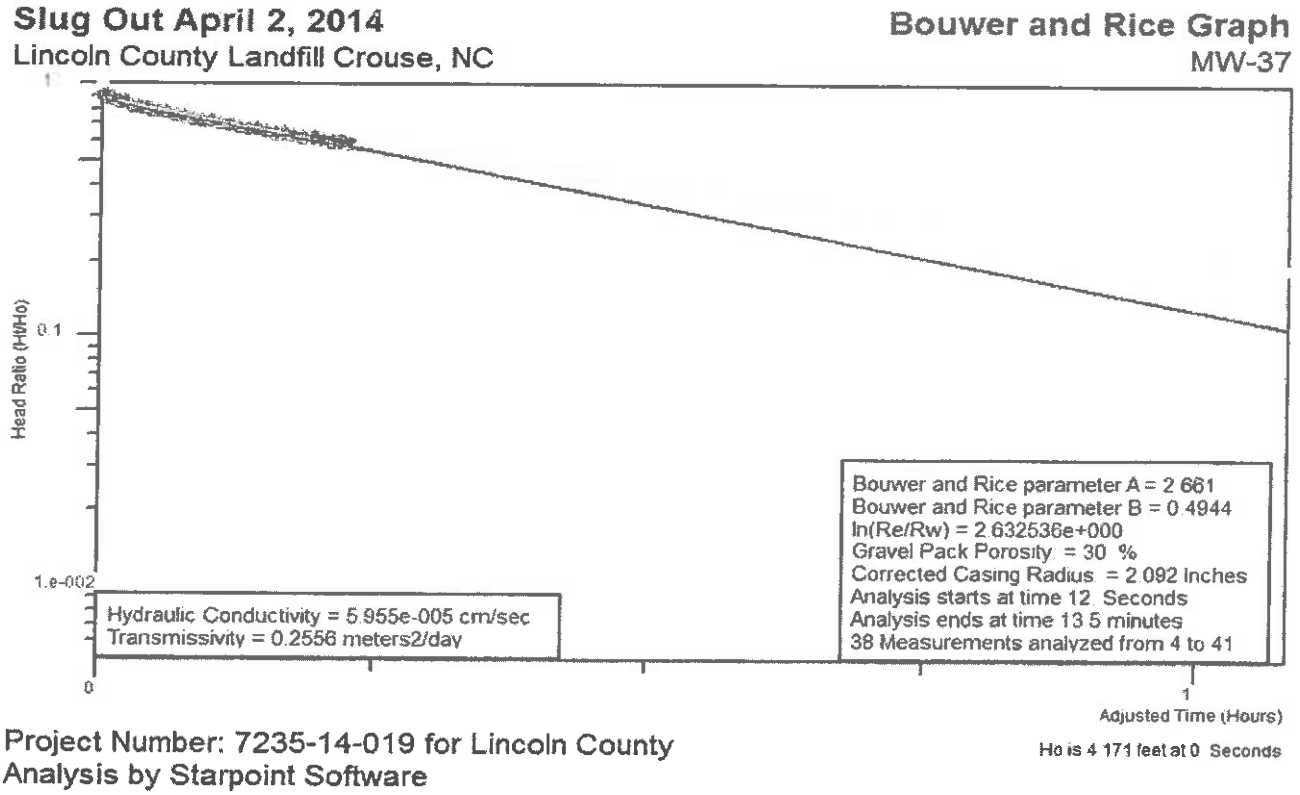
Calculation of Hydraulic Conductivity
Rising Head Method (Slug Test)

S&ME

Well Label:	**MW-37**
Site Name:	Lincoln County Landfill
Test Date:	2-Apr-14
Project Number:	7235-14-019
Aquifer Thickness:	16.3 feet
Screen Length:	15. feet
Casing Radius:	1. Inches
Effective Radius:	3.5 Inches
Static Water Level:	43.7 feet
Water Table to Screen Bottom:	11.3 feet
Anisotropy Ratio:	1

Time Adjustment: 0. Seconds
Test starts with trial 0
There are 92 time and drawdown measurements
Maximum head is 4.171 feet
Minimum head is 0. feet

Calculation by Bouwer and Rice Graphical Method



Project Number: 7235-14-019 for Lincoln County
Analysis by Starpoint Software

HYDRAULIC CONDUCTIVITY

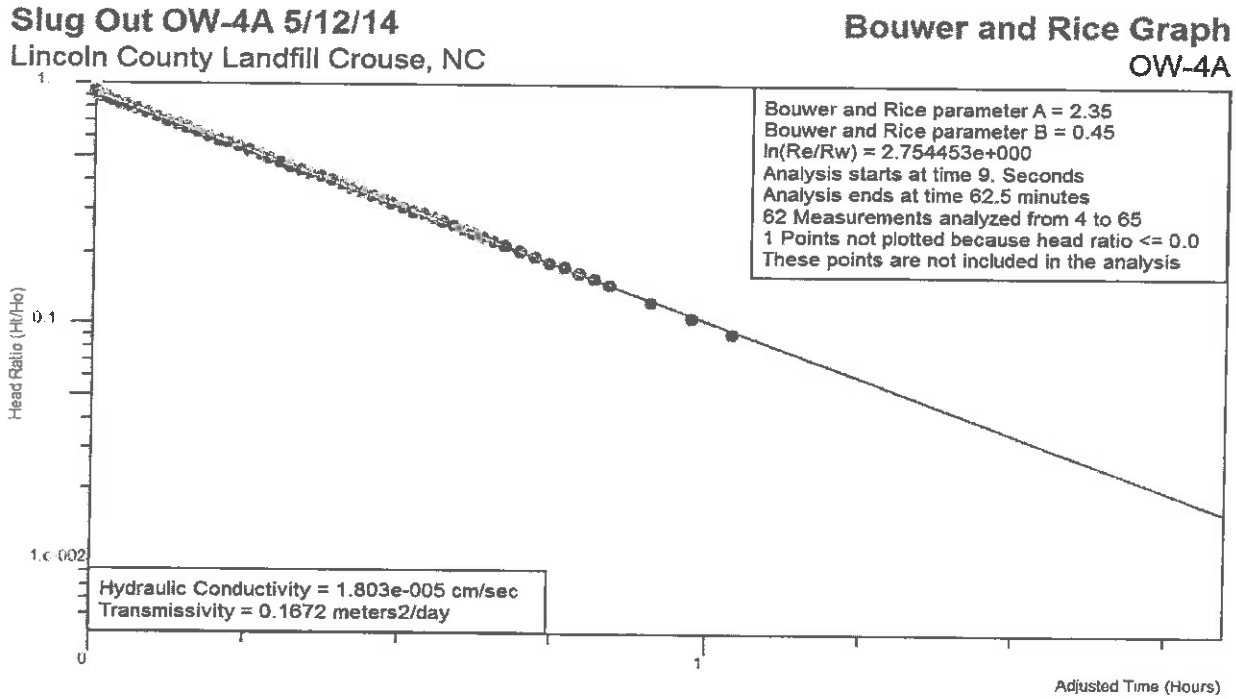
5.955×10^{-05} cm/sec

Calculation of Hydraulic Conductivity
Rising Head Method (Slug Test)

Well Label:	**OW-4A**
Site Name:	Lincoln County Landfill
Test Date:	12-May-14
Project Number:	7235-14-019
Aquifer Thickness:	35.2 feet
Screen Length:	10. feet
Casing Radius:	1. Inches
Effective Radius:	4. Inches
Static Water Level:	40.8 feet
Water Table to Screen Bottom:	30.2 feet
Anisotropy Ratio:	1

Time Adjustment: 0. Seconds
Test starts with trial 0
There are 70 time and drawdown measurements
Maximum head is 6.509 feet
Minimum head is 0. feet

Calculation by Bouwer and Rice Graphical Method



Project Number: 7235-14-019
Analysis by Starpoint Software

HYDRAULIC CONDUCTIVITY

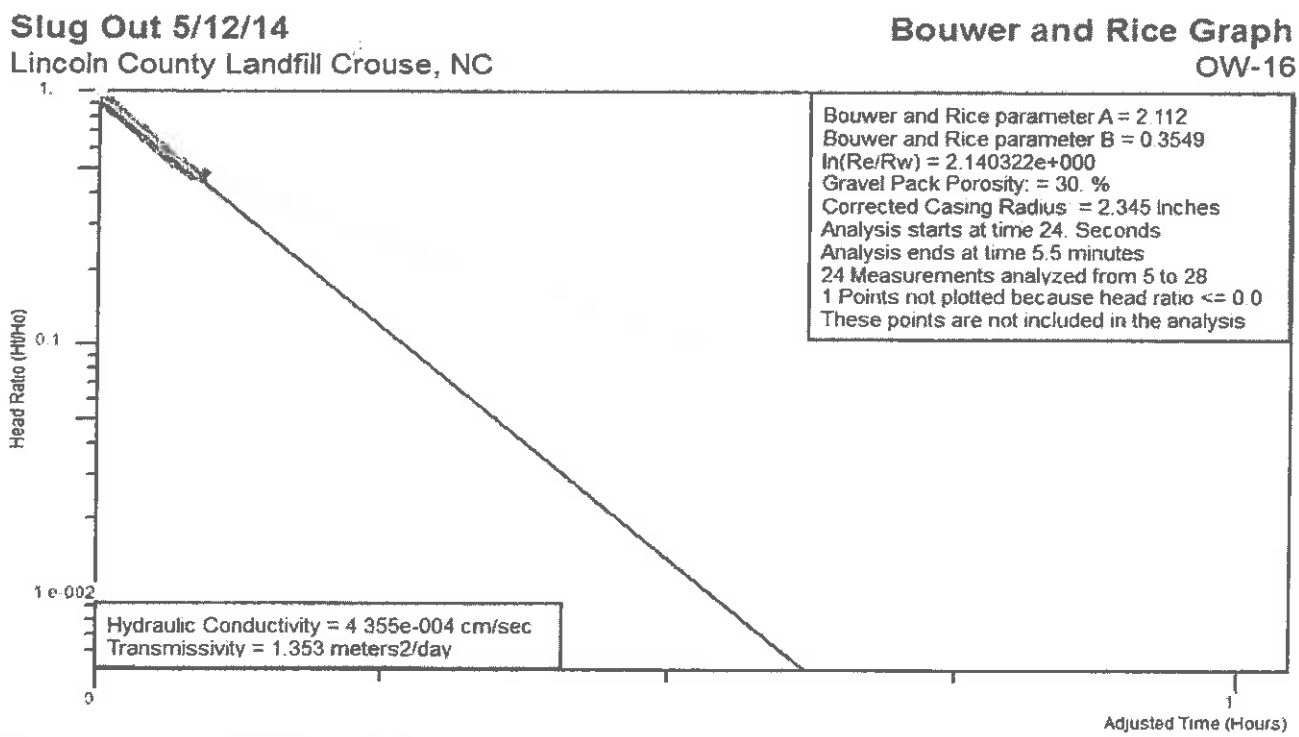
1.803×10^{-05} cm/sec

Calculation of Hydraulic Conductivity
Rising Head Method (Slug Test)

Well Label:	**OW-16**
Site Name:	Lincoln County Landfill
Test Date:	12-May-14
Project Number:	7235-14-019
Aquifer Thickness:	11.8 feet
Screen Length:	10. feet
Casing Radius:	1. Inches
Effective Radius:	4. Inches
Static Water Level:	38.2 feet
Water Table to Screen Bottom:	6.8 feet
Anisotropy Ratio:	1

Time Adjustment: 0. Seconds
Test starts with trial 0
There are 58 time and drawdown measurements
Maximum head is 5.295 feet
Minimum head is 0. feet

Calculation by Bouwer and Rice Graphical Method



Project Number: 7235-14-019
Analysis by Starpoint Software

HYDRAULIC CONDUCTIVITY

4.355×10^{-04} cm/sec

Appendix VI – Field Well Sampling Logs and Analytical Data Reports

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.41
Depth to Water (ft) 33.97
Depth to Base of Well (ft) 36.50
(well casing volume = water column*0.164)
Water Column (ft) 2.53
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	12:21	5.59	17.0	72
	0.40	12:22	5.63	16.8	75
	0.80	12:23	5.64	16.7	68
Final	Dry at 1.0 gal	12:25	5.63	16.6	65

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 10:40
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 500 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-28

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 1.8
Depth to Water (ft) 43.49
Depth to Base of Well (ft) 54.50
(well casing volume = water column*0.164)
Water Column (ft) 11.11
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	16:14	5.28	16.5	40
	1.8	16:18	5.28	16.7	37
	3.6	16:22	5.28	16.8	34
Final	5.4	16:26	5.28	16.8	32

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 11:35
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs & THF	(3) 40 mL glass vials	HCL
Appendix I Metals + Hg, Mn, Fe	(1) 250 mL plastic bottle	HNO3
Alkalinity/TDS/ Chloride/Sulfate	(1) 250 mL plastic bottle	None

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-1

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.36
Depth to Water (ft) 37.78
Depth to Base of Well (ft) 40.00
(well casing volume = water column*0.164)
Water Column (ft) 2.22
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	15:42	5.99	16.8	162
	Dry at 0.5 gal	15:44	6.03	16.7	135
Final					

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 11:50
Sampling Equipment disposable teflon bailer
Sample Observations Slightly turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments Needs a lock, white floating material in water (similar to MW-29)
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-4A

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 4.47
Depth to Water (ft) 43.74
Depth to Base of Well (ft) 71.00
(well casing volume = water column*0.164)
Water Column (ft) 27.26
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Field-Cleaned Typhoon Pump

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	16:15	5.83	15.8	22
	4.5	16:19	5.79	16.7	24
	7.0	16:23	6.00	16.5	24
Final	9.0	16:27	5.86	16.9	22

*Dry at 7 gal, let recharge, reading taken at 9 gal (recharge was very slow)

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 11:30
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments Needs a lock
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-16

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.72
Depth to Water (ft) 40.61
Depth to Base of Well (ft) 45.00
(well casing volume = water column*0.164)
Water Column (ft) 4.39
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	16:35	5.40	17.3	75
	0.7	16:37	5.42	17.8	80
	1.4	16:41	5.43	17.7	81
Final	2.1	16:43	5.47	17.7	87

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 11:45
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments Needs a lock
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17R

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 1.7
Depth to Water (ft) 41.30
Depth to Base of Well (ft) 51.90
(well casing volume = water column*0.164)
Water Column (ft) 10.60
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	14:56	5.50	17.0	70
	1.7	15.:00	5.52	17.1	79
	3.4	15:04	5.47	17.0	74
Final	5.1	15:08	5.46	17.1	72

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 10:20
Sampling Equipment disposable teflon bailer
Sample Observations Slightly turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments Needs a lock
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-37

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 55°F, rainy, windy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC Well Casing Volume 2.1
Depth to Water (ft) 46.01
Depth to Base of Well (ft) 59.00 (well casing volume = water column*0.164)
Water Column (ft) 12.99
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014 Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	12:05	5.71	18.5	66
	2.1	12:08	5.80	18.5	75
	4.2	12:12	5.88	18.4	70
Final	6.3	12:14	5.98	18.3	57

Well Sampling Data

Sampling Date 4/16/2014
Sampling Time 10:15
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.48
Depth to Water (ft) 33.58
Depth to Base of Well (ft) 36.50
(well casing volume = water column*0.164)
Water Column (ft) 2.92
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 5/12/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	9:30	5.20	18.6	69
	0.50	9:32	5.11	18.1	71
	1.00	9:34	5.08	18.0	65
Final	1.50	9:36	5.08	17.7	54

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 11:55
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 500 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-28

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 1.8
Depth to Water (ft) 43.38
Depth to Base of Well (ft) 54.50
(well casing volume = water column*0.164)
Water Column (ft) 11.12
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:31	4.66	19.3	33
	1.8	10:33	4.68	18.8	37
	3.6	10:35	4.71	19.2	26
Final	5.4	10:37	4.73	18.5	28

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 12:15
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs & THF	(3) 40 mL glass vials	HCL
Appendix I Metals + Hg, Mn, Fe	(1) 250 mL plastic bottle	HNO3
Alkalinity/TDS/ Chloride/Sulfate	(1) 250 mL plastic bottle	None

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-1

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.39
Depth to Water (ft) 37.61
Depth to Base of Well (ft) 40.00
(well casing volume = water column*0.164)
Water Column (ft) 2.39
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 4/15/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:50	5.71	19.7	183
	0.4	11:51	5.72	19.6	165
	0.8				
Final	1.5				

*Dry at 0.5 gal

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 12:30
Sampling Equipment disposable teflon bailer
Sample Observations Turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-4A

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 4.50
Depth to Water (ft) 43.62
Depth to Base of Well (ft) 71.00
(well casing volume = water column*0.164)
Water Column (ft) 27.38
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 5/12/2014
Purging Equipment Field-Cleaned Typhoon Pump

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:29	5.32	22.2	26
	4.5	10:38	5.37	19.2	21
	9.0	10:59	5.41	20.9	22
Final	13.5	11:29	5.47	21.5	24

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 11:30
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-16

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.74
Depth to Water (ft) 40.50
Depth to Base of Well (ft) 45.00
(well casing volume = water column*0.164)
Water Column (ft) 4.50
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 5/12/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:05	4.85	20.9	75
	0.7	11:07	4.85	19.7	90
	1.4	11:09	4.89	19.7	87
Final	2.1	11:11	4.90	19.1	93

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 12:25
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17R

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 1.8
Depth to Water (ft) 41.16
Depth to Base of Well (ft) 51.90
(well casing volume = water column*0.164)
Water Column (ft) 10.74
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 5/12/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	9:43	4.87	19.5	64
	1.8	9:47	4.84	19.5	58
	3.6	9:51	4.89	19.7	52
Final	5.4	9:55	4.86	19.1	57

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 12:05
Sampling Equipment disposable teflon bailer
Sample Observations Slightly turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill C&D Assessment
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-37

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Sunny, approx. 85°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 2.16
Depth to Water (ft) 45.81
Depth to Base of Well (ft) 59.00
(well casing volume = water column*0.164)
Water Column (ft) 13.19
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 5/12/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:00	5.15	20.0	29
	2.2	10:08	5.16	21.2	43
	4.4	10:13	5.31	20.5	47
Final	6.6	10:18	5.47	20.6	26

Well Sampling Data

Sampling Date 5/12/2014
Sampling Time 12:10
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.40
Depth to Water (ft) 34.06
Depth to Base of Well (ft) 36.50
(well casing volume = water column*0.164)
Water Column (ft) 2.44
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:43	5.95	19.8	75
	0.40	10:44	5.35	18.6	112
	0.80	10:45	5.21	18.2	109
Final	1.20				

* Dry at 0.8 gallons

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 13:25
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 500 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-28

Sampling Personnel	(1) Jasmine Tayouga	(2) Courtney Murphy
Weather Conditions	Approx. 85°F, sunny/partly cloudy	
Unusual Site Conditions		

Water Level Data

Measuring Point Location	TOC	Well Casing Volume	1.8
Depth to Water (ft)	43.38		
Depth to Base of Well (ft)	54.50	(well casing volume = water column*0.164)	
Water Column (ft)	11.12		
Equipment Used to Measure Depths	Electric Water Level Probe		

Well Purging Data

Date 6/16/2014 Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:28	4.58	19.1	33
	1.8	11:30	4.64	19.0	31
	3.6	11:33	4.68	18.8	29
Final	5.4	11:36	4.69	20.2	28

Well Sampling Data

Sampling Date	6/16/2014
Sampling Time	14:05
Sampling Equipment	disposable teflon bailer
Sample Observations	Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs & THF	(3) 40 mL glass vials	HCL
Appendix I Metals + Hg, Mn, Fe	(1) 250 mL plastic bottle	HNO3
Alkalinity/TDS/ Chloride/Sulfate	(1) 250 mL plastic bottle	None

Comments

Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-1

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.40
Depth to Water (ft) 37.50
Depth to Base of Well (ft) 40.00
(well casing volume = water column*0.164)
Water Column (ft) 2.44
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	12:02	5.79	20.4	246
	0.4	12:04	5.90	19.2	240
	Dry at 0.4 gal				
Final					

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 13:45
Sampling Equipment disposable teflon bailer
Sample Observations Slightly turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments white floating material in water
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-4A

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 4.40
Depth to Water (ft) 43.96
Depth to Base of Well (ft) 71.00
(well casing volume = water column*0.164)
Water Column (ft) 27.04
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Field-Cleaned Typhoon Pump

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:25	5.17	20.4	21
	4.4	11:28	5.18	19.3	20
	8.8	11:32	5.24	19.1	20
Final	13.2	11:36	5.17	18.8	22

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 14:00
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-16

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.80
Depth to Water (ft) 40.32
Depth to Base of Well (ft) 45.00
(well casing volume = water column*0.164)
Water Column (ft) 4.68
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:52	5.12	21.8	110
	0.8	11:54	4.87	19.9	107
	1.6	11:56	4.84	19.6	102
Final	2.4	11:58	4.90	19.7	108

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 13:50
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17R

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 1.8
Depth to Water (ft) 40.98
Depth to Base of Well (ft) 51.90
(well casing volume = water column*0.164)
Water Column (ft) 10.92
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:05	4.83	19.0	60
	1.8	10:55	4.75	18.7	54
	3.6	10:57	4.74	18.2	52
Final	5.4	10:59	4.73	18.3	59

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 13:30
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-37

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Approx. 85°F, sunny/partly cloudy
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 2.2
Depth to Water (ft) 45.62
Depth to Base of Well (ft) 59.00
(well casing volume = water column*0.164)
Water Column (ft) 13.38
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 6/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:05	5.15	19.7	35
	2.2	11:08	5.09	20.3	32
	4.4	11:11	5.13	20.0	35
Final	6.6	11:14	5.22	19.9	41

Well Sampling Data

Sampling Date 6/16/2014
Sampling Time 13:40
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.26
Depth to Water (ft) 34.90
Depth to Base of Well (ft) 36.50
(well casing volume = water column*0.164)
Water Column (ft) 1.60
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:25	5.73	17.8	111
	0.30	11:27	5.65	17.2	97
	0.5*	11:29	5.64	16.9	93
Final					

* Dry at 0.5 gallons

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 11:40
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 500 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-28

Sampling Personnel	(1) Jasmine Tayouga	(2) Courtney Murphy
Weather Conditions	Partly cloudy/approx. 80°F	
Unusual Site Conditions		

Water Level Data

Measuring Point Location	TOC	Well Casing Volume	1.7
Depth to Water (ft)	43.98		
Depth to Base of Well (ft)	54.50	(well casing volume = water column*0.164)	
Water Column (ft)	10.52		
Equipment Used to Measure Depths	Electric Water Level Probe		

Well Purging Data

Date 7/16/2014 Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	9:40	5.31	18.6	32
	1.7	9:43	5.32	17.8	31
	3.4	9:46	5.31	17.5	31
Final	5.1	9:49	5.30	17.5	33

Well Sampling Data

Sampling Date	7/16/2014
Sampling Time	10:25
Sampling Equipment	disposable teflon bailer
Sample Observations	Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs & THF	(3) 40 mL glass vials	HCL
Appendix I Metals + Hg, Mn, Fe	(1) 250 mL plastic bottle	HNO3
Alkalinity/TDS/ Chloride/Sulfate	(1) 250 mL plastic bottle	None

Comments

Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-1

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.30
Depth to Water (ft) 37.91
Depth to Base of Well (ft) 40.00
(well casing volume = water column*0.164)
Water Column (ft) 2.09
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	11:15	6.15	17.7	227
	0.3*	11:16	6.21	17.7	218
	0.6				
Final	0.9				

* Dry at 0.3 gallons

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 11:30
Sampling Equipment disposable teflon bailer
Sample Observations Moderately turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-4A

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 4.80
Depth to Water (ft) 44.55
Depth to Base of Well (ft) ~74
(well casing volume = water column*0.164)
Water Column (ft) 29.45
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014
Purging Equipment Field-Cleaned Typhoon Pump

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	9:45	5.73	18.0	21
	4.8	9:50	5.76	17.8	23
Final					

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 10:40
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID OW-16

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 0.70
Depth to Water (ft) 43.50
Depth to Base of Well (ft) 48.00
(well casing volume = water column*0.164)
Water Column (ft) 4.50
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	10:55	5.31	18.9	112
	0.7	10:57	5.41	18.6	115
	1.4	10:59	5.46	18.5	115
Final	2.1	11:01	5.47	18.2	119

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 11:05
Sampling Equipment disposable teflon bailer
Sample Observations Slightly turbid/mica visible

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-17R

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC Well Casing Volume 1.6
Depth to Water (ft) 41.22
Depth to Base of Well (ft) 51.90 (well casing volume = water column*0.164)
Water Column (ft) 9.78
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014 Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	13:45	5.36	18.4	57
	1.6	13:46	5.38	17.8	58
	3.2	13:47	5.37	17.6	47
Final	4.8	13:49	5.37	17.9	57

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 13:50
Sampling Equipment disposable teflon bailer
Sample Observations Heavily turbid

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Project Name: Lincoln County Landfill
Project Location: Crouse, North Carolina
Project Number: 7235-14-019

Well ID MW-37

Sampling Personnel (1) Jasmine Tayouga (2) Courtney Murphy
Weather Conditions Partly cloudy/approx. 80°F
Unusual Site Conditions

Water Level Data

Measuring Point Location TOC
Well Casing Volume 2.0
Depth to Water (ft) 45.65
Depth to Base of Well (ft) 59.00
(well casing volume = water column*0.164)
Water Column (ft) 12.35
Equipment Used to Measure Depths Electric Water Level Probe

Well Purging Data

Date 7/16/2014
Purging Equipment Disposable Teflon Bailer

	Total Voume (Gal)	Time	pH	Temp (C)	Conductance (µS)
Initial	0	13:51	5.55	19.2	24
	2.0	13:53	5.60	19.6	37
	4.0	13:55	5.72	19.8	39
Final	6.0	13:57	5.88	19.5	31

Well Sampling Data

Sampling Date 7/16/2014
Sampling Time 14:00
Sampling Equipment disposable teflon bailer
Sample Observations Clear

Analytical Data

Method	Container Type and No.	Preservation
Appendix I VOCs	(3) 40 mL glass vials	HCL
Appendix I Metals	(1) 250 mL plastic bottle	HNO3

Comments
Lab ENCO

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Thursday, May 1, 2014

S&ME, Inc. (SM002)

Attn: Courtney Murphy

9751 Southern Pine Blvd.

Charlotte, NC 28273

RE: Laboratory Results for
Project Number: 7235-14-019 ph02, Project Name/Desc: Lincoln County LF - Buffer Area Wells
ENCO Workorder(s): C403092

Dear Courtney Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 17, 2014.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 26.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 5503-MW37	Lab ID: C403092-01	Sampled: 04/16/14 10:15	Received: 04/17/14 11:30

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	10/13/14	04/21/14 11:15	4/28/2014 11:06
EPA 6020A	10/13/14	04/21/14 11:25	4/28/2014 10:57
EPA 8260B	04/30/14	04/25/14 17:28	4/26/2014 08:52

Client ID: 5503-MW17R	Lab ID: C403092-02	Sampled: 04/16/14 10:20	Received: 04/17/14 11:30

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	10/13/14	04/21/14 11:15	4/28/2014 11:16
EPA 6020A	10/13/14	04/21/14 11:25	4/28/2014 11:11
EPA 8260B	04/30/14	04/25/14 17:28	4/26/2014 09:22

Client ID: 5503-OW1	Lab ID: C403092-03	Sampled: 04/16/14 11:50	Received: 04/17/14 11:30

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	10/13/14	04/21/14 11:15	4/28/2014 11:19
EPA 6020A	10/13/14	04/21/14 11:25	4/28/2014 11:15
EPA 8260B	04/30/14	04/25/14 17:28	4/26/2014 09:52

Client ID: 5503-OW16	Lab ID: C403092-04	Sampled: 04/16/14 11:45	Received: 04/17/14 11:30

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	10/13/14	04/21/14 11:15	4/28/2014 11:21
EPA 6020A	10/13/14	04/21/14 11:25	4/28/2014 11:19
EPA 8260B	04/30/14	04/25/14 17:28	4/26/2014 10:22

Client ID: 5503-OW4A	Lab ID: C403092-05	Sampled: 04/16/14 11:30	Received: 04/17/14 11:30

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	10/13/14	04/21/14 11:15	4/28/2014 11:24
EPA 6020A	10/13/14	04/21/14 11:25	4/28/2014 11:23
EPA 8260B	04/30/14	04/25/14 17:28	4/26/2014 10:51

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 5503-MW37 **Lab ID: C403092-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.71	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Barium - Total	56.3	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	3.11	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	0.88	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	1.34	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	4.2		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	3.49	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Vanadium - Total	1.47	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Xylenes (Total)	0.50	J	1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	5.38	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW17R **Lab ID: C403092-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	5.7		1	0.13	1.0	5	ug/L	EPA 8260B	
1,2-Dichloroethane	0.48	J	1	0.21	1.0	1	ug/L	EPA 8260B	
1,4-Dichlorobenzene	2.2		1	0.19	1.0	1	ug/L	EPA 8260B	
Barium - Total	230		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	4.7		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	1.08		1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	27.0		1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	2.6	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	26.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	14.0		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	5.69	J	1	2.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	43		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	19.7	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.69	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.513	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	1.3		1	0.15	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.55	J	1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	34.6		1	1.40	10.0	25	ug/L	EPA 6010C	
Xylenes (Total)	12		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	47.5		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW1 **Lab ID: C403092-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	320		1	1.2	5.0	100	ug/L	EPA 8260B	
Arsenic - Total	7.59	J	1	5.40	10.0	10	ug/L	EPA 6010C	
Barium - Total	292		1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.841	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	11.2		1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	61.5		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	15.5		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	14.6		1	2.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	168		1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	1.8		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.619	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	0.54	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	5.08	J	1	1.40	10.0	25	ug/L	EPA 6010C	

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Client ID: 5503-OW1				Lab ID: C403092-03					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Zinc - Total	57.9		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW16				Lab ID: C403092-04					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
1,1-Dichloroethane	4.1	J	1	0.13	1.0	5	ug/L	EPA 8260B	
1,2-Dichlorobenzene	1.0	J	1	0.19	1.0	5	ug/L	EPA 8260B	
1,2-Dichloroethane	0.57	J	1	0.21	1.0	1	ug/L	EPA 8260B	
1,4-Dichlorobenzene	7.2		1	0.19	1.0	1	ug/L	EPA 8260B	
Acetone	53	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	210		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	7.7		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.467	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cadmium - Total	0.736	J	1	0.360	1.00	1	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	13		1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	18.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	1.72	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Methylene chloride	17		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	19.8	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	4.8		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.690	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	2.9		1	0.15	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.5		1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	1.68	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	0.86	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	33		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	19.5		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW4A				Lab ID: C403092-05					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Barium - Total	40.0	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	1.73	J	1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	1.34	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	1.75	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	2.58	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	5.4		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.96	J	1	0.24	1.0	1	ug/L	EPA 8260B	
Zinc - Total	4.29	J	1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: 5503-MW37 | **Lab Sample ID:** C403092-01 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 10:15 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 08:52	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,1-Dichloroethane [75-34-3] ^	**0.71**	J	ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 08:52	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 08:52	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 08:52	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 08:52	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 08:52	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 08:52	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 08:52	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 08:52	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 08:52	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 08:52	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 08:52	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 08:52	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**0.88**	J	ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 08:52	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 08:52	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 08:52	MSZ	
Methylene chloride [75-09-2] ^	**4.2**		ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Tetrachloroethene [127-18-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 08:52	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 08:52	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	

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Description: 5503-MW37 | **Lab Sample ID:** C403092-01 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 10:15 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 08:52	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 08:52	MSZ	
Xylenes (Total) [1330-20-7] ^	**0.50**	J	ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 08:52	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*93 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 08:52*	*MSZ*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 08:52*	*MSZ*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 08:52*	*MSZ*	

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Description: 5503-MW37 | **Lab Sample ID:** C403092-01 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 10:15 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 10:57	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Barium [7440-39-3] ^	**56.3**	J	ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:06	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:06	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:06	JDH	
Chromium [7440-47-3] ^	**3.11**	J	ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Cobalt [7440-48-4] ^	**1.34**	J	ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Nickel [7440-02-0] ^	**3.49**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:06	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 10:57	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:06	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 10:57	VLO	
Vanadium [7440-62-2] ^	**1.47**	J	ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:06	JDH	
Zinc [7440-66-6] ^	**5.38**	J	ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:06	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-02
Sampled: 04/16/14 10:20
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 09:22	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,1-Dichloroethane [75-34-3] ^	**5.7**		ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 09:22	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
1,2-Dichloroethane [107-06-2] ^	**0.48**	J	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	**2.2**		ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 09:22	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 09:22	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 09:22	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 09:22	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 09:22	MSZ	
Benzene [71-43-2] ^	**4.7**		ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 09:22	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 09:22	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 09:22	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 09:22	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 09:22	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 09:22	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**2.6**	J	ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 09:22	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 09:22	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 09:22	MSZ	
Methylene chloride [75-09-2] ^	**43**		ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Tetrachloroethene [127-18-4] ^	**0.69**	J	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 09:22	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 09:22	MSZ	
Trichloroethene [79-01-6] ^	**1.3**		ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Trichlorofluoromethane [75-69-4] ^	**0.55**	J	ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 09:22	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 09:22	MSZ	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-02
Sampled: 04/16/14 10:20
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**12**		ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 09:22	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 09:22*	*MSZ*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 09:22*	*MSZ*	
Toluene-d8	*54*	*1*	*50.0*	*109 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 09:22*	*MSZ*	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-02
Sampled: 04/16/14 10:20
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 11:11	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Barium [7440-39-3] ^	**230**		ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:16	JDH	
Beryllium [7440-41-7] ^	**1.08**		ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:16	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:16	JDH	
Chromium [7440-47-3] ^	**27.0**		ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Cobalt [7440-48-4] ^	**26.7**		ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Copper [7440-50-8] ^	**14.0**		ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Lead [7439-92-1] ^	**5.69**	J	ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Nickel [7440-02-0] ^	**19.7**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:16	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 11:11	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:16	JDH	
Thallium [7440-28-0] ^	**0.513**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 11:11	VLO	
Vanadium [7440-62-2] ^	**34.6**		ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:16	JDH	
Zinc [7440-66-6] ^	**47.5**		ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:16	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW1 | **Lab Sample ID:** C403092-03 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 11:50 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 09:52	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 09:52	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 09:52	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 09:52	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 09:52	MSZ	
Acetone [67-64-1] ^	**320**		ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 09:52	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 09:52	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 09:52	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 09:52	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 09:52	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 09:52	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 09:52	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 09:52	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 09:52	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 09:52	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 09:52	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Tetrachloroethene [127-18-4] ^	**1.8**		ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 09:52	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 09:52	MSZ	
Trichloroethene [79-01-6] ^	**0.54**	J	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 09:52	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 09:52	MSZ	

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Description: 5503-OW1 | **Lab Sample ID:** C403092-03 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 11:50 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 09:52	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 09:52*	*MSZ*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 09:52*	*MSZ*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 09:52*	*MSZ*	

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Description: 5503-OW1 | **Lab Sample ID:** C403092-03 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 11:50 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 11:15	VLO	
Arsenic [7440-38-2] ^	**7.59**	J	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Barium [7440-39-3] ^	**292**		ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:19	JDH	
Beryllium [7440-41-7] ^	**0.841**	J	ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:19	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:19	JDH	
Chromium [7440-47-3] ^	**11.2**		ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Cobalt [7440-48-4] ^	**61.5**		ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Copper [7440-50-8] ^	**15.5**		ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Lead [7439-92-1] ^	**14.6**		ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Nickel [7440-02-0] ^	**168**		ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:19	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 11:15	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:19	JDH	
Thallium [7440-28-0] ^	**0.619**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 11:15	VLO	
Vanadium [7440-62-2] ^	**5.08**	J	ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:19	JDH	
Zinc [7440-66-6] ^	**57.9**		ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:19	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW16 | **Lab Sample ID:** C403092-04 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 11:45 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 10:22	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,1-Dichloroethane [75-34-3] ^	**4.1**	J	ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 10:22	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	**1.0**	J	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
1,2-Dichloroethane [107-06-2] ^	**0.57**	J	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	**7.2**		ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 10:22	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 10:22	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 10:22	MSZ	
Acetone [67-64-1] ^	**53**	J	ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 10:22	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 10:22	MSZ	
Benzene [71-43-2] ^	**7.7**		ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 10:22	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 10:22	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 10:22	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 10:22	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 10:22	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 10:22	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**13**		ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 10:22	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 10:22	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 10:22	MSZ	
Methylene chloride [75-09-2] ^	**17**		ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Tetrachloroethene [127-18-4] ^	**4.8**		ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 10:22	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 10:22	MSZ	
Trichloroethene [79-01-6] ^	**2.9**		ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Trichlorofluoromethane [75-69-4] ^	**1.5**		ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 10:22	MSZ	
Vinyl chloride [75-01-4] ^	**0.86**	J	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 10:22	MSZ	
Xylenes (Total) [1330-20-7] ^	**33**		ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 10:22	MSZ	

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Description:	5503-OW16	**Lab Sample ID:**	C403092-04	**Received:**	04/17/14 11:30
Matrix:	Ground Water	**Sampled:**	04/16/14 11:45	**Work Order:**	C403092
Project:	Lincoln County LF - Buffer Area Wells	**Sampled By:**	Jasmine Tayonga		

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	**Notes**
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 10:22*	*MSZ*	
Dibromofluoromethane	*56*	*1*	*50.0*	*112 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 10:22*	*MSZ*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 10:22*	*MSZ*	

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Description: 5503-OW16 | **Lab Sample ID:** C403092-04 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 11:45 | **Work Order:** C403092

Project: Lincoln County LF - Buffer Area Wells | **Sampled By:** Jasmine Tayonga

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 11:19	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Barium [7440-39-3] ^	**210**		ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:21	JDH	
Beryllium [7440-41-7] ^	**0.467**	J	ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:21	JDH	
Cadmium [7440-43-9] ^	**0.736**	J	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:21	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Cobalt [7440-48-4] ^	**18.7**		ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Copper [7440-50-8] ^	**1.72**	J	ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Nickel [7440-02-0] ^	**19.8**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:21	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 11:19	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:21	JDH	
Thallium [7440-28-0] ^	**0.690**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 11:19	VLO	
Vanadium [7440-62-2] ^	**1.68**	J	ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:21	JDH	
Zinc [7440-66-6] ^	**19.5**		ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:21	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-05
Sampled: 04/16/14 11:30
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 10:51	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 10:51	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 10:51	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 10:51	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 10:51	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 10:51	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 10:51	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 10:51	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 10:51	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 10:51	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 10:51	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 10:51	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 10:51	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 10:51	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 10:51	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 10:51	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Tetrachloroethene [127-18-4] ^	**5.4**		ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 10:51	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 10:51	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Trichlorofluoromethane [75-69-4] ^	**0.96**	J	ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 10:51	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 10:51	MSZ	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-05
Sampled: 04/16/14 11:30
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 10:51	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*91 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 10:51*	*MSZ*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 10:51*	*MSZ*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 10:51*	*MSZ*	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County LF - Buffer Area Wells

Lab Sample ID: C403092-05
Sampled: 04/16/14 11:30
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403092

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 11:23	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Barium [7440-39-3] ^	**40.0**	J	ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:24	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:24	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:24	JDH	
Chromium [7440-47-3] ^	**1.73**	J	ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Cobalt [7440-48-4] ^	**1.34**	J	ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Copper [7440-50-8] ^	**1.75**	J	ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Nickel [7440-02-0] ^	**2.58**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:24	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 11:23	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:24	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 11:23	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:24	JDH	
Zinc [7440-66-6] ^	**4.29**	J	ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:24	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25036 - EPA 5030B_MS

Blank (4D25036-BLK1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 01:53

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47*			*ug/L*	*50.0*		*94*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25036 - EPA 5030B_MS

Blank (4D25036-BLK1) Continued Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 01:53

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*68-117*			
Surrogate: Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*67-127*			

LCS (4D25036-BS1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 02:23

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0		100	75-133			
Benzene	20		1.0	ug/L	20.0		99	81-134			
Chlorobenzene	20		1.0	ug/L	20.0		100	83-117			
Toluene	18		1.0	ug/L	20.0		89	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	74-119			

Matrix Spike (4D25036-MS1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 02:53

Source: C405290-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.21 U	103	75-133			
Benzene	20		1.0	ug/L	20.0	0.15 U	99	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	100	83-117			
Toluene	18		1.0	ug/L	20.0	0.14 U	89	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.15 U	98	74-119			

Matrix Spike Dup (4D25036-MSD1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 03:24

Source: C405290-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0	0.21 U	102	75-133	0.8	20	
Benzene	20		1.0	ug/L	20.0	0.15 U	98	81-134	0.9	17	
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	98	83-117	2	16	
Toluene	17		1.0	ug/L	20.0	0.14 U	87	71-118	3	17	
Trichloroethene	20		1.0	ug/L	20.0	0.15 U	99	74-119	1	22	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21017 - EPA 3005A

Blank (4D21017-BLK1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:25

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21017 - EPA 3005A

Blank (4D21017-BLK1) Continued Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:25

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4D21017-BS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:42

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	212		10.0	ug/L	200		106	80-120			
Barium	209		10.0	ug/L	200		105	80-120			
Beryllium	21.4		1.00	ug/L	20.0		107	80-120			
Cadmium	20.8		1.00	ug/L	20.0		104	80-120			
Chromium	208		10.0	ug/L	200		104	80-120			
Cobalt	214		10.0	ug/L	200		107	80-120			
Copper	209		10.0	ug/L	200		104	80-120			
Lead	212		10.0	ug/L	200		106	80-120			
Nickel	211		10.0	ug/L	200		106	80-120			
Silver	220		10.0	ug/L	200		110	80-120			
Vanadium	213		10.0	ug/L	200		107	80-120			
Zinc	207		10.0	ug/L	200		103	80-120			

Matrix Spike (4D21017-MS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:50

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	219		10.0	ug/L	200	5.40 U	109	75-125			
Barium	279		10.0	ug/L	200	67.6	106	75-125			
Beryllium	22.5		1.00	ug/L	20.0	0.293	111	75-125			
Cadmium	21.2		1.00	ug/L	20.0	0.360 U	106	75-125			
Chromium	218		10.0	ug/L	200	2.49	108	75-125			
Cobalt	223		10.0	ug/L	200	2.22	110	75-125			
Copper	217		10.0	ug/L	200	2.49	107	75-125			
Lead	216		10.0	ug/L	200	2.10 U	108	75-125			
Nickel	217		10.0	ug/L	200	2.35	108	75-125			
Silver	224		10.0	ug/L	200	1.90 U	112	75-125			
Vanadium	227		10.0	ug/L	200	6.58	110	75-125			
Zinc	224		10.0	ug/L	200	11.5	106	75-125			

Matrix Spike Dup (4D21017-MSD1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:53

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	213		10.0	ug/L	200	5.40 U	106	75-125	3	20	
Barium	286		10.0	ug/L	200	67.6	109	75-125	3	20	
Beryllium	21.7		1.00	ug/L	20.0	0.293	107	75-125	4	20	
Cadmium	21.7		1.00	ug/L	20.0	0.360 U	109	75-125	2	20	
Chromium	213		10.0	ug/L	200	2.49	105	75-125	2	20	
Cobalt	220		10.0	ug/L	200	2.22	109	75-125	1	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21017 - EPA 3005A

Matrix Spike Dup (4D21017-MSD1) Continued Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:53

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Copper	210		10.0	ug/L	200	2.49	104	75-125	3	20	
Lead	214		10.0	ug/L	200	2.10 U	107	75-125	1	20	
Nickel	223		10.0	ug/L	200	2.35	110	75-125	3	20	
Silver	216		10.0	ug/L	200	1.90 U	108	75-125	4	20	
Vanadium	221		10.0	ug/L	200	6.58	107	75-125	3	20	
Zinc	230		10.0	ug/L	200	11.5	109	75-125	3	20	

Post Spike (4D21017-PS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:55

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.199		0.0100	mg/L	0.200	0.00128	99	80-120			
Barium	0.261		0.0100	mg/L	0.200	0.0676	97	80-120			
Beryllium	0.0204		0.00100	mg/L	0.0200	0.000293	101	80-120			
Cadmium	0.0196		0.00100	mg/L	0.0200	0.000116	97	80-120			
Chromium	0.200		0.0100	mg/L	0.200	0.00249	99	80-120			
Cobalt	0.205		0.0100	mg/L	0.200	0.00222	101	80-120			
Copper	0.198		0.0100	mg/L	0.200	0.00249	98	80-120			
Lead	0.198		0.0100	mg/L	0.200	0.000356	99	80-120			
Nickel	0.199		0.0100	mg/L	0.200	0.00235	98	80-120			
Silver	0.206		0.0100	mg/L	0.200	0.000465	103	80-120			
Vanadium	0.208		0.0100	mg/L	0.200	0.00658	101	80-120			
Zinc	0.206		0.0100	mg/L	0.200	0.0115	97	80-120			

Batch 4D21019 - EPA 3005A

Blank (4D21019-BLK1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4D21019-BS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:25

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	207		2.00	ug/L	200		104	80-120			
Selenium	222		3.00	ug/L	200		111	80-120			
Thallium	214		1.00	ug/L	200		107	80-120			

Matrix Spike (4D21019-MS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:33

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	212		2.00	ug/L	200	0.697	106	75-125			
Selenium	223		3.00	ug/L	200	0.910 U	111	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21019 - EPA 3005A

Matrix Spike (4D21019-MS1) Continued Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:33

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Thallium	208		1.00	ug/L	200	0.277	104	75-125			

Matrix Spike Dup (4D21019-MSD1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:37

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	211		2.00	ug/L	200	0.697	105	75-125	0.7	20	
Selenium	220		3.00	ug/L	200	0.910 U	110	75-125	1	20	
Thallium	209		1.00	ug/L	200	0.277	104	75-125	0.5	20	

Post Spike (4D21019-PS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:41

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	202		2.00	ug/L	200	0.697	101	80-120			
Selenium	217		3.00	ug/L	200	0.230	109	80-120			
Thallium	201		1.00	ug/L	200	0.277	100	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

Page 1 of 1

Client Name: S&ME, Inc. (SM002)	Project Number: 1356-07-004
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County LF - Buffer Area Wells
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: ~~50341~~ 60157
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Jasmine Tayouga, S&ME	Billing Contact: Barbara Ellington
Sampler(s) Signature: Jasmine Tayouga	Site Location / Time Zone: Crouse, NC

Requested Analyses: 8260B Appendix 1; Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C403092

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn	Sample Comments
	5503-MW37	4-16-14	1015	G	GW	4	X	X	
	5503-MW17R	4-16-14	1020	↓	GW	4	X	X	
	5503-OW1	4-16-14	1150	↓	GW	4	X	X	
	5503-OW16	4-16-14	1145	↓	GW	4	X	X	
	5503-OW4A	4-16-14	1130	↓	GW	4	X	X	

<-- Total # of Containers

Sample Kit Prepared By: KAY	Date/Time: 3/10	Relinquished By: Courtney Murphy	Date/Time: 4-16-14 1720
Comments/Special Reporting Requirements		Received By: [illegible]	Date/Time: 4-17-14 11:30
		Relinquished By	Date/Time
		Received By	Date/Time
		Relinquished By	Date/Time
		Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-202 1.7c	Condition Upon Receipt: ✓ Acceptable ___ Unacceptable

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments)

Preservation: **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Thursday, May 1, 2014

S&ME, Inc. (SM002)

Attn: Courtney Murphy

9751 Southern Pine Blvd.

Charlotte, NC 28273

RE: Laboratory Results for
Project Number: 1356-07-004, Project Name/Desc: Lincoln County LF - App Is
ENCO Workorder(s): C403091,C403093

Dear Courtney Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 17, 2014.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 26.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 5503-MW17 | **Lab ID: C403091-10** | **Sampled: 04/16/14 10:40** | **Received: 04/17/14 11:30**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)	
EPA 6010C	10/13/14	04/18/14	10:00	4/24/2014	14:29
EPA 6020A	10/13/14	04/18/14	10:01	4/24/2014	13:06
EPA 8260B	04/30/14	04/25/14	17:28	4/26/2014	06:53

Client ID: 5503-MW28 | **Lab ID: C403093-03** | **Sampled: 04/16/14 11:35** | **Received: 04/17/14 11:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)	
EPA 300.0	05/14/14	04/21/14	13:23	4/21/2014	13:23
EPA 310.2	04/30/14	04/24/14	07:28	4/24/2014	10:14
EPA 6010C	10/13/14	04/21/14	11:15	4/28/2014	11:32
EPA 6020A	10/13/14	04/21/14	11:25	4/28/2014	11:35
EPA 7470A	05/14/14	04/24/14	12:42	4/25/2014	13:18
EPA 8260B	04/30/14	04/23/14	00:00	4/25/2014	21:45
SM 2540C-1997	04/23/14	04/17/14	15:09	4/17/2014	15:09

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 5503-MW17 **Lab ID: C403091-10**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	1.2	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Acetone	69	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	85.3	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.342	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	26.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	12.1		1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	30.7	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	1.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichloroethene	0.84	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Zinc - Total	11.0		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW28 **Lab ID: C403093-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	14	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	92.3	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.210	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chloride	2300	J	1	2200	5000	NE	ug/L	EPA 300.0	
Cobalt - Total	4.10	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Iron - Total	56.8	J	1	22.0	50.0	300	ug/L	EPA 6010C	
Manganese - Total	87.8		1	1.10	10.0	50	ug/L	EPA 6010C	
Nickel - Total	5.67	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	6.6		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.112	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Total Dissolved Solids	16000		1	10000	10000	NE	ug/L	SM 2540C-1997	
Zinc - Total	9.04	J	1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: 5503-MW17 | **Lab Sample ID:** C403091-10 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 10:40 | **Work Order:** C403091

Project: Lincoln County LF - App Is | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/26/14 06:53	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,1-Dichloroethane [75-34-3] ^	**1.2**	J	ug/L	1	0.13	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/26/14 06:53	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/26/14 06:53	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/26/14 06:53	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/26/14 06:53	MSZ	
Acetone [67-64-1] ^	**69**	J	ug/L	1	1.2	5.0	100	EPA 8260B	04/26/14 06:53	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/26/14 06:53	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/26/14 06:53	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/26/14 06:53	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/26/14 06:53	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/26/14 06:53	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 06:53	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/26/14 06:53	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/26/14 06:53	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/26/14 06:53	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/26/14 06:53	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Tetrachloroethene [127-18-4] ^	**1.2**		ug/L	1	0.17	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/26/14 06:53	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/26/14 06:53	MSZ	
Trichloroethene [79-01-6] ^	**0.84**	J	ug/L	1	0.15	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	

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Description: 5503-MW17
Matrix: Ground Water
Project: Lincoln County LF - App Is

Lab Sample ID: C403091-10
Sampled: 04/16/14 10:40
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:30
Work Order: C403091

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/26/14 06:53	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/26/14 06:53	MSZ	
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	04/26/14 06:53	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*51-122*	*4D25036*	*EPA 8260B*	*04/26/14 06:53*	*MSZ*	
Dibromofluoromethane	*56*	*1*	*50.0*	*112 %*	*68-117*	*4D25036*	*EPA 8260B*	*04/26/14 06:53*	*MSZ*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*67-127*	*4D25036*	*EPA 8260B*	*04/26/14 06:53*	*MSZ*	

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Description: 5503-MW17 | **Lab Sample ID:** C403091-10 | **Received:** 04/17/14 11:30

Matrix: Ground Water | **Sampled:** 04/16/14 10:40 | **Work Order:** C403091

Project: Lincoln County LF - App Is | **Sampled By:** Jasmine Tayonga

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/24/14 13:06	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Barium [7440-39-3] ^	**85.3**	J	ug/L	1	1.00	10.0	100	EPA 6010C	04/24/14 14:29	JDH	
Beryllium [7440-41-7] ^	**0.342**	J	ug/L	1	0.100	1.00	1	EPA 6010C	04/24/14 14:29	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/24/14 14:29	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Cobalt [7440-48-4] ^	**26.7**		ug/L	1	1.10	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Copper [7440-50-8] ^	**12.1**		ug/L	1	1.60	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Nickel [7440-02-0] ^	**30.7**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/24/14 14:29	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/24/14 13:06	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/24/14 14:29	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/24/14 13:06	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	04/24/14 14:29	JDH	
Zinc [7440-66-6] ^	**11.0**		ug/L	1	3.80	10.0	10	EPA 6010C	04/24/14 14:29	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW28 | **Lab Sample ID:** C403093-03 | **Received:** 04/17/14 11:00

Matrix: Ground Water | **Sampled:** 04/16/14 11:35 | **Work Order:** C403093

Project: Lincoln County LF - C&D | **Sampled By:** Jasmine Tayonga

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	04/25/14 21:45	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	04/25/14 21:45	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	04/25/14 21:45	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	04/25/14 21:45	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	04/25/14 21:45	MSZ	
Acetone [67-64-1] ^	**14**	J	ug/L	1	1.2	5.0	100	EPA 8260B	04/25/14 21:45	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	04/25/14 21:45	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	04/25/14 21:45	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	04/25/14 21:45	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	04/25/14 21:45	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	04/25/14 21:45	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/25/14 21:45	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	04/25/14 21:45	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	04/25/14 21:45	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	04/25/14 21:45	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	04/25/14 21:45	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Tetrachloroethene [127-18-4] ^	**6.6**		ug/L	1	0.17	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Tetrahydrofuran [109-99-9] ^	0.80	U	ug/L	1	0.80	1.0		EPA 8260B	04/25/14 21:45	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	04/25/14 21:45	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	04/25/14 21:45	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	04/25/14 21:45	MSZ	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County LF - C&D

Lab Sample ID: C403093-03
Sampled: 04/16/14 11:35
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:00
Work Order: C403093

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	04/25/14 21:45	MSZ	
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	04/25/14 21:45	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*51-122*	*4D25030*	*EPA 8260B*	*04/25/14 21:45*	*MSZ*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*68-117*	*4D25030*	*EPA 8260B*	*04/25/14 21:45*	*MSZ*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*67-127*	*4D25030*	*EPA 8260B*	*04/25/14 21:45*	*MSZ*	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County LF - C&D

Lab Sample ID: C403093-03
Sampled: 04/16/14 11:35
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:00
Work Order: C403093

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Mercury [7439-97-6] ^	0.170	U	ug/L	1	0.170	0.200	0.2	EPA 7470A	04/25/14 13:18	T1D	

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Description: 5503-MW28 | **Lab Sample ID:** C403093-03 | **Received:** 04/17/14 11:00

Matrix: Ground Water | **Sampled:** 04/16/14 11:35 | **Work Order:** C403093

Project: Lincoln County LF - C&D | **Sampled By:** Jasmine Tayonga

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	04/28/14 11:35	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Barium [7440-39-3] ^	**92.3**	J	ug/L	1	1.00	10.0	100	EPA 6010C	04/28/14 11:32	JDH	
Beryllium [7440-41-7] ^	**0.210**	J	ug/L	1	0.100	1.00	1	EPA 6010C	04/28/14 11:32	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	04/28/14 11:32	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Cobalt [7440-48-4] ^	**4.10**	J	ug/L	1	1.10	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Iron [7439-89-6] ^	**56.8**	J	ug/L	1	22.0	50.0	300	EPA 6010C	04/28/14 11:32	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Manganese [7439-96-5] ^	**87.8**		ug/L	1	1.10	10.0	50	EPA 6010C	04/28/14 11:32	JDH	
Nickel [7440-02-0] ^	**5.67**	J	ug/L	1	1.80	10.0	50	EPA 6010C	04/28/14 11:32	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	04/28/14 11:35	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	04/28/14 11:32	JDH	
Thallium [7440-28-0] ^	**0.112**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	04/28/14 11:35	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	04/28/14 11:32	JDH	
Zinc [7440-66-6] ^	**9.04**	J	ug/L	1	3.80	10.0	10	EPA 6010C	04/28/14 11:32	JDH	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County LF - C&D

Lab Sample ID: C403093-03
Sampled: 04/16/14 11:35
Sampled By: Jasmine Tayonga

Received: 04/17/14 11:00
Work Order: C403093

Classical Chemistry Parameters

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Chloride [16887-00-6] ^	**2300**	J	ug/L	1	2200	5000	NE	EPA 300.0	04/21/14 13:23	AJB	
Sulfate as SO4 [14808-79-8] ^	2900	U	ug/L	1	2900	5000	250000	EPA 300.0	04/21/14 13:23	AJB	
Total Alkalinity as CaCO3 [471-34-1] ^	**15000**		ug/L	1	14000	15000		EPA 310.2	04/24/14 10:14	c1v	
Total Dissolved Solids [ECL-0156] ^	**16000**		ug/L	1	10000	10000	NE	SM 2540C-1997	04/17/14 15:09	MMR	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25030 - EPA 5030B_MS

Blank (4D25030-BLK1) Prepared: 04/25/2014 13:41 Analyzed: 04/25/2014 18:19

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Tetrahydrofuran	0.80	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25030 - EPA 5030B_MS

Blank (4D25030-BLK1) Continued Prepared: 04/25/2014 13:41 Analyzed: 04/25/2014 18:19

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: 4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*51-122*			
Surrogate: Dibromofluoromethane	*49*			*ug/L*	*50.0*		*97*	*68-117*			
Surrogate: Toluene-d8	*49*			*ug/L*	*50.0*		*99*	*67-127*			

LCS (4D25030-BS1) Prepared: 04/25/2014 13:41 Analyzed: 04/25/2014 18:48

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0		112	75-133			
Benzene	20		1.0	ug/L	20.0		102	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		97	83-117			
Toluene	17		1.0	ug/L	20.0		85	71-118			
Trichloroethene	24		1.0	ug/L	20.0		118	74-119			

Matrix Spike (4D25030-MS1) Prepared: 04/25/2014 13:41 Analyzed: 04/25/2014 19:18

Source: C405167-09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	112	75-133			
Benzene	20		1.0	ug/L	20.0	0.15 U	98	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	100	83-117			
Toluene	17		1.0	ug/L	20.0	0.14 U	87	71-118			
Trichloroethene	23		1.0	ug/L	20.0	0.15 U	116	74-119			

Matrix Spike Dup (4D25030-MSD1) Prepared: 04/25/2014 13:41 Analyzed: 04/25/2014 19:47

Source: C405167-09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.21 U	104	75-133	8	20	
Benzene	19		1.0	ug/L	20.0	0.15 U	96	81-134	2	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.17 U	95	83-117	6	16	
Toluene	17		1.0	ug/L	20.0	0.14 U	84	71-118	4	17	
Trichloroethene	20		1.0	ug/L	20.0	0.15 U	102	74-119	13	22	

Batch 4D25036 - EPA 5030B_MS

Blank (4D25036-BLK1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 01:53

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25036 - EPA 5030B_MS

Blank (4D25036-BLK1) Continued Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 01:53

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Tetrahydrofuran	0.80	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47*			*ug/L*	*50.0*		*94*	*51-122*			
Surrogate: Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*68-117*			
Surrogate: Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*67-127*			

LCS (4D25036-BS1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 02:23

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0		100	75-133			
Benzene	20		1.0	ug/L	20.0		99	81-134			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4D25036 - EPA 5030B_MS

LCS (4D25036-BS1) Continued Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 02:23

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		1.0	ug/L	20.0		100	83-117			
Toluene	18		1.0	ug/L	20.0		89	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	74-119			

Matrix Spike (4D25036-MS1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 02:53

Source: C405290-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.21 U	103	75-133			
Benzene	20		1.0	ug/L	20.0	0.15 U	99	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	100	83-117			
Toluene	18		1.0	ug/L	20.0	0.14 U	89	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.15 U	98	74-119			

Matrix Spike Dup (4D25036-MSD1) Prepared: 04/25/2014 17:28 Analyzed: 04/26/2014 03:24

Source: C405290-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0	0.21 U	102	75-133	0.8	20	
Benzene	20		1.0	ug/L	20.0	0.15 U	98	81-134	0.9	17	
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	98	83-117	2	16	
Toluene	17		1.0	ug/L	20.0	0.14 U	87	71-118	3	17	
Trichloroethene	20		1.0	ug/L	20.0	0.15 U	99	74-119	1	22	

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21033 - EPA 7470A

Blank (4D21033-BLK1) Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:05

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.170	U	0.200	ug/L							

LCS (4D21033-BS1) Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.72		0.200	ug/L	5.00		94	80-120			

Matrix Spike (4D21033-MS1) Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:11

Source: C403095-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.06		0.200	ug/L	5.00	0.170 U	101	75-125			

Matrix Spike Dup (4D21033-MSD1) Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:18

Source: C403095-01

QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21033 - EPA 7470A

Matrix Spike Dup (4D21033-MSD1) Continued Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:18

Source: C403095-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.73		0.200	ug/L	5.00	0.170 U	95	75-125	7	25	

Post Spike (4D21033-PS1) Prepared: 04/21/2014 14:30 Analyzed: 04/25/2014 12:20

Source: C403095-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.32		0.200	ug/L	5.00	-0.0410	87	75-125			

Batch 4D24033 - EPA 7470A

Blank (4D24033-BLK1) Prepared: 04/24/2014 12:42 Analyzed: 04/25/2014 13:09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.170	U	0.200	ug/L							

LCS (4D24033-BS1) Prepared: 04/24/2014 12:42 Analyzed: 04/25/2014 13:16

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.75		0.200	ug/L	5.00		95	80-120			

Matrix Spike (4D24033-MS1) Prepared: 04/24/2014 12:42 Analyzed: 04/25/2014 13:21

Source: C403093-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.53		0.200	ug/L	5.00	0.170 U	91	75-125			

Matrix Spike Dup (4D24033-MSD1) Prepared: 04/24/2014 12:42 Analyzed: 04/25/2014 13:23

Source: C403093-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.48		0.200	ug/L	5.00	0.170 U	90	75-125	1	25	

Post Spike (4D24033-PS1) Prepared: 04/24/2014 12:42 Analyzed: 04/25/2014 13:25

Source: C403093-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.01		0.200	ug/L	5.00	-0.0430	81	75-125			

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D18016 - EPA 3005A

Blank (4D18016-BLK1) Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:29

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D18016 - EPA 3005A

Blank (4D18016-BLK1) Continued Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:29

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4D18016-BS1) Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:33

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	218		10.0	ug/L	200		109	80-120			
Barium	211		10.0	ug/L	200		105	80-120			
Beryllium	21.0		1.00	ug/L	20.0		105	80-120			
Cadmium	20.9		1.00	ug/L	20.0		105	80-120			
Chromium	208		10.0	ug/L	200		104	80-120			
Cobalt	220		10.0	ug/L	200		110	80-120			
Copper	206		10.0	ug/L	200		103	80-120			
Lead	218		10.0	ug/L	200		109	80-120			
Nickel	213		10.0	ug/L	200		107	80-120			
Silver	215		10.0	ug/L	200		108	80-120			
Vanadium	211		10.0	ug/L	200		106	80-120			
Zinc	211		10.0	ug/L	200		106	80-120			

Matrix Spike (4D18016-MS1) Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:42

Source: C403091-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	222		10.0	ug/L	200	5.40 U	111	75-125			
Barium	238		10.0	ug/L	200	25.2	107	75-125			
Beryllium	21.6		1.00	ug/L	20.0	0.100 U	108	75-125			
Cadmium	21.3		1.00	ug/L	20.0	0.360 U	106	75-125			
Chromium	213		10.0	ug/L	200	2.22	106	75-125			
Cobalt	222		10.0	ug/L	200	1.10 U	111	75-125			
Copper	209		10.0	ug/L	200	1.60 U	104	75-125			
Lead	218		10.0	ug/L	200	2.10 U	109	75-125			
Nickel	217		10.0	ug/L	200	2.06	108	75-125			
Silver	217		10.0	ug/L	200	1.90 U	108	75-125			
Vanadium	216		10.0	ug/L	200	1.40 U	108	75-125			
Zinc	219		10.0	ug/L	200	4.40	107	75-125			

Matrix Spike Dup (4D18016-MSD1) Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:52

Source: C403091-01

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D18016 - EPA 3005A

Matrix Spike Dup (4D18016-MSD1) Continued Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:52

Source: C403091-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	216		10.0	ug/L	200	5.40 U	108	75-125	3	20	
Barium	236		10.0	ug/L	200	25.2	105	75-125	1	20	
Beryllium	21.4		1.00	ug/L	20.0	0.100 U	107	75-125	1	20	
Cadmium	21.1		1.00	ug/L	20.0	0.360 U	105	75-125	0.9	20	
Chromium	212		10.0	ug/L	200	2.22	105	75-125	0.8	20	
Cobalt	219		10.0	ug/L	200	1.10 U	110	75-125	1	20	
Copper	208		10.0	ug/L	200	1.60 U	104	75-125	0.4	20	
Lead	217		10.0	ug/L	200	2.10 U	109	75-125	0.2	20	
Nickel	215		10.0	ug/L	200	2.06	107	75-125	1	20	
Silver	215		10.0	ug/L	200	1.90 U	107	75-125	0.7	20	
Vanadium	214		10.0	ug/L	200	1.40 U	107	75-125	0.8	20	
Zinc	216		10.0	ug/L	200	4.40	106	75-125	1	20	

Post Spike (4D18016-PS1) Prepared: 04/18/2014 10:00 Analyzed: 04/24/2014 13:54

Source: C403091-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.196		0.0100	mg/L	0.200	0.00267	97	80-120			
Barium	0.217		0.0100	mg/L	0.200	0.0252	96	80-120			
Beryllium	0.0193		0.00100	mg/L	0.0200	6.17E-5	96	80-120			
Cadmium	0.0193		0.00100	mg/L	0.0200	2.28E-5	96	80-120			
Chromium	0.194		0.0100	mg/L	0.200	0.00222	96	80-120			
Cobalt	0.200		0.0100	mg/L	0.200	0.000247	100	80-120			
Copper	0.189		0.0100	mg/L	0.200	0.000810	94	80-120			
Lead	0.196		0.0100	mg/L	0.200	4.73E-5	98	80-120			
Nickel	0.195		0.0100	mg/L	0.200	0.00206	97	80-120			
Silver	0.196		0.0100	mg/L	0.200	0.000605	98	80-120			
Vanadium	0.194		0.0100	mg/L	0.200	0.000556	97	80-120			
Zinc	0.197		0.0100	mg/L	0.200	0.00440	96	80-120			

Batch 4D18017 - EPA 3005A

Blank (4D18017-BLK1) Prepared: 04/18/2014 10:01 Analyzed: 04/24/2014 11:48

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4D18017-BS1) Prepared: 04/18/2014 10:01 Analyzed: 04/24/2014 12:00

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	201		2.00	ug/L	200		101	80-120			
Selenium	219		3.00	ug/L	200		110	80-120			
Thallium	200		1.00	ug/L	200		100	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D18017 - EPA 3005A

Matrix Spike (4D18017-MS1) Prepared: 04/18/2014 10:01 Analyzed: 04/24/2014 12:10

Source: C403091-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	190		2.00	ug/L	200	0.220 U	95	75-125			
Selenium	214		3.00	ug/L	200	0.910 U	107	75-125			
Thallium	198		1.00	ug/L	200	0.110 U	99	75-125			

Matrix Spike Dup (4D18017-MSD1) Prepared: 04/18/2014 10:01 Analyzed: 04/24/2014 12:14

Source: C403091-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	195		2.00	ug/L	200	0.220 U	98	75-125	3	20	
Selenium	215		3.00	ug/L	200	0.910 U	107	75-125	0.4	20	
Thallium	197		1.00	ug/L	200	0.110 U	99	75-125	0.4	20	

Post Spike (4D18017-PS1) Prepared: 04/18/2014 10:01 Analyzed: 04/24/2014 12:18

Source: C403091-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	193		2.00	ug/L	200	0.182	96	80-120			
Selenium	209		3.00	ug/L	200	-0.385	105	80-120			
Thallium	189		1.00	ug/L	200	0.0932	94	80-120			

Batch 4D21017 - EPA 3005A

Blank (4D21017-BLK1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:25

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Iron	22.0	U	50.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Manganese	1.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4D21017-BS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:42

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	212		10.0	ug/L	200		106	80-120			
Barium	209		10.0	ug/L	200		105	80-120			
Beryllium	21.4		1.00	ug/L	20.0		107	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21017 - EPA 3005A

LCS (4D21017-BS1) Continued Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:42

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cadmium	20.8		1.00	ug/L	20.0		104	80-120			
Chromium	208		10.0	ug/L	200		104	80-120			
Cobalt	214		10.0	ug/L	200		107	80-120			
Copper	209		10.0	ug/L	200		104	80-120			
Iron	1060		50.0	ug/L	1000		106	80-120			
Lead	212		10.0	ug/L	200		106	80-120			
Manganese	213		10.0	ug/L	200		106	80-120			
Nickel	211		10.0	ug/L	200		106	80-120			
Silver	220		10.0	ug/L	200		110	80-120			
Vanadium	213		10.0	ug/L	200		107	80-120			
Zinc	207		10.0	ug/L	200		103	80-120			

Matrix Spike (4D21017-MS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:50

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	219		10.0	ug/L	200	5.40 U	109	75-125			
Barium	279		10.0	ug/L	200	67.6	106	75-125			
Beryllium	22.5		1.00	ug/L	20.0	0.293	111	75-125			
Cadmium	21.2		1.00	ug/L	20.0	0.360 U	106	75-125			
Chromium	218		10.0	ug/L	200	2.49	108	75-125			
Cobalt	223		10.0	ug/L	200	2.22	110	75-125			
Copper	217		10.0	ug/L	200	2.49	107	75-125			
Iron	3950		50.0	ug/L	1000	2420	153	75-125			QM-05
Lead	216		10.0	ug/L	200	2.10 U	108	75-125			
Manganese	315		10.0	ug/L	200	94.5	110	75-125			
Nickel	217		10.0	ug/L	200	2.35	108	75-125			
Silver	224		10.0	ug/L	200	1.90 U	112	75-125			
Vanadium	227		10.0	ug/L	200	6.58	110	75-125			
Zinc	224		10.0	ug/L	200	11.5	106	75-125			

Matrix Spike Dup (4D21017-MSD1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:53

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	213		10.0	ug/L	200	5.40 U	106	75-125	3	20	
Barium	286		10.0	ug/L	200	67.6	109	75-125	3	20	
Beryllium	21.7		1.00	ug/L	20.0	0.293	107	75-125	4	20	
Cadmium	21.7		1.00	ug/L	20.0	0.360 U	109	75-125	2	20	
Chromium	213		10.0	ug/L	200	2.49	105	75-125	2	20	
Cobalt	220		10.0	ug/L	200	2.22	109	75-125	1	20	
Copper	210		10.0	ug/L	200	2.49	104	75-125	3	20	
Iron	3870		50.0	ug/L	1000	2420	145	75-125	2	20	QM-05
Lead	214		10.0	ug/L	200	2.10 U	107	75-125	1	20	
Manganese	306		10.0	ug/L	200	94.5	106	75-125	3	20	
Nickel	223		10.0	ug/L	200	2.35	110	75-125	3	20	
Silver	216		10.0	ug/L	200	1.90 U	108	75-125	4	20	
Vanadium	221		10.0	ug/L	200	6.58	107	75-125	3	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21017 - EPA 3005A

Matrix Spike Dup (4D21017-MSD1) Continued Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:53

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Zinc	230		10.0	ug/L	200	11.5	109	75-125	3	20	

Post Spike (4D21017-PS1) Prepared: 04/21/2014 11:15 Analyzed: 04/28/2014 10:55

Source: C403091-22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.199		0.0100	mg/L	0.200	0.00128	99	80-120			
Barium	0.261		0.0100	mg/L	0.200	0.0676	97	80-120			
Beryllium	0.0204		0.00100	mg/L	0.0200	0.000293	101	80-120			
Cadmium	0.0196		0.00100	mg/L	0.0200	0.000116	97	80-120			
Chromium	0.200		0.0100	mg/L	0.200	0.00249	99	80-120			
Cobalt	0.205		0.0100	mg/L	0.200	0.00222	101	80-120			
Copper	0.198		0.0100	mg/L	0.200	0.00249	98	80-120			
Iron	3.39		0.0500	mg/L	1.00	2.42	97	80-120			
Lead	0.198		0.0100	mg/L	0.200	0.000356	99	80-120			
Manganese	0.293		0.0100	mg/L	0.200	0.0945	99	80-120			
Nickel	0.199		0.0100	mg/L	0.200	0.00235	98	80-120			
Silver	0.206		0.0100	mg/L	0.200	0.000465	103	80-120			
Vanadium	0.208		0.0100	mg/L	0.200	0.00658	101	80-120			
Zinc	0.206		0.0100	mg/L	0.200	0.0115	97	80-120			

Batch 4D21019 - EPA 3005A

Blank (4D21019-BLK1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4D21019-BS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:25

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	207		2.00	ug/L	200		104	80-120			
Selenium	222		3.00	ug/L	200		111	80-120			
Thallium	214		1.00	ug/L	200		107	80-120			

Matrix Spike (4D21019-MS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:33

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	212		2.00	ug/L	200	0.697	106	75-125			
Selenium	223		3.00	ug/L	200	0.910 U	111	75-125			
Thallium	208		1.00	ug/L	200	0.277	104	75-125			

Matrix Spike Dup (4D21019-MSD1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:37

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4D21019 - EPA 3005A

Matrix Spike Dup (4D21019-MSD1) Continued Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:37

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	211		2.00	ug/L	200	0.697	105	75-125	0.7	20	
Selenium	220		3.00	ug/L	200	0.910 U	110	75-125	1	20	
Thallium	209		1.00	ug/L	200	0.277	104	75-125	0.5	20	

Post Spike (4D21019-PS1) Prepared: 04/21/2014 11:25 Analyzed: 04/28/2014 10:41

Source: C403091-21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	202		2.00	ug/L	200	0.697	101	80-120			
Selenium	217		3.00	ug/L	200	0.230	109	80-120			
Thallium	201		1.00	ug/L	200	0.277	100	80-120			

Classical Chemistry Parameters - Quality Control

Batch 4D17028 - NO PREP

Blank (4D17028-BLK1) Prepared & Analyzed: 04/17/2014 15:09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	10000	U	10000	ug/L							

LCS (4D17028-BS1) Prepared & Analyzed: 04/17/2014 15:09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	990		10	mg/L	1000		99	90-110			

Duplicate (4D17028-DUP1) Prepared & Analyzed: 04/17/2014 15:09

Source: C403093-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	20000		10000	ug/L		16000			22	10	QM-12

Batch 4D21002 - NO PREP

Blank (4D21002-BLK1) Prepared & Analyzed: 04/21/2014 11:40

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloride	2200	U	5000	ug/L							
Sulfate as SO4	2900	U	5000	ug/L							

LCS (4D21002-BS1) Prepared & Analyzed: 04/21/2014 11:57

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloride	48000		5000	ug/L	50000		96	90-110			
Sulfate as SO4	47000		5000	ug/L	50000		94	90-110			

QUALITY CONTROL

Classical Chemistry Parameters - Quality Control

Batch 4D21002 - NO PREP

Matrix Spike (4D21002-MS1) Prepared & Analyzed: 04/21/2014 19:03

Source: C403093-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloride	23000		5000	ug/L	20000	5700	88	90-110			QM-05
Sulfate as SO4	36000		5000	ug/L	20000	18000	94	90-110			

Matrix Spike Dup (4D21002-MSD1) Prepared & Analyzed: 04/21/2014 19:20

Source: C403093-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloride	24000		5000	ug/L	20000	5700	94	90-110	5	10	
Sulfate as SO4	37000		5000	ug/L	20000	18000	99	90-110	3	10	

Batch 4D24002 - NO PREP

Blank (4D24002-BLK1) Prepared: 04/24/2014 07:28 Analyzed: 04/24/2014 09:56

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Alkalinity as CaCO3	14000	U	15000	ug/L							

LCS (4D24002-BS1) Prepared: 04/24/2014 07:28 Analyzed: 04/24/2014 09:57

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Alkalinity as CaCO3	100		15	mg/L	100		104	80-120			

Matrix Spike (4D24002-MS1) Prepared: 04/24/2014 07:28 Analyzed: 04/24/2014 09:58

Source: C403093-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Alkalinity as CaCO3	73000		15000	ug/L	37800	31000	113	80-120			

Matrix Spike Dup (4D24002-MSD1) Prepared: 04/24/2014 07:28 Analyzed: 04/24/2014 09:59

Source: C403093-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Alkalinity as CaCO3	74000		15000	ug/L	37800	31000	115	80-120	0.9	25	

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-12	Precision between duplicate samples was outside acceptance limits.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

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Client Name: S&ME, Inc. (SM002)	Project Number: 1356-07-004
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County LF - App Is
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: ~~50341~~ 60157
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Jasmine Tayenga, S&ME	Billing Contact: Barbara Ellington
Sampler(s) Signature: Jasmine Tayenga	Site Location / Time Zone: Crouse, NC

Requested Analyses

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C403091

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Ni,Pb,Sb,Se,Ti,V,Zn	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Ti,V,Zn	Hg							Sample Comments
	5503-MW1A	4-15-14	0855	G	GW	4	X	X		X							
	5503-MW8	4-15-14	1020		GW	4	X		X								
	5503-MW9	4-15-14	1025		GW	4	X		X								
	5503-MW10R	4-15-14	1030		GW	4	X		X								
	5503-MW12	4-16-14	1000		GW	4	X		X								
	5503-MW13	4-15-14	0915		GW	4	X		X								
	5503-MW14	4-15-14	0910		GW	4	X		X								
	5503-MW15	4-15-14	0935		GW	4	X		X								
	5503-MW16R	4-15-14	0900		GW	4	X		X								
	5503-MW17	4-16-14	1040		GW	4	X		X								
	5503-MW18	4-15-14	0930		GW	4	X		X								
	5503-MW19	4-15-14	0925		GW	4	X		X								

<-- Total # of Containers

Sample Kit Prepared By: RAY	Date/Time: 3/10	Relinquished By: Courtney Murphy	Date/Time: 4/16/14 1720	Received By: [signature]	Date/Time: 4-17-14 11:30
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-610 1.6c CA-1588 1.9c		Condition Upon Receipt: ✓ Acceptable ___ Unacceptable	

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments) **Preservation:** **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

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Client Name: S&ME, Inc. (SM002)	Project Number: 1356-07-004
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County LF - App Is
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: ~~56341~~ 60157
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Jasmine Tayouga	Billing Contact: Barbara Ellington
Sampler(s) Signature: Jasmine Tayouga	Site Location / Time Zone: Crouse, NC

Requested Analyses

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C403091

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Ni,Pb,Sb,Se,Tl,V,Zn	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn	Hg							Sample Comments
	5503-MW20	4-15-14	0905	G	GW	4	X		X								
	5503-MW21	4-15-14	0945	↓	GW	4	X		X								
	5503-MW24	4-16-14	0955		GW	4	X		X								
	5503-MW25	4-16-14	1540		GW	4	X		X								
	5503-MW25A	4-16-14	1535		GW	4	X		X								
	5503-MW32R	4-15-14	0950		GW	4	X		X								
	5503-MW33	4-15-14	0955		GW	4	X		X								
	5503-MW33A	4-15-14	1000		GW	4	X		X								
	5503-MW34	4-15-14	1005		GW	4	X		X								
	5503-MW35	4-15-14	1010		GW	4	X		X								
	5503-MW35A	4-15-14	1015	↓	GW	4	X		X								
	5503-TripBlank				WA	2	X										

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
		Courtney Murphy	4-16-14 1720	John	4-17-14 11:30
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt		Condition Upon Receipt: ✓ Acceptable ___ Unacceptable	

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments)

Preservation: **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

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Page 1 of 1

Client Name: S&ME, Inc. (SM002)	Project Number: 1356-07-004
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County LF - C&D
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: ~~50341~~ 60157
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Jasmine Tayonga, S&ME	Billing Contact: Barbara Ellington
Sampler(s) Signature: Jasmine Tayonga	Site Location / Time Zone: Crouse, NC

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C403093

Requested Analyses / Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1,8260B Extended	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Ni,Pb,Sb,Se,Tl,V,Zn	Alkalinity 310.2,Chloride 300,TDS SM2540C	Hg	Sulfate 300						Sample Comments
	5503-MW26	4-16-14	1120	G	GW	5	X	X	X	X	X						
	5503-MW27	4-16-14	1125	↓	GW	5	X	X	X	X	X						
	5503-MW28	4-16-14	1135		GW	5	X	X	X	X	X						
	5503-MW29	4-16-14	1045		GW	5	X	X	X	X	X						
	5503-MW30	4-16-14	1100		GW	5	X	X	X	X	X						
	5503-MW31	4-16-14	1115		GW	5	X	X	X	X	X						
	5503-MW36	4-16-14	1055	↓	GW	5	X	X	X	X	X						
	5503-TripBlank				WA	2	X										

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
KAY	3/10	Courtney Murphy	4-16-14 1720	[illegible]	4-17-14 11:00
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: 1.2°C		Condition Upon Receipt: ✓ Acceptable ___ Unacceptable	

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments) **Preservation:** **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Wednesday, May 28, 2014

S&ME, Inc. (SM002)

Attn: Courtney Murphy

9751 Southern Pine Blvd.

Charlotte, NC 28273

RE: Laboratory Results for
Project Number: 7235-14-019, Project Name/Desc: Lincoln County Landfill
ENCO Workorder(s): C405668

Dear Courtney Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, May 13, 2014.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 36.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 5503-MW17 **Lab ID: C405668-01** **Sampled: 05/12/14 11:55** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 11:42
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:19
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 00:09

Client ID: 5503-MW17R **Lab ID: C405668-02** **Sampled: 05/12/14 12:05** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 11:45
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 11:47
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 00:38

Client ID: 5503-MW28 **Lab ID: C405668-03** **Sampled: 05/12/14 12:15** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 11:47
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:23
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 01:08

Client ID: 5503-MW37 **Lab ID: C405668-04** **Sampled: 05/12/14 12:10** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 11:50
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:27
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 01:38

Client ID: 5503-OW1 **Lab ID: C405668-05** **Sampled: 05/12/14 12:30** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 11:52
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:31
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 02:07

Client ID: 5503-OW4A **Lab ID: C405668-06** **Sampled: 05/12/14 11:30** **Received: 05/13/14 10:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 12:28
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:35
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 02:37

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Client ID: 5503-OW16	Lab ID: C405668-07	Sampled: 05/12/14 12:25	Received: 05/13/14 10:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/08/14	05/14/14 10:47	5/20/2014 12:31
EPA 6020A	11/08/14	05/14/14 10:43	5/20/2014 12:39
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 03:07

Client ID: 5503-TripBlank	Lab ID: C405668-08	Sampled: 05/12/14 11:55	Received: 05/13/14 10:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	05/26/14	05/20/14 16:19	5/22/2014 03:36

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 5503-MW17 **Lab ID: C405668-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.87	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Acetone	46	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	77.5	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.377	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	24.4		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	12.6		1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	26.8	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	1.3		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichloroethene	0.70	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Vinyl chloride	0.43	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	0.66	J	1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	10.5		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW17R **Lab ID: C405668-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	5.1		1	0.13	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	2.5		1	0.19	1.0	1	ug/L	EPA 8260B	
Barium - Total	142		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	4.8		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.394	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	5.25	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	3.0	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	16.0		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	2.46	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Methylene chloride	41		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	7.50	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.68	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.195	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	1.2		1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	6.16	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	0.44	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	15		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	26.9		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW28 **Lab ID: C405668-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Barium - Total	97.9	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.196	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	4.05	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	1.91	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	4.15	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	7.1		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.115	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Vinyl chloride	0.87	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Zinc - Total	9.22	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW37 **Lab ID: C405668-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.60	J	1	0.13	1.0	5	ug/L	EPA 8260B	

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Client ID: 5503-MW37								Lab ID: C405668-04	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Barium - Total	56.3	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	5.06	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	0.63	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	1.57	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	2.22	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.42	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	2.40	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Xylenes (Total)	1.6	J	1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	6.61	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW1								Lab ID: C405668-05	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Acetone	210		1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	363		1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	1.81		1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	17.8		1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	69.8		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	13.7		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	29.3		1	2.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	180		1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	1.87	J	1	0.910	3.00	10	ug/L	EPA 6020A	
Tetrachloroethene	1.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.702	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Vanadium - Total	10.1	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	77.4		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW4A								Lab ID: C405668-06	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Antimony - Total	1.14	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	59.3	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	9.80	J	1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	1.77	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	3.54	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	3.88	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	5.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.60	J	1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	5.05	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	11.0		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW16								Lab ID: C405668-07	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
1,1-Dichloroethane	3.5	J	1	0.13	1.0	5	ug/L	EPA 8260B	
1,2-Dichlorobenzene	1.3	J	1	0.19	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	7.4		1	0.19	1.0	1	ug/L	EPA 8260B	
Acetone	80	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	186		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	6.8		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.401	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chlorobenzene	0.51	J	1	0.17	1.0	3	ug/L	EPA 8260B	
Chromium - Total	4.50	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	13		1	0.15	1.0	5	ug/L	EPA 8260B	

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Client ID: 5503-OW16				Lab ID: C405668-07					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Cobalt - Total	20.4		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	3.31	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Methylene chloride	10		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	21.1	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	4.3		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.619	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	3.0		1	0.15	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.82	J	1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	3.45	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	0.83	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	37		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	23.5		1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: 5503-MW17 | **Lab Sample ID:** C405668-01 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 11:55 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 00:09	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 00:09	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,1-Dichloroethane [75-34-3] ^	**0.87**	J	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 00:09	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 00:09	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 00:09	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 00:09	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 00:09	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 00:09	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 00:09	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 00:09	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 00:09	REF	
Acetone [67-64-1] ^	**46**	J	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 00:09	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 00:09	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 00:09	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 00:09	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 00:09	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 00:09	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 00:09	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 00:09	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 00:09	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 00:09	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 00:09	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 00:09	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 00:09	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 00:09	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Tetrachloroethene [127-18-4] ^	**1.3**		ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 00:09	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 00:09	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:09	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 00:09	REF	
Trichloroethene [79-01-6] ^	**0.70**	J	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:09	REF	

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Description: 5503-MW17
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-01
Sampled: 05/12/14 11:55
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 00:09	REF	
Vinyl chloride [75-01-4] ^	**0.43**	J	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 00:09	REF	
Xylenes (Total) [1330-20-7] ^	**0.66**	J	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 00:09	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 00:09*	*REF*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 00:09*	*REF*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 00:09*	*REF*	

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Description: 5503-MW17 | **Lab Sample ID:** C405668-01 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 11:55 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:19	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Barium [7440-39-3] ^	**77.5**	J	ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 11:42	JDH	
Beryllium [7440-41-7] ^	**0.377**	J	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 11:42	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 11:42	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Cobalt [7440-48-4] ^	**24.4**		ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Copper [7440-50-8] ^	**12.6**		ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Nickel [7440-02-0] ^	**26.8**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 11:42	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:19	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 11:42	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:19	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 11:42	JDH	
Zinc [7440-66-6] ^	**10.5**		ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 11:42	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-02
Sampled: 05/12/14 12:05
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 00:38	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 00:38	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,1-Dichloroethane [75-34-3] ^	**5.1**		ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 00:38	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 00:38	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 00:38	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 00:38	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 00:38	REF	
1,4-Dichlorobenzene [106-46-7] ^	**2.5**		ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 00:38	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 00:38	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 00:38	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 00:38	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 00:38	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 00:38	REF	
Benzene [71-43-2] ^	**4.8**		ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 00:38	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 00:38	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 00:38	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 00:38	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 00:38	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 00:38	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 00:38	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 00:38	REF	
cis-1,2-Dichloroethene [156-59-2] ^	**3.0**	J	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 00:38	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 00:38	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 00:38	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 00:38	REF	
Methylene chloride [75-09-2] ^	**41**		ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Tetrachloroethene [127-18-4] ^	**0.68**	J	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 00:38	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 00:38	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:38	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 00:38	REF	
Trichloroethene [79-01-6] ^	**1.2**		ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 00:38	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 00:38	REF	
Vinyl chloride [75-01-4] ^	**0.44**	J	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 00:38	REF	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-02
Sampled: 05/12/14 12:05
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**15**		ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 00:38	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*56*	*1*	*50.0*	*113 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 00:38*	*REF*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 00:38*	*REF*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 00:38*	*REF*	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-02
Sampled: 05/12/14 12:05
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 11:47	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Barium [7440-39-3] ^	**142**		ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 11:45	JDH	
Beryllium [7440-41-7] ^	**0.394**	J	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 11:45	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 11:45	JDH	
Chromium [7440-47-3] ^	**5.25**	J	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Cobalt [7440-48-4] ^	**16.0**		ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Copper [7440-50-8] ^	**2.46**	J	ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Nickel [7440-02-0] ^	**7.50**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 11:45	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 11:47	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 11:45	JDH	
Thallium [7440-28-0] ^	**0.195**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 11:47	VLO	
Vanadium [7440-62-2] ^	**6.16**	J	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 11:45	JDH	
Zinc [7440-66-6] ^	**26.9**		ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 11:45	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW28 | **Lab Sample ID:** C405668-03 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:15 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 01:08	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 01:08	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 01:08	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 01:08	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 01:08	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 01:08	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 01:08	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 01:08	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 01:08	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 01:08	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 01:08	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 01:08	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 01:08	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 01:08	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 01:08	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 01:08	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 01:08	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 01:08	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 01:08	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 01:08	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 01:08	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 01:08	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 01:08	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 01:08	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 01:08	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Tetrachloroethene [127-18-4] ^	**7.1**		ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 01:08	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 01:08	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:08	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 01:08	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 01:08	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 01:08	REF	
Vinyl chloride [75-01-4] ^	**0.87**	J	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 01:08	REF	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-03
Sampled: 05/12/14 12:15
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 01:08	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*111 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 01:08*	*REF*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 01:08*	*REF*	
Toluene-d8	*54*	*1*	*50.0*	*109 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 01:08*	*REF*	

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Description: 5503-MW28 | **Lab Sample ID:** C405668-03 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:15 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:23	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Barium [7440-39-3] ^	**97.9**	J	ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 11:47	JDH	
Beryllium [7440-41-7] ^	**0.196**	J	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 11:47	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 11:47	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Cobalt [7440-48-4] ^	**4.05**	J	ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Copper [7440-50-8] ^	**1.91**	J	ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Nickel [7440-02-0] ^	**4.15**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 11:47	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:23	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 11:47	JDH	
Thallium [7440-28-0] ^	**0.115**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:23	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 11:47	JDH	
Zinc [7440-66-6] ^	**9.22**	J	ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 11:47	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW37 | **Lab Sample ID:** C405668-04 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:10 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 01:38	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 01:38	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,1-Dichloroethane [75-34-3] ^	**0.60**	J	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 01:38	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 01:38	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 01:38	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 01:38	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 01:38	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 01:38	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 01:38	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 01:38	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 01:38	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 01:38	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 01:38	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 01:38	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 01:38	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 01:38	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 01:38	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 01:38	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 01:38	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 01:38	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 01:38	REF	
cis-1,2-Dichloroethene [156-59-2] ^	**0.63**	J	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 01:38	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 01:38	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 01:38	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 01:38	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Tetrachloroethene [127-18-4] ^	**0.42**	J	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 01:38	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 01:38	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:38	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 01:38	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 01:38	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 01:38	REF	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 01:38	REF	

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Description:	5503-MW37	**Lab Sample ID:**	C405668-04	**Received:**	05/13/14 10:15
Matrix:	Ground Water	**Sampled:**	05/12/14 12:10	**Work Order:**	C405668
Project:	Lincoln County Landfill	**Sampled By:**	Courtney Murphy		

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**1.6**	J	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 01:38	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 01:38*	*REF*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 01:38*	*REF*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 01:38*	*REF*	

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Description: 5503-MW37 | **Lab Sample ID:** C405668-04 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:10 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:27	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Barium [7440-39-3] ^	**56.3**	J	ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 11:50	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 11:50	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 11:50	JDH	
Chromium [7440-47-3] ^	**5.06**	J	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Cobalt [7440-48-4] ^	**1.57**	J	ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Nickel [7440-02-0] ^	**2.22**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 11:50	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:27	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 11:50	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:27	VLO	
Vanadium [7440-62-2] ^	**2.40**	J	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 11:50	JDH	
Zinc [7440-66-6] ^	**6.61**	J	ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 11:50	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW1 | **Lab Sample ID:** C405668-05 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:30 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 02:07	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 02:07	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 02:07	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 02:07	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 02:07	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 02:07	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 02:07	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 02:07	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 02:07	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 02:07	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 02:07	REF	
Acetone [67-64-1] ^	**210**		ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 02:07	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 02:07	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 02:07	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 02:07	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 02:07	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 02:07	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 02:07	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 02:07	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 02:07	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 02:07	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 02:07	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 02:07	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 02:07	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 02:07	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Tetrachloroethene [127-18-4] ^	**1.2**		ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 02:07	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 02:07	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:07	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 02:07	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 02:07	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 02:07	REF	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 02:07	REF	

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Description: 5503-OW1
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-05
Sampled: 05/12/14 12:30
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 02:07	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*103 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 02:07*	*REF*	
Dibromofluoromethane	*50*	*1*	*50.0*	*99 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 02:07*	*REF*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 02:07*	*REF*	

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Description: 5503-OW1 | **Lab Sample ID:** C405668-05 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:30 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:31	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Barium [7440-39-3] ^	**363**		ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 11:52	JDH	
Beryllium [7440-41-7] ^	**1.81**		ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 11:52	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 11:52	JDH	
Chromium [7440-47-3] ^	**17.8**		ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Cobalt [7440-48-4] ^	**69.8**		ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Copper [7440-50-8] ^	**13.7**		ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Lead [7439-92-1] ^	**29.3**		ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Nickel [7440-02-0] ^	**180**		ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 11:52	JDH	
Selenium [7782-49-2] ^	**1.87**	J	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:31	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 11:52	JDH	
Thallium [7440-28-0] ^	**0.702**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:31	VLO	
Vanadium [7440-62-2] ^	**10.1**	J	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 11:52	JDH	
Zinc [7440-66-6] ^	**77.4**		ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 11:52	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-06
Sampled: 05/12/14 11:30
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 02:37	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 02:37	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 02:37	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 02:37	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 02:37	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 02:37	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 02:37	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 02:37	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 02:37	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 02:37	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 02:37	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 02:37	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 02:37	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 02:37	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 02:37	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 02:37	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 02:37	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 02:37	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 02:37	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 02:37	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 02:37	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 02:37	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 02:37	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 02:37	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 02:37	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Tetrachloroethene [127-18-4] ^	**5.2**		ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 02:37	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 02:37	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:37	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 02:37	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Trichlorofluoromethane [75-69-4] ^	**0.60**	J	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 02:37	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 02:37	REF	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 02:37	REF	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-06
Sampled: 05/12/14 11:30
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 02:37	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 02:37*	*REF*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 02:37*	*REF*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 02:37*	*REF*	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-06
Sampled: 05/12/14 11:30
Sampled By: Courtney Murphy

Received: 05/13/14 10:15
Work Order: C405668

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**1.14**	J	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:35	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Barium [7440-39-3] ^	**59.3**	J	ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 12:28	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 12:28	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 12:28	JDH	
Chromium [7440-47-3] ^	**9.80**	J	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Cobalt [7440-48-4] ^	**1.77**	J	ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Copper [7440-50-8] ^	**3.54**	J	ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Nickel [7440-02-0] ^	**3.88**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 12:28	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:35	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 12:28	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:35	VLO	
Vanadium [7440-62-2] ^	**5.05**	J	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 12:28	JDH	
Zinc [7440-66-6] ^	**11.0**		ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 12:28	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW16 | **Lab Sample ID:** C405668-07 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:25 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 03:07	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 03:07	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,1-Dichloroethane [75-34-3] ^	**3.5**	J	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 03:07	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 03:07	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 03:07	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,2-Dichlorobenzene [95-50-1] ^	**1.3**	J	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 03:07	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 03:07	REF	
1,4-Dichlorobenzene [106-46-7] ^	**7.4**		ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 03:07	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 03:07	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 03:07	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 03:07	REF	
Acetone [67-64-1] ^	**80**	J	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 03:07	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 03:07	REF	
Benzene [71-43-2] ^	**6.8**		ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 03:07	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 03:07	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 03:07	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 03:07	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Chlorobenzene [108-90-7] ^	**0.51**	J	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 03:07	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 03:07	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 03:07	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 03:07	REF	
cis-1,2-Dichloroethene [156-59-2] ^	**13**		ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 03:07	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 03:07	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 03:07	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 03:07	REF	
Methylene chloride [75-09-2] ^	**10**		ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Tetrachloroethene [127-18-4] ^	**4.3**		ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 03:07	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 03:07	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:07	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 03:07	REF	
Trichloroethene [79-01-6] ^	**3.0**		ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Trichlorofluoromethane [75-69-4] ^	**0.82**	J	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 03:07	REF	
Vinyl chloride [75-01-4] ^	**0.83**	J	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 03:07	REF	
Xylenes (Total) [1330-20-7] ^	**37**		ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 03:07	REF	

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Description:	5503-OW16	**Lab Sample ID:**	C405668-07	**Received:**	05/13/14 10:15
Matrix:	Ground Water	**Sampled:**	05/12/14 12:25	**Work Order:**	C405668
Project:	Lincoln County Landfill	**Sampled By:**	Courtney Murphy		

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	**Notes**
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 03:07*	*REF*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 03:07*	*REF*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 03:07*	*REF*	

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Description: 5503-OW16 | **Lab Sample ID:** C405668-07 | **Received:** 05/13/14 10:15

Matrix: Ground Water | **Sampled:** 05/12/14 12:25 | **Work Order:** C405668

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	05/20/14 12:39	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Barium [7440-39-3] ^	**186**		ug/L	1	1.00	10.0	100	EPA 6010C	05/20/14 12:31	JDH	
Beryllium [7440-41-7] ^	**0.401**	J	ug/L	1	0.100	1.00	1	EPA 6010C	05/20/14 12:31	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	05/20/14 12:31	JDH	
Chromium [7440-47-3] ^	**4.50**	J	ug/L	1	1.40	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Cobalt [7440-48-4] ^	**20.4**		ug/L	1	1.10	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Copper [7440-50-8] ^	**3.31**	J	ug/L	1	1.60	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Nickel [7440-02-0] ^	**21.1**	J	ug/L	1	1.80	10.0	50	EPA 6010C	05/20/14 12:31	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	05/20/14 12:39	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	05/20/14 12:31	JDH	
Thallium [7440-28-0] ^	**0.619**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	05/20/14 12:39	VLO	
Vanadium [7440-62-2] ^	**3.45**	J	ug/L	1	1.40	10.0	25	EPA 6010C	05/20/14 12:31	JDH	
Zinc [7440-66-6] ^	**23.5**		ug/L	1	3.80	10.0	10	EPA 6010C	05/20/14 12:31	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-08
Sampled: 05/12/14 11:55
Sampled By: ENCO

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	05/22/14 03:36	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	05/22/14 03:36	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	05/22/14 03:36	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 03:36	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	05/22/14 03:36	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	05/22/14 03:36	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	05/22/14 03:36	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	05/22/14 03:36	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	05/22/14 03:36	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	05/22/14 03:36	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	05/22/14 03:36	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	05/22/14 03:36	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	05/22/14 03:36	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	05/22/14 03:36	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	05/22/14 03:36	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	05/22/14 03:36	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	05/22/14 03:36	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 03:36	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	05/22/14 03:36	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	05/22/14 03:36	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 03:36	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	05/22/14 03:36	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	05/22/14 03:36	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	05/22/14 03:36	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	05/22/14 03:36	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Tetrachloroethene [127-18-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	05/22/14 03:36	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	05/22/14 03:36	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:36	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	05/22/14 03:36	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	05/22/14 03:36	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	05/22/14 03:36	REF	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	05/22/14 03:36	REF	

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C405668-08
Sampled: 05/12/14 11:55
Sampled By: ENCO

Received: 05/13/14 10:15
Work Order: C405668

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	05/22/14 03:36	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*51-122*	*4E20035*	*EPA 8260B*	*05/22/14 03:36*	*REF*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*68-117*	*4E20035*	*EPA 8260B*	*05/22/14 03:36*	*REF*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*67-127*	*4E20035*	*EPA 8260B*	*05/22/14 03:36*	*REF*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4E20035 - EPA 5030B_MS

Blank (4E20035-BLK1) Prepared: 05/20/2014 16:19 Analyzed: 05/21/2014 17:09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4E20035 - EPA 5030B_MS

Blank (4E20035-BLK1) Continued Prepared: 05/20/2014 16:19 Analyzed: 05/21/2014 17:09

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*49*			*ug/L*	*50.0*		*97*	*68-117*			
Surrogate: Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*67-127*			

LCS (4E20035-BS1) Prepared: 05/20/2014 16:19 Analyzed: 05/21/2014 17:39

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0		111	75-133			
Benzene	19		1.0	ug/L	20.0		95	81-134			
Chlorobenzene	21		1.0	ug/L	20.0		107	83-117			
Toluene	19		1.0	ug/L	20.0		93	71-118			
Trichloroethene	19		1.0	ug/L	20.0		95	74-119			

Matrix Spike (4E20035-MS1) Prepared: 05/20/2014 16:19 Analyzed: 05/21/2014 18:09

Source: C406244-07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	108	75-133			
Benzene	19		1.0	ug/L	20.0	0.15 U	96	81-134			
Chlorobenzene	21		1.0	ug/L	20.0	0.17 U	104	83-117			
Toluene	19		1.0	ug/L	20.0	0.14 U	94	71-118			
Trichloroethene	22		1.0	ug/L	20.0	0.15 U	111	74-119			

Matrix Spike Dup (4E20035-MSD1) Prepared: 05/20/2014 16:19 Analyzed: 05/21/2014 18:39

Source: C406244-07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	108	75-133	0.6	20	
Benzene	18		1.0	ug/L	20.0	0.15 U	92	81-134	4	17	
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	100	83-117	5	16	
Toluene	18		1.0	ug/L	20.0	0.14 U	91	71-118	4	17	
Trichloroethene	19		1.0	ug/L	20.0	0.15 U	97	74-119	14	22	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4E14025 - EPA 3005A

Blank (4E14025-BLK1) Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 11:43

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4E14025-BS1) Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 11:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	199		2.00	ug/L	200		99	80-120			
Selenium	208		3.00	ug/L	200		104	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4E14025 - EPA 3005A

LCS (4E14025-BS1) Continued Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 11:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Thallium	200		1.00	ug/L	200		100	80-120			

Matrix Spike (4E14025-MS1) Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 12:04

Source: C405668-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	196		2.00	ug/L	200	0.220 U	98	75-125			
Selenium	202		3.00	ug/L	200	0.910 U	101	75-125			
Thallium	194		1.00	ug/L	200	0.195	97	75-125			

Matrix Spike Dup (4E14025-MSD1) Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 12:08

Source: C405668-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	200		2.00	ug/L	200	0.220 U	100	75-125	2	20	
Selenium	196		3.00	ug/L	200	0.910 U	98	75-125	3	20	
Thallium	198		1.00	ug/L	200	0.195	99	75-125	2	20	

Post Spike (4E14025-PS1) Prepared: 05/14/2014 10:43 Analyzed: 05/20/2014 12:11

Source: C405668-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	198		2.00	ug/L	200	-0.0160	99	80-120			
Selenium	204		3.00	ug/L	200	-0.113	102	80-120			
Thallium	194		1.00	ug/L	200	0.195	97	80-120			

Batch 4E14027 - EPA 3005A

Blank (4E14027-BLK1) Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 10:43

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4E14027-BS1) Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 10:46

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4E14027 - EPA 3005A

LCS (4E14027-BS1) Continued Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 10:46

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	215		10.0	ug/L	200		107	80-120			
Barium	216		10.0	ug/L	200		108	80-120			
Beryllium	21.0		1.00	ug/L	20.0		105	80-120			
Cadmium	21.6		1.00	ug/L	20.0		108	80-120			
Chromium	207		10.0	ug/L	200		103	80-120			
Cobalt	215		10.0	ug/L	200		108	80-120			
Copper	205		10.0	ug/L	200		103	80-120			
Lead	209		10.0	ug/L	200		105	80-120			
Nickel	217		10.0	ug/L	200		109	80-120			
Silver	212		10.0	ug/L	200		106	80-120			
Vanadium	210		10.0	ug/L	200		105	80-120			
Zinc	216		10.0	ug/L	200		108	80-120			

Matrix Spike (4E14027-MS1) Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 10:59

Source: C405385-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	218		10.0	ug/L	200	5.40 U	109	75-125			
Barium	355		10.0	ug/L	200	147	104	75-125			
Beryllium	21.7		1.00	ug/L	20.0	0.100 U	108	75-125			
Cadmium	22.0		1.00	ug/L	20.0	0.360 U	110	75-125			
Chromium	212		10.0	ug/L	200	1.40 U	106	75-125			
Cobalt	228		10.0	ug/L	200	9.00	109	75-125			
Copper	212		10.0	ug/L	200	1.60 U	106	75-125			
Lead	217		10.0	ug/L	200	2.10 U	108	75-125			
Nickel	223		10.0	ug/L	200	2.31	110	75-125			
Silver	216		10.0	ug/L	200	1.90 U	108	75-125			
Vanadium	218		10.0	ug/L	200	1.40 U	109	75-125			
Zinc	228		10.0	ug/L	200	7.07	110	75-125			

Matrix Spike Dup (4E14027-MSD1) Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 11:02

Source: C405385-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	213		10.0	ug/L	200	5.40 U	106	75-125	3	20	
Barium	350		10.0	ug/L	200	147	102	75-125	1	20	
Beryllium	21.7		1.00	ug/L	20.0	0.100 U	108	75-125	0.1	20	
Cadmium	21.4		1.00	ug/L	20.0	0.360 U	107	75-125	3	20	
Chromium	210		10.0	ug/L	200	1.40 U	105	75-125	1	20	
Cobalt	223		10.0	ug/L	200	9.00	107	75-125	2	20	
Copper	209		10.0	ug/L	200	1.60 U	104	75-125	2	20	
Lead	210		10.0	ug/L	200	2.10 U	105	75-125	3	20	
Nickel	217		10.0	ug/L	200	2.31	107	75-125	3	20	
Silver	215		10.0	ug/L	200	1.90 U	107	75-125	0.8	20	
Vanadium	215		10.0	ug/L	200	1.40 U	108	75-125	1	20	
Zinc	223		10.0	ug/L	200	7.07	108	75-125	2	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4E14027 - EPA 3005A

Post Spike (4E14027-PS1) Prepared: 05/14/2014 10:47 Analyzed: 05/20/2014 11:04

Source: C405385-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.201		0.0100	mg/L	0.200	-0.00386	102	80-120			
Barium	0.356		0.0100	mg/L	0.200	0.147	105	80-120			
Beryllium	0.0203		0.00100	mg/L	0.0200	5.09E-5	101	80-120			
Cadmium	0.0207		0.00100	mg/L	0.0200	0.000117	103	80-120			
Chromium	0.200		0.0100	mg/L	0.200	0.000735	99	80-120			
Cobalt	0.214		0.0100	mg/L	0.200	0.00900	103	80-120			
Copper	0.198		0.0100	mg/L	0.200	-0.000162	99	80-120			
Lead	0.201		0.0100	mg/L	0.200	0.00105	100	80-120			
Nickel	0.207		0.0100	mg/L	0.200	0.00231	102	80-120			
Silver	0.203		0.0100	mg/L	0.200	-0.000930	102	80-120			
Vanadium	0.204		0.0100	mg/L	0.200	-0.000325	102	80-120			
Zinc	0.213		0.0100	mg/L	0.200	0.00707	103	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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Page 1 of 1

Client Name: S&ME, Inc. (SM002)	Project Number: 7235-14-019
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County Landfill
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: 60407
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Courtney Murphy	Billing Contact: Barbara Ellington
Sampler(s) Signature: Courtney Murphy	Site Location / Time Zone: Crouse, NC

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C405668

Requested Analyses: 8260B Appendix 1; Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn									Sample Comments
	5503-MW17	5/12/14	11:55	G	GW	4	X	X									
	5503-MW17R	5/12/14	12:05	↓	GW	4	X	X									
	5503-MW28	5/12/14	12:15		GW	4	X	X									
	5503-MW37	5/12/14	12:10		GW	4	X	X									
	5503-OW1	5/12/14	12:30		GW	4	X	X									
	5503-OW4A	5/12/14	11:30		GW	4	X	X									
	5503-OW16	5/12/14	12:25	✓	GW	4	X	X									
	5503-TripBlank				WA	2	X										

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
RAy	5/6	Courtney Murphy	5-12-14 1730	[illegible]	5-13-14 10:15
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time

Cooler #'s & Temps on Receipt: C-52 2.2°C

Condition Upon Receipt: ✓ Acceptable ___ Unacceptable

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments)

Preservation: **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Monday, June 30, 2014

S&ME, Inc. (SM002)

Attn: Courtney Murphy

9751 Southern Pine Blvd.

Charlotte, NC 28273

RE: Laboratory Results for
Project Number: 7235-14-019, Project Name/Desc: Lincoln County Landfill
ENCO Workorder(s): C407507

Dear Courtney Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, June 17, 2014.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 38.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 5503-MW17	Lab ID: C407507-01	Sampled: 06/16/14 13:25	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 10:51
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:12
EPA 8260B	06/30/14	06/25/14 17:01	6/26/2014 13:01

Client ID: 5503-MW17R	Lab ID: C407507-02	Sampled: 06/16/14 13:30	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 10:54
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:15
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 09:36

Client ID: 5503-MW28	Lab ID: C407507-03	Sampled: 06/16/14 14:05	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 10:56
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:19
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 10:05

Client ID: 5503-MW37	Lab ID: C407507-04	Sampled: 06/16/14 13:40	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 10:59
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:23
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 10:35

Client ID: 5503-OW1	Lab ID: C407507-05	Sampled: 06/16/14 13:45	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 11:01
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:34
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 11:05

Client ID: 5503-OW4A	Lab ID: C407507-06	Sampled: 06/16/14 14:00	Received: 06/17/14 12:20
Parameter	**Hold Date/Time(s)**	**Prep Date/Time(s)**	**Analysis Date/Time(s)**
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 11:04
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:38
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 11:35

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Client ID: 5503-OW16	Lab ID: C407507-07	Sampled: 06/16/14 13:50	Received: 06/17/14 12:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	12/13/14	06/18/14 10:54	6/19/2014 11:06
EPA 6020A	12/13/14	06/19/14 14:23	6/23/2014 12:41
EPA 8260B	06/30/14	06/26/14 16:24	6/27/2014 12:04

Client ID: 5503-TripBlank	Lab ID: C407507-08	Sampled: 06/16/14 13:25	Received: 06/17/14 12:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	06/30/14	06/25/14 17:01	6/26/2014 09:04

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 5503-MW17 **Lab ID: C407507-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	2.5	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Acetone	55	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	62.7	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	0.46	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.282	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	45.9		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	10.7		1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	51.1		1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	2.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.5		1	0.15	1.0	1	ug/L	EPA 8260B	
Zinc - Total	12.2		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW17R **Lab ID: C407507-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	6.0		1	0.13	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	3.0		1	0.19	1.0	1	ug/L	EPA 8260B	
Barium - Total	152		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	5.0		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.544	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	8.40	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	3.0	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	15.5		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	3.89	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	2.26	J	1	2.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	52		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	8.46	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.87	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.315	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	1.4		1	0.15	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.51	J	1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	10.5	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	0.72	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	15		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	23.6		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW28 **Lab ID: C407507-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	7.0	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	91.9	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.207	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	3.34	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	3.39	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	8.4		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.166	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Vinyl chloride	1.1		1	0.32	1.0	1	ug/L	EPA 8260B	
Zinc - Total	9.08	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW37 **Lab ID: C407507-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes

Client ID: 5503-MW37 **Lab ID: C407507-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	1.3	J	1	0.13	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	0.56	J	1	0.19	1.0	1	ug/L	EPA 8260B	
Barium - Total	53.1	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.102	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	4.76	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	1.5	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	1.79	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	5.8		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	2.06	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.93	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Trichloroethene	0.49	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	2.17	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Xylenes (Total)	4.9	J	1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	5.85	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW1 **Lab ID: C407507-05**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	170		1	1.2	5.0	100	ug/L	EPA 8260B	
Antimony - Total	0.325	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Arsenic - Total	6.64	J	1	5.40	10.0	10	ug/L	EPA 6010C	
Barium - Total	380		1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	1.45		1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	58.2		1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	69.6		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	13.5		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	31.8		1	2.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	181		1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	1.8		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.890	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	0.53	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	29.1		1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	102		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW4A **Lab ID: C407507-06**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Antimony - Total	0.419	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	43.0	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cobalt - Total	1.77	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Tetrachloroethene	9.3		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.4		1	0.24	1.0	1	ug/L	EPA 8260B	
Vinyl chloride	0.76	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Zinc - Total	5.28	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW16 **Lab ID: C407507-07**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	4.2	J	1	0.13	1.0	5	ug/L	EPA 8260B	
1,2-Dichlorobenzene	1.9	J	1	0.19	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	9.2		1	0.19	1.0	1	ug/L	EPA 8260B	
Acetone	31	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Antimony - Total	0.518	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	159		1	1.00	10.0	100	ug/L	EPA 6010C	

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Client ID: 5503-OW16				Lab ID: C407507-07					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Benzene	8.5		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.426	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chlorobenzene	0.71	J	1	0.17	1.0	3	ug/L	EPA 8260B	
Chromium - Total	4.94	J	1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	14		1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	26.6		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	2.17	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	2.69	J	1	2.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	11		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	27.7	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	4.8		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.590	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	3.6		1	0.15	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.1		1	0.24	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	3.87	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	1.4		1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	48		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	24.1		1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: 5503-MW17 | **Lab Sample ID:** C407507-01 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:25 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/26/14 13:01	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,1-Dichloroethane [75-34-3] ^	**2.5**	J	ug/L	1	0.13	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/26/14 13:01	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/26/14 13:01	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/26/14 13:01	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/26/14 13:01	MSZ	
Acetone [67-64-1] ^	**55**	J	ug/L	1	1.2	5.0	100	EPA 8260B	06/26/14 13:01	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/26/14 13:01	MSZ	
Benzene [71-43-2] ^	**0.46**	J	ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/26/14 13:01	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/26/14 13:01	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/26/14 13:01	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/26/14 13:01	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/26/14 13:01	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/26/14 13:01	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/26/14 13:01	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/26/14 13:01	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/26/14 13:01	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Tetrachloroethene [127-18-4] ^	**2.2**		ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/26/14 13:01	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/26/14 13:01	MSZ	
Trichloroethene [79-01-6] ^	**1.5**		ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	

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Description: 5503-MW17
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-01
Sampled: 06/16/14 13:25
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/26/14 13:01	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	06/26/14 13:01	MSZ	
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	06/26/14 13:01	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*42*	*1*	*50.0*	*84 %*	*51-122*	*4F25035*	*EPA 8260B*	*06/26/14 13:01*	*MSZ*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*68-117*	*4F25035*	*EPA 8260B*	*06/26/14 13:01*	*MSZ*	
Toluene-d8	*45*	*1*	*50.0*	*90 %*	*67-127*	*4F25035*	*EPA 8260B*	*06/26/14 13:01*	*MSZ*	

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Description: 5503-MW17 | **Lab Sample ID:** C407507-01 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:25 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:12	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Barium [7440-39-3] ^	**62.7**	J	ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 10:51	JDH	
Beryllium [7440-41-7] ^	**0.282**	J	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 10:51	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 10:51	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Cobalt [7440-48-4] ^	**45.9**		ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Copper [7440-50-8] ^	**10.7**		ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Nickel [7440-02-0] ^	**51.1**		ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 10:51	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:12	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 10:51	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:12	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 10:51	JDH	
Zinc [7440-66-6] ^	**12.2**		ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 10:51	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-02
Sampled: 06/16/14 13:30
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 09:36	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,1-Dichloroethane [75-34-3] ^	**6.0**		ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 09:36	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	**3.0**		ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 09:36	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 09:36	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 09:36	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 09:36	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 09:36	MSZ	
Benzene [71-43-2] ^	**5.0**		ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 09:36	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 09:36	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 09:36	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 09:36	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 09:36	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 09:36	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**3.0**	J	ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 09:36	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 09:36	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 09:36	MSZ	
Methylene chloride [75-09-2] ^	**52**		ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Tetrachloroethene [127-18-4] ^	**0.87**	J	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 09:36	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 09:36	MSZ	
Trichloroethene [79-01-6] ^	**1.4**		ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Trichlorofluoromethane [75-69-4] ^	**0.51**	J	ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 09:36	MSZ	
Vinyl chloride [75-01-4] ^	**0.72**	J	ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 09:36	MSZ	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-02
Sampled: 06/16/14 13:30
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**15**		ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 09:36	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*43*	*1*	*50.0*	*87 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 09:36*	*MSZ*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 09:36*	*MSZ*	
Toluene-d8	*46*	*1*	*50.0*	*91 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 09:36*	*MSZ*	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-02
Sampled: 06/16/14 13:30
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:15	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Barium [7440-39-3] ^	**152**		ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 10:54	JDH	
Beryllium [7440-41-7] ^	**0.544**	J	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 10:54	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 10:54	JDH	
Chromium [7440-47-3] ^	**8.40**	J	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Cobalt [7440-48-4] ^	**15.5**		ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Copper [7440-50-8] ^	**3.89**	J	ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Lead [7439-92-1] ^	**2.26**	J	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Nickel [7440-02-0] ^	**8.46**	J	ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 10:54	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:15	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 10:54	JDH	
Thallium [7440-28-0] ^	**0.315**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:15	VLO	
Vanadium [7440-62-2] ^	**10.5**	J	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 10:54	JDH	
Zinc [7440-66-6] ^	**23.6**		ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 10:54	JDH	

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Description: 5503-MW28 | **Lab Sample ID:** C407507-03 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 14:05 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 10:05	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 10:05	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 10:05	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 10:05	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 10:05	MSZ	
Acetone [67-64-1] ^	**7.0**	J	ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 10:05	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 10:05	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 10:05	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 10:05	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 10:05	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 10:05	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 10:05	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 10:05	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 10:05	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 10:05	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 10:05	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Tetrachloroethene [127-18-4] ^	**8.4**		ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 10:05	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 10:05	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 10:05	MSZ	
Vinyl chloride [75-01-4] ^	**1.1**		ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 10:05	MSZ	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-03
Sampled: 06/16/14 14:05
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 10:05	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*43*	*1*	*50.0*	*86 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 10:05*	*MSZ*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 10:05*	*MSZ*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 10:05*	*MSZ*	

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Description: 5503-MW28 | **Lab Sample ID:** C407507-03 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 14:05 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:19	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Barium [7440-39-3] ^	**91.9**	J	ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 10:56	JDH	
Beryllium [7440-41-7] ^	**0.207**	J	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 10:56	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 10:56	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Cobalt [7440-48-4] ^	**3.34**	J	ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Nickel [7440-02-0] ^	**3.39**	J	ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 10:56	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:19	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 10:56	JDH	
Thallium [7440-28-0] ^	**0.166**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:19	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 10:56	JDH	
Zinc [7440-66-6] ^	**9.08**	J	ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 10:56	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW37 | **Lab Sample ID:** C407507-04 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:40 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 10:35	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,1-Dichloroethane [75-34-3] ^	**1.3**	J	ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 10:35	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	**0.56**	J	ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 10:35	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 10:35	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 10:35	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 10:35	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 10:35	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 10:35	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 10:35	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 10:35	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 10:35	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 10:35	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 10:35	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**1.5**	J	ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 10:35	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 10:35	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 10:35	MSZ	
Methylene chloride [75-09-2] ^	**5.8**		ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Tetrachloroethene [127-18-4] ^	**0.93**	J	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 10:35	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 10:35	MSZ	
Trichloroethene [79-01-6] ^	**0.49**	J	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 10:35	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 10:35	MSZ	

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Description: 5503-MW37
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-04
Sampled: 06/16/14 13:40
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**4.9**	J	ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 10:35	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*44*	*1*	*50.0*	*88 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 10:35*	*MSZ*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 10:35*	*MSZ*	
Toluene-d8	*44*	*1*	*50.0*	*89 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 10:35*	*MSZ*	

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Description: 5503-MW37 | **Lab Sample ID:** C407507-04 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:40 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:23	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Barium [7440-39-3] ^	**53.1**	J	ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 10:59	JDH	
Beryllium [7440-41-7] ^	**0.102**	J	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 10:59	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 10:59	JDH	
Chromium [7440-47-3] ^	**4.76**	J	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Cobalt [7440-48-4] ^	**1.79**	J	ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Nickel [7440-02-0] ^	**2.06**	J	ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 10:59	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:23	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 10:59	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:23	VLO	
Vanadium [7440-62-2] ^	**2.17**	J	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 10:59	JDH	
Zinc [7440-66-6] ^	**5.85**	J	ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 10:59	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW1 | **Lab Sample ID:** C407507-05 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:45 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 11:05	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 11:05	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 11:05	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 11:05	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 11:05	MSZ	
Acetone [67-64-1] ^	**170**		ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 11:05	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 11:05	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 11:05	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 11:05	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 11:05	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 11:05	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 11:05	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 11:05	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 11:05	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 11:05	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 11:05	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Tetrachloroethene [127-18-4] ^	**1.8**		ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 11:05	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 11:05	MSZ	
Trichloroethene [79-01-6] ^	**0.53**	J	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 11:05	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 11:05	MSZ	

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Description: 5503-OW1
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-05
Sampled: 06/16/14 13:45
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 11:05	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*43*	*1*	*50.0*	*85 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 11:05*	*MSZ*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 11:05*	*MSZ*	
Toluene-d8	*45*	*1*	*50.0*	*90 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 11:05*	*MSZ*	

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Description: 5503-OW1 | **Lab Sample ID:** C407507-05 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:45 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.325**	J	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:34	VLO	
Arsenic [7440-38-2] ^	**6.64**	J	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Barium [7440-39-3] ^	**380**		ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 11:01	JDH	
Beryllium [7440-41-7] ^	**1.45**		ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 11:01	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 11:01	JDH	
Chromium [7440-47-3] ^	**58.2**		ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Cobalt [7440-48-4] ^	**69.6**		ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Copper [7440-50-8] ^	**13.5**		ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Lead [7439-92-1] ^	**31.8**		ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Nickel [7440-02-0] ^	**181**		ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 11:01	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:34	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 11:01	JDH	
Thallium [7440-28-0] ^	**0.890**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:34	VLO	
Vanadium [7440-62-2] ^	**29.1**		ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 11:01	JDH	
Zinc [7440-66-6] ^	**102**		ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 11:01	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-06
Sampled: 06/16/14 14:00
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 11:35	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 11:35	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 11:35	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 11:35	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 11:35	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 11:35	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 11:35	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 11:35	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 11:35	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 11:35	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 11:35	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 11:35	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 11:35	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 11:35	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 11:35	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 11:35	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Tetrachloroethene [127-18-4] ^	**9.3**		ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 11:35	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 11:35	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Trichlorofluoromethane [75-69-4] ^	**1.4**		ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 11:35	MSZ	
Vinyl chloride [75-01-4] ^	**0.76**	J	ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 11:35	MSZ	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-06
Sampled: 06/16/14 14:00
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 11:35	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*42*	*1*	*50.0*	*83 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 11:35*	*MSZ*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 11:35*	*MSZ*	
Toluene-d8	*46*	*1*	*50.0*	*91 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 11:35*	*MSZ*	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-06
Sampled: 06/16/14 14:00
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.419**	J	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:38	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Barium [7440-39-3] ^	**43.0**	J	ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 11:04	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 11:04	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 11:04	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Cobalt [7440-48-4] ^	**1.77**	J	ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 11:04	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:38	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 11:04	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:38	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 11:04	JDH	
Zinc [7440-66-6] ^	**5.28**	J	ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 11:04	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW16 | **Lab Sample ID:** C407507-07 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:50 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/27/14 12:04	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,1-Dichloroethane [75-34-3] ^	**4.2**	J	ug/L	1	0.13	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/27/14 12:04	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	**1.9**	J	ug/L	1	0.19	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	**9.2**		ug/L	1	0.19	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/27/14 12:04	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/27/14 12:04	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/27/14 12:04	MSZ	
Acetone [67-64-1] ^	**31**	J	ug/L	1	1.2	5.0	100	EPA 8260B	06/27/14 12:04	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/27/14 12:04	MSZ	
Benzene [71-43-2] ^	**8.5**		ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/27/14 12:04	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/27/14 12:04	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/27/14 12:04	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/27/14 12:04	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Chlorobenzene [108-90-7] ^	**0.71**	J	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 12:04	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/27/14 12:04	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	**14**		ug/L	1	0.15	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/27/14 12:04	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/27/14 12:04	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/27/14 12:04	MSZ	
Methylene chloride [75-09-2] ^	**11**		ug/L	1	0.23	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Tetrachloroethene [127-18-4] ^	**4.8**		ug/L	1	0.17	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/27/14 12:04	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/27/14 12:04	MSZ	
Trichloroethene [79-01-6] ^	**3.6**		ug/L	1	0.15	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Trichlorofluoromethane [75-69-4] ^	**1.1**		ug/L	1	0.24	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/27/14 12:04	MSZ	
Vinyl chloride [75-01-4] ^	**1.4**		ug/L	1	0.32	1.0	1	EPA 8260B	06/27/14 12:04	MSZ	
Xylenes (Total) [1330-20-7] ^	**48**		ug/L	1	0.45	3.0	5	EPA 8260B	06/27/14 12:04	MSZ	

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Description: 5503-OW16
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-07
Sampled: 06/16/14 13:50
Sampled By: Courtney Murphy

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	**Notes**
4-Bromofluorobenzene	*43*	*1*	*50.0*	*87 %*	*51-122*	*4F26036*	*EPA 8260B*	*06/27/14 12:04*	*MSZ*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*68-117*	*4F26036*	*EPA 8260B*	*06/27/14 12:04*	*MSZ*	
Toluene-d8	*46*	*1*	*50.0*	*91 %*	*67-127*	*4F26036*	*EPA 8260B*	*06/27/14 12:04*	*MSZ*	

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Description: 5503-OW16 | **Lab Sample ID:** C407507-07 | **Received:** 06/17/14 12:20

Matrix: Ground Water | **Sampled:** 06/16/14 13:50 | **Work Order:** C407507

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.518**	J	ug/L	1	0.220	2.00	6	EPA 6020A	06/23/14 12:41	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Barium [7440-39-3] ^	**159**		ug/L	1	1.00	10.0	100	EPA 6010C	06/19/14 11:06	JDH	
Beryllium [7440-41-7] ^	**0.426**	J	ug/L	1	0.100	1.00	1	EPA 6010C	06/19/14 11:06	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	06/19/14 11:06	JDH	
Chromium [7440-47-3] ^	**4.94**	J	ug/L	1	1.40	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Cobalt [7440-48-4] ^	**26.6**		ug/L	1	1.10	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Copper [7440-50-8] ^	**2.17**	J	ug/L	1	1.60	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Lead [7439-92-1] ^	**2.69**	J	ug/L	1	2.10	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Nickel [7440-02-0] ^	**27.7**	J	ug/L	1	1.80	10.0	50	EPA 6010C	06/19/14 11:06	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	06/23/14 12:41	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	06/19/14 11:06	JDH	
Thallium [7440-28-0] ^	**0.590**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	06/23/14 12:41	VLO	
Vanadium [7440-62-2] ^	**3.87**	J	ug/L	1	1.40	10.0	25	EPA 6010C	06/19/14 11:06	JDH	
Zinc [7440-66-6] ^	**24.1**		ug/L	1	3.80	10.0	10	EPA 6010C	06/19/14 11:06	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-08
Sampled: 06/16/14 13:25
Sampled By: ENCO

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	06/26/14 09:04	MSZ	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	06/26/14 09:04	MSZ	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	06/26/14 09:04	MSZ	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	06/26/14 09:04	MSZ	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	06/26/14 09:04	MSZ	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	06/26/14 09:04	MSZ	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	06/26/14 09:04	MSZ	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	06/26/14 09:04	MSZ	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	06/26/14 09:04	MSZ	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	06/26/14 09:04	MSZ	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	06/26/14 09:04	MSZ	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/26/14 09:04	MSZ	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	06/26/14 09:04	MSZ	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	06/26/14 09:04	MSZ	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	06/26/14 09:04	MSZ	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	06/26/14 09:04	MSZ	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Tetrachloroethene [127-18-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	06/26/14 09:04	MSZ	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	06/26/14 09:04	MSZ	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	06/26/14 09:04	MSZ	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	06/26/14 09:04	MSZ	

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C407507-08
Sampled: 06/16/14 13:25
Sampled By: ENCO

Received: 06/17/14 12:20
Work Order: C407507

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	06/26/14 09:04	MSZ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*44*	*1*	*50.0*	*88 %*	*51-122*	*4F25035*	*EPA 8260B*	*06/26/14 09:04*	*MSZ*	
Dibromofluoromethane	*49*	*1*	*50.0*	*97 %*	*68-117*	*4F25035*	*EPA 8260B*	*06/26/14 09:04*	*MSZ*	
Toluene-d8	*45*	*1*	*50.0*	*90 %*	*67-127*	*4F25035*	*EPA 8260B*	*06/26/14 09:04*	*MSZ*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4F25035 - EPA 5030B_MS

Blank (4F25035-BLK1) Prepared: 06/25/2014 17:01 Analyzed: 06/26/2014 02:57

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*43*			*ug/L*	*50.0*		*87*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4F25035 - EPA 5030B_MS

Blank (4F25035-BLK1) Continued Prepared: 06/25/2014 17:01 Analyzed: 06/26/2014 02:57

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*49*			*ug/L*	*50.0*		*98*	*68-117*			
Surrogate: Toluene-d8	*45*			*ug/L*	*50.0*		*90*	*67-127*			

LCS (4F25035-BS1) Prepared: 06/25/2014 17:01 Analyzed: 06/26/2014 03:27

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0		117	75-133			
Benzene	19		1.0	ug/L	20.0		94	81-134			
Chlorobenzene	23		1.0	ug/L	20.0		113	83-117			
Toluene	19		1.0	ug/L	20.0		94	71-118			
Trichloroethene	23		1.0	ug/L	20.0		116	74-119			

Matrix Spike (4F25035-MS1) Prepared: 06/25/2014 17:01 Analyzed: 06/26/2014 03:57

Source: C408275-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.21 U	116	75-133			
Benzene	19		1.0	ug/L	20.0	0.15 U	94	81-134			
Chlorobenzene	22		1.0	ug/L	20.0	0.17 U	108	83-117			
Toluene	18		1.0	ug/L	20.0	0.14 U	90	71-118			
Trichloroethene	22		1.0	ug/L	20.0	0.15 U	111	74-119			

Matrix Spike Dup (4F25035-MSD1) Prepared: 06/25/2014 17:01 Analyzed: 06/26/2014 04:26

Source: C408275-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.21 U	116	75-133	0.04	20	
Benzene	18		1.0	ug/L	20.0	0.15 U	90	81-134	5	17	
Chlorobenzene	21		1.0	ug/L	20.0	0.17 U	107	83-117	1	16	
Toluene	18		1.0	ug/L	20.0	0.14 U	90	71-118	0.06	17	
Trichloroethene	23		1.0	ug/L	20.0	0.15 U	114	74-119	3	22	

Batch 4F26036 - EPA 5030B_MS

Blank (4F26036-BLK1) Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 03:41

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4F26036 - EPA 5030B_MS

Blank (4F26036-BLK1) Continued Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 03:41

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*44*			*ug/L*	*50.0*		*88*	*51-122*			
Surrogate: Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*68-117*			
Surrogate: Toluene-d8	*45*			*ug/L*	*50.0*		*90*	*67-127*			

LCS (4F26036-BS1) Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 04:10

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0		117	75-133			
Benzene	19		1.0	ug/L	20.0		94	81-134			
Chlorobenzene	22		1.0	ug/L	20.0		108	83-117			
Toluene	18		1.0	ug/L	20.0		89	71-118			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4F26036 - EPA 5030B_MS

LCS (4F26036-BS1) Continued Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 04:10

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	22		1.0	ug/L	20.0		111	74-119			

Matrix Spike (4F26036-MS1) Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 04:40

Source: C408275-07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.21 U	121	75-133			
Benzene	18		1.0	ug/L	20.0	0.15 U	91	81-134			
Chlorobenzene	21		1.0	ug/L	20.0	0.17 U	105	83-117			
Toluene	18		1.0	ug/L	20.0	0.14 U	88	71-118			
Trichloroethene	23		1.0	ug/L	20.0	0.15 U	115	74-119			

Matrix Spike Dup (4F26036-MSD1) Prepared: 06/26/2014 16:24 Analyzed: 06/27/2014 05:10

Source: C408275-07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	112	75-133	8	20	
Benzene	17		1.0	ug/L	20.0	0.15 U	87	81-134	5	17	
Chlorobenzene	20		1.0	ug/L	20.0	0.17 U	102	83-117	3	16	
Toluene	17		1.0	ug/L	20.0	0.14 U	83	71-118	5	17	
Trichloroethene	22		1.0	ug/L	20.0	0.15 U	109	74-119	5	22	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4F18018 - EPA 3005A

Blank (4F18018-BLK1) Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:07

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4F18018-BS1) Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:13

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	202		10.0	ug/L	200		101	80-120			
Barium	201		10.0	ug/L	200		101	80-120			
Beryllium	19.8		1.00	ug/L	20.0		99	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4F18018 - EPA 3005A

LCS (4F18018-BS1) Continued Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:13

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cadmium	20.1		1.00	ug/L	20.0		101	80-120			
Chromium	194		10.0	ug/L	200		97	80-120			
Cobalt	200		10.0	ug/L	200		100	80-120			
Copper	191		10.0	ug/L	200		96	80-120			
Lead	198		10.0	ug/L	200		99	80-120			
Nickel	201		10.0	ug/L	200		101	80-120			
Silver	199		10.0	ug/L	200		100	80-120			
Vanadium	198		10.0	ug/L	200		99	80-120			
Zinc	201		10.0	ug/L	200		101	80-120			

Matrix Spike (4F18018-MS1) Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:18

Source: C401644-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	205		10.0	ug/L	200	5.40 U	102	75-125			
Barium	232		10.0	ug/L	200	28.3	102	75-125			
Beryllium	20.3		1.00	ug/L	20.0	0.100 U	102	75-125			
Cadmium	20.6		1.00	ug/L	20.0	0.360 U	103	75-125			
Chromium	199		10.0	ug/L	200	1.40 U	99	75-125			
Cobalt	204		10.0	ug/L	200	1.10 U	102	75-125			
Copper	206		10.0	ug/L	200	9.91	98	75-125			
Lead	203		10.0	ug/L	200	2.25	100	75-125			
Nickel	208		10.0	ug/L	200	1.80 U	104	75-125			
Silver	205		10.0	ug/L	200	1.90 U	102	75-125			
Vanadium	206		10.0	ug/L	200	2.20	102	75-125			
Zinc	305		10.0	ug/L	200	101	102	75-125			

Matrix Spike Dup (4F18018-MSD1) Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:21

Source: C401644-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	207		10.0	ug/L	200	5.40 U	103	75-125	1	20	
Barium	232		10.0	ug/L	200	28.3	102	75-125	0.2	20	
Beryllium	20.4		1.00	ug/L	20.0	0.100 U	102	75-125	0.5	20	
Cadmium	20.7		1.00	ug/L	20.0	0.360 U	103	75-125	0.4	20	
Chromium	200		10.0	ug/L	200	1.40 U	100	75-125	0.8	20	
Cobalt	204		10.0	ug/L	200	1.10 U	102	75-125	0.2	20	
Copper	207		10.0	ug/L	200	9.91	98	75-125	0.4	20	
Lead	202		10.0	ug/L	200	2.25	100	75-125	0.4	20	
Nickel	208		10.0	ug/L	200	1.80 U	104	75-125	0.3	20	
Silver	205		10.0	ug/L	200	1.90 U	102	75-125	0.04	20	
Vanadium	207		10.0	ug/L	200	2.20	102	75-125	0.6	20	
Zinc	305		10.0	ug/L	200	101	102	75-125	0.03	20	

Post Spike (4F18018-PS1) Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:23

Source: C401644-01

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4F18018 - EPA 3005A

Post Spike (4F18018-PS1) Continued Prepared: 06/18/2014 10:54 Analyzed: 06/19/2014 10:23

Source: C401644-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.192		0.0100	mg/L	0.200	0.00292	95	80-120			
Barium	0.217		0.0100	mg/L	0.200	0.0283	94	80-120			
Beryllium	0.0186		0.00100	mg/L	0.0200	2.71E-5	93	80-120			
Cadmium	0.0193		0.00100	mg/L	0.0200	0.000201	95	80-120			
Chromium	0.185		0.0100	mg/L	0.200	0.00128	92	80-120			
Cobalt	0.189		0.0100	mg/L	0.200	0.000699	94	80-120			
Copper	0.191		0.0100	mg/L	0.200	0.00991	91	80-120			
Lead	0.189		0.0100	mg/L	0.200	0.00225	94	80-120			
Nickel	0.193		0.0100	mg/L	0.200	0.00171	96	80-120			
Silver	0.186		0.0100	mg/L	0.200	-0.000200	93	80-120			
Vanadium	0.190		0.0100	mg/L	0.200	0.00220	94	80-120			
Zinc	0.289		0.0100	mg/L	0.200	0.101	94	80-120			

Batch 4F19029 - EPA 3005A

Blank (4F19029-BLK1) Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4F19029-BS1) Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:39

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	199		2.00	ug/L	200		100	80-120			
Selenium	212		3.00	ug/L	200		106	80-120			
Thallium	207		1.00	ug/L	200		103	80-120			

Matrix Spike (4F19029-MS1) Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:50

Source: C403887-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	192		2.00	ug/L	200	0.220 U	96	75-125			
Selenium	217		3.00	ug/L	200	0.910 U	109	75-125			
Thallium	194		1.00	ug/L	200	0.110 U	97	75-125			

Matrix Spike Dup (4F19029-MSD1) Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:54

Source: C403887-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	191		2.00	ug/L	200	0.220 U	95	75-125	0.5	20	
Selenium	218		3.00	ug/L	200	0.910 U	109	75-125	0.4	20	
Thallium	194		1.00	ug/L	200	0.110 U	97	75-125	0.09	20	

Post Spike (4F19029-PS1) Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:57

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4F19029 - EPA 3005A

Post Spike (4F19029-PS1) Continued Prepared: 06/19/2014 14:23 Analyzed: 06/23/2014 11:57

Source: C403887-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	203		2.00	ug/L	200	0.139	101	80-120			
Selenium	214		3.00	ug/L	200	-0.0527	107	80-120			
Thallium	198		1.00	ug/L	200	0.0374	99	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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(919) 467-3090 Fax (919) 467-3515

Client Name: S&ME, Inc. (SM002)	Project Number: 7235-14-019
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County Landfill
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: 60580
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Courtney Murphy	Billing Contact: Barbara Ellington
Sampler(s) Signature: Courtney Murphy	Site Location / Time Zone: Crouse, NC

Requested Analyses: 8260B Appendix 1; Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C407507

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn	Sample Comments
	5503-MW17	6/16/14	13:25	G	GW	4	X	X	
	5503-MW17R	↓	13:30	↓	GW	4	X	X	
	5503-MW28		14:05		GW	4	X	X	
	5503-MW37		13:40		GW	4	X	X	
	5503-OW1		13:45		GW	4	X	X	
	5503-OW4A		14:00		GW	4	X	X	
	5503-OW16		13:50		GW	4	X	X	
	5503-TripBlank				WA	2	X		

Preservation (See Codes) (Combine as necessary)

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
		Courtney Murphy	6-16-14 1700	[illegible]	6-17-14 1220
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time

Cooler #'s & Temps on Receipt: C-836 1.4c

Condition Upon Receipt: ✓ Acceptable ___ Unacceptable

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments)

Preservation: **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Thursday, July 31, 2014

S&ME, Inc. (SM002)

Attn: Courtney Murphy

9751 Southern Pine Blvd.

Charlotte, NC 28273

RE: Laboratory Results for
Project Number: 7235-14-019, Project Name/Desc: Lincoln County Landfill
ENCO Workorder(s): C408686

Dear Courtney Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 18, 2014.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 38.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 5503-MW17 | **Lab ID: C408686-01** | **Sampled: 07/16/14 11:40** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 11:39
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 11:54
EPA 8260B	07/30/14	07/28/14 12:16	7/29/2014 07:45

Client ID: 5503-MW17R | **Lab ID: C408686-02** | **Sampled: 07/16/14 13:50** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:29
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 11:58
EPA 8260B	07/30/14	07/28/14 12:16	7/29/2014 08:15

Client ID: 5503-MW28 | **Lab ID: C408686-03** | **Sampled: 07/16/14 10:25** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:31
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 12:01
EPA 8260B	07/30/14	07/28/14 12:16	7/29/2014 09:44

Client ID: 5503-MW37 | **Lab ID: C408686-04** | **Sampled: 07/16/14 14:00** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:34
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 12:05
EPA 8260B	07/30/14	07/29/14 12:39	7/29/2014 18:00

Client ID: 5503-OW1 | **Lab ID: C408686-05** | **Sampled: 07/16/14 11:30** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:37
EPA 8260B	07/30/14	07/29/14 12:39	7/29/2014 20:57

Client ID: 5503-OW1 | **Lab ID: C408686-05RE1** | **Sampled: 07/16/14 11:30** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 13:23

Client ID: 5503-OW4A | **Lab ID: C408686-06** | **Sampled: 07/16/14 10:40** | **Received: 07/18/14 13:00**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:39
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 12:12
EPA 8260B	07/30/14	07/29/14 12:39	7/29/2014 18:29

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Client ID: 5503-OW16	Lab ID: C408686-07	Sampled: 07/16/14 11:05	Received: 07/18/14 13:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/12/15	07/22/14 11:00	7/24/2014 12:41
EPA 6020A	01/12/15	07/22/14 10:46	7/28/2014 12:16
EPA 8260B	07/30/14	07/28/14 12:16	7/29/2014 10:46

Client ID: 5503-TripBlank	Lab ID: C408686-08	Sampled: 07/16/14 10:25	Received: 07/18/14 13:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/30/14	07/28/14 12:16	7/29/2014 11:15

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 5503-MW17 **Lab ID: C408686-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	2.6	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Acetone	42	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Antimony - Total	0.618	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	81.7	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	0.69	J	1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.451	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chloroethane	0.88	J	1	0.23	1.0	10	ug/L	EPA 8260B	
Cobalt - Total	41.8		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	6.62	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	44.6	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	2.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.7		1	0.15	1.0	1	ug/L	EPA 8260B	
Vinyl chloride	0.90	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Zinc - Total	14.1		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW17R **Lab ID: C408686-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	5.7		1	0.13	1.0	5	ug/L	EPA 8260B	
1,2-Dichloroethane	0.48	J	1	0.21	1.0	1	ug/L	EPA 8260B	
1,4-Dichlorobenzene	3.1		1	0.19	1.0	1	ug/L	EPA 8260B	
Antimony - Total	0.291	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	263		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	5.8		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	1.91		1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	45.1		1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	3.2	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	30.6		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	21.2		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	9.65	J	1	2.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	48		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	26.3	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.63	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.683	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Trichloroethene	1.3		1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	58.1		1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	0.68	J	1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	14		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	69.1		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW28 **Lab ID: C408686-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	56	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	96.1	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.268	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	3.16	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	3.42	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.99	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.119	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Zinc - Total	10.3		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-MW37 **Lab ID: C408686-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	1.1	J	1	0.13	1.0	5	ug/L	EPA 8260B	
Barium - Total	94.1	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.184	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	14.8		1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	0.66	J	1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	3.04	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	2.54	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Methylene chloride	3.0		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	6.11	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.44	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	9.96	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Xylenes (Total)	1.7	J	1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	18.6		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW1 **Lab ID: C408686-05**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	63	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Arsenic - Total	6.88	J	1	5.40	10.0	10	ug/L	EPA 6010C	
Barium - Total	1070		1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	3.74		1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	226		1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	75.2		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	39.8		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	71.0		1	2.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	278		1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	0.44	J	1	0.17	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	126		1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	281		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW1 **Lab ID: C408686-05RE1**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Thallium - Total	2.81	JD	10	1.10	10.0	5.5	ug/L	EPA 6020A	R-01

Client ID: 5503-OW4A **Lab ID: C408686-06**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Antimony - Total	0.842	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Barium - Total	66.2	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Beryllium - Total	0.171	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chromium - Total	5.23	J	1	1.40	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	2.17	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	2.59	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	3.86	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	5.6		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	0.112	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Vanadium - Total	4.72	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	10.5		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: 5503-OW16 **Lab ID: C408686-07**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	4.1	J	1	0.13	1.0	5	ug/L	EPA 8260B	

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Client ID: 5503-OW16				Lab ID: C408686-07					
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
1,2-Dichlorobenzene	2.8	J	1	0.19	1.0	5	ug/L	EPA 8260B	
1,2-Dichloroethane	0.69	J	1	0.21	1.0	1	ug/L	EPA 8260B	
1,4-Dichlorobenzene	11		1	0.19	1.0	1	ug/L	EPA 8260B	
Acetone	29	J	1	1.2	5.0	100	ug/L	EPA 8260B	
Barium - Total	286		1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	10		1	0.15	1.0	1	ug/L	EPA 8260B	
Beryllium - Total	0.703	J	1	0.100	1.00	1	ug/L	EPA 6010C	
Chlorobenzene	0.85	J	1	0.17	1.0	3	ug/L	EPA 8260B	
Chloroethane	1.3	J	1	0.23	1.0	10	ug/L	EPA 8260B	
Chromium - Total	46.6		1	1.40	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	17		1	0.15	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	42.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	11.7		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	15.6		1	2.10	10.0	10	ug/L	EPA 6010C	
Methylene chloride	2.3		1	0.23	1.0	1	ug/L	EPA 8260B	
Nickel - Total	59.6		1	1.80	10.0	50	ug/L	EPA 6010C	
Tetrachloroethene	4.2		1	0.17	1.0	1	ug/L	EPA 8260B	
Thallium - Total	1.11	J	1	0.110	1.00	5.5	ug/L	EPA 6020A	
Toluene	0.52	J	1	0.14	1.0	1	ug/L	EPA 8260B	
Trichloroethene	3.5		1	0.15	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	33.2		1	1.40	10.0	25	ug/L	EPA 6010C	
Vinyl chloride	1.5		1	0.32	1.0	1	ug/L	EPA 8260B	
Xylenes (Total)	62		1	0.45	3.0	5	ug/L	EPA 8260B	
Zinc - Total	75.5		1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: 5503-MW17 | **Lab Sample ID:** C408686-01 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:40 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 07:45	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 07:45	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,1-Dichloroethane [75-34-3] ^	**2.6**	J	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 07:45	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 07:45	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 07:45	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 07:45	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 07:45	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 07:45	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 07:45	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 07:45	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 07:45	REF	
Acetone [67-64-1] ^	**42**	J	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 07:45	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 07:45	REF	
Benzene [71-43-2] ^	**0.69**	J	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 07:45	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 07:45	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 07:45	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 07:45	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 07:45	REF	
Chloroethane [75-00-3] ^	**0.88**	J	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 07:45	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 07:45	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 07:45	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 07:45	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 07:45	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 07:45	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 07:45	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Tetrachloroethene [127-18-4] ^	**2.2**		ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 07:45	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 07:45	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 07:45	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 07:45	REF	
Trichloroethene [79-01-6] ^	**1.7**		ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 07:45	REF	

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Description: 5503-MW17
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-01
Sampled: 07/16/14 11:40
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 07:45	REF	
Vinyl chloride [75-01-4] ^	**0.90**	J	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 07:45	REF	
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 07:45	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*42*	*1*	*50.0*	*84 %*	*51-122*	*4G28025*	*EPA 8260B*	*07/29/14 07:45*	*REF*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*68-117*	*4G28025*	*EPA 8260B*	*07/29/14 07:45*	*REF*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*67-127*	*4G28025*	*EPA 8260B*	*07/29/14 07:45*	*REF*	

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Description: 5503-MW17 | **Lab Sample ID:** C408686-01 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:40 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.618**	J	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 11:54	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Barium [7440-39-3] ^	**81.7**	J	ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 11:39	JDH	
Beryllium [7440-41-7] ^	**0.451**	J	ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 11:39	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 11:39	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Cobalt [7440-48-4] ^	**41.8**		ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Copper [7440-50-8] ^	**6.62**	J	ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Nickel [7440-02-0] ^	**44.6**	J	ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 11:39	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 11:54	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 11:39	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 11:54	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 11:39	JDH	
Zinc [7440-66-6] ^	**14.1**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 11:39	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-02
Sampled: 07/16/14 13:50
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 08:15	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 08:15	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,1-Dichloroethane [75-34-3] ^	**5.7**		ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 08:15	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 08:15	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 08:15	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 08:15	REF	
1,2-Dichloroethane [107-06-2] ^	**0.48**	J	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 08:15	REF	
1,4-Dichlorobenzene [106-46-7] ^	**3.1**		ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 08:15	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 08:15	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 08:15	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 08:15	REF	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 08:15	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 08:15	REF	
Benzene [71-43-2] ^	**5.8**		ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 08:15	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 08:15	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 08:15	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 08:15	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 08:15	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 08:15	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 08:15	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 08:15	REF	
cis-1,2-Dichloroethene [156-59-2] ^	**3.2**	J	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 08:15	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 08:15	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 08:15	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 08:15	REF	
Methylene chloride [75-09-2] ^	**48**		ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Tetrachloroethene [127-18-4] ^	**0.63**	J	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 08:15	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 08:15	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 08:15	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 08:15	REF	
Trichloroethene [79-01-6] ^	**1.3**		ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 08:15	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 08:15	REF	
Vinyl chloride [75-01-4] ^	**0.68**	J	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 08:15	REF	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-02
Sampled: 07/16/14 13:50
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**14**		ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 08:15	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*43*	*1*	*50.0*	*86 %*	*51-122*	*4G28025*	*EPA 8260B*	*07/29/14 08:15*	*REF*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*68-117*	*4G28025*	*EPA 8260B*	*07/29/14 08:15*	*REF*	
Toluene-d8	*43*	*1*	*50.0*	*86 %*	*67-127*	*4G28025*	*EPA 8260B*	*07/29/14 08:15*	*REF*	

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Description: 5503-MW17R
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-02
Sampled: 07/16/14 13:50
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.291**	J	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 11:58	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Barium [7440-39-3] ^	**263**		ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:29	JDH	
Beryllium [7440-41-7] ^	**1.91**		ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:29	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:29	JDH	
Chromium [7440-47-3] ^	**45.1**		ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Cobalt [7440-48-4] ^	**30.6**		ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Copper [7440-50-8] ^	**21.2**		ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Lead [7439-92-1] ^	**9.65**	J	ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Nickel [7440-02-0] ^	**26.3**	J	ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:29	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 11:58	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:29	JDH	
Thallium [7440-28-0] ^	**0.683**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 11:58	VLO	
Vanadium [7440-62-2] ^	**58.1**		ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:29	JDH	
Zinc [7440-66-6] ^	**69.1**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:29	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW28 | **Lab Sample ID:** C408686-03 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 10:25 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 09:44	REF	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 09:44	REF	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 09:44	REF	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 09:44	REF	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 09:44	REF	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 09:44	REF	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 09:44	REF	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 09:44	REF	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 09:44	REF	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 09:44	REF	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 09:44	REF	
Acetone [67-64-1] ^	**56**	J	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 09:44	REF	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 09:44	REF	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 09:44	REF	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 09:44	REF	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 09:44	REF	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 09:44	REF	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 09:44	REF	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 09:44	REF	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 09:44	REF	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 09:44	REF	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 09:44	REF	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 09:44	REF	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 09:44	REF	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 09:44	REF	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Tetrachloroethene [127-18-4] ^	**0.99**	J	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 09:44	REF	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 09:44	REF	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 09:44	REF	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 09:44	REF	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 09:44	REF	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 09:44	REF	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 09:44	REF	

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Description: 5503-MW28
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-03
Sampled: 07/16/14 10:25
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 09:44	REF	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*80 %*	*51-122*	*4G28025*	*EPA 8260B*	*07/29/14 09:44*	*REF*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*68-117*	*4G28025*	*EPA 8260B*	*07/29/14 09:44*	*REF*	
Toluene-d8	*44*	*1*	*50.0*	*87 %*	*67-127*	*4G28025*	*EPA 8260B*	*07/29/14 09:44*	*REF*	

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Description: 5503-MW28 | **Lab Sample ID:** C408686-03 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 10:25 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 12:01	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Barium [7440-39-3] ^	**96.1**	J	ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:31	JDH	
Beryllium [7440-41-7] ^	**0.268**	J	ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:31	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:31	JDH	
Chromium [7440-47-3] ^	1.40	U	ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Cobalt [7440-48-4] ^	**3.16**	J	ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Nickel [7440-02-0] ^	**3.42**	J	ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:31	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 12:01	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:31	JDH	
Thallium [7440-28-0] ^	**0.119**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 12:01	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:31	JDH	
Zinc [7440-66-6] ^	**10.3**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:31	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-MW37 | **Lab Sample ID:** C408686-04 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 14:00 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 18:00	ref	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 18:00	ref	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,1-Dichloroethane [75-34-3] ^	**1.1**	J	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 18:00	ref	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 18:00	ref	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 18:00	ref	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 18:00	ref	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 18:00	ref	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 18:00	ref	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 18:00	ref	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 18:00	ref	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 18:00	ref	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 18:00	ref	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 18:00	ref	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 18:00	ref	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 18:00	ref	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 18:00	ref	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 18:00	ref	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 18:00	ref	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 18:00	ref	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 18:00	ref	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 18:00	ref	
cis-1,2-Dichloroethene [156-59-2] ^	**0.66**	J	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 18:00	ref	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 18:00	ref	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 18:00	ref	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 18:00	ref	
Methylene chloride [75-09-2] ^	**3.0**		ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Tetrachloroethene [127-18-4] ^	**0.44**	J	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 18:00	ref	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 18:00	ref	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:00	ref	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 18:00	ref	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 18:00	ref	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 18:00	ref	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 18:00	ref	

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Description: 5503-MW37
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-04
Sampled: 07/16/14 14:00
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	**1.7**	J	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 18:00	ref	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*42*	*1*	*50.0*	*84 %*	*51-122*	*4G29024*	*EPA 8260B*	*07/29/14 18:00*	*ref*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*68-117*	*4G29024*	*EPA 8260B*	*07/29/14 18:00*	*ref*	
Toluene-d8	*46*	*1*	*50.0*	*91 %*	*67-127*	*4G29024*	*EPA 8260B*	*07/29/14 18:00*	*ref*	

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Description: 5503-MW37 | **Lab Sample ID:** C408686-04 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 14:00 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 12:05	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Barium [7440-39-3] ^	**94.1**	J	ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:34	JDH	
Beryllium [7440-41-7] ^	**0.184**	J	ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:34	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:34	JDH	
Chromium [7440-47-3] ^	**14.8**		ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Cobalt [7440-48-4] ^	**3.04**	J	ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Copper [7440-50-8] ^	**2.54**	J	ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Nickel [7440-02-0] ^	**6.11**	J	ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:34	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 12:05	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:34	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 12:05	VLO	
Vanadium [7440-62-2] ^	**9.96**	J	ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:34	JDH	
Zinc [7440-66-6] ^	**18.6**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:34	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW1 | **Lab Sample ID:** C408686-05 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:30 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 20:57	ref	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 20:57	ref	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 20:57	ref	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 20:57	ref	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 20:57	ref	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 20:57	ref	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 20:57	ref	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 20:57	ref	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 20:57	ref	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 20:57	ref	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 20:57	ref	
Acetone [67-64-1] ^	**63**	J	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 20:57	ref	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 20:57	ref	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 20:57	ref	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 20:57	ref	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 20:57	ref	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 20:57	ref	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 20:57	ref	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 20:57	ref	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 20:57	ref	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 20:57	ref	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 20:57	ref	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 20:57	ref	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 20:57	ref	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 20:57	ref	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Tetrachloroethene [127-18-4] ^	**0.44**	J	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 20:57	ref	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 20:57	ref	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 20:57	ref	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 20:57	ref	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 20:57	ref	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 20:57	ref	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 20:57	ref	

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Description: 5503-OW1
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-05
Sampled: 07/16/14 11:30
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 20:57	ref	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*80 %*	*51-122*	*4G29024*	*EPA 8260B*	*07/29/14 20:57*	*ref*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*68-117*	*4G29024*	*EPA 8260B*	*07/29/14 20:57*	*ref*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*67-127*	*4G29024*	*EPA 8260B*	*07/29/14 20:57*	*ref*	

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Description: 5503-OW1 | **Lab Sample ID:** C408686-05 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:30 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	2.20	UD	ug/L	10	2.20	20.0	6	EPA 6020A	07/28/14 13:23	VLO	R-01
Arsenic [7440-38-2] ^	**6.88**	J	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Barium [7440-39-3] ^	**1070**		ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:37	JDH	
Beryllium [7440-41-7] ^	**3.74**		ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:37	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:37	JDH	
Chromium [7440-47-3] ^	**226**		ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Cobalt [7440-48-4] ^	**75.2**		ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Copper [7440-50-8] ^	**39.8**		ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Lead [7439-92-1] ^	**71.0**		ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Nickel [7440-02-0] ^	**278**		ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:37	JDH	
Selenium [7782-49-2] ^	9.10	UD	ug/L	10	9.10	30.0	10	EPA 6020A	07/28/14 13:23	VLO	R-01
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:37	JDH	
Thallium [7440-28-0] ^	**2.81**	JD	ug/L	10	1.10	10.0	5.5	EPA 6020A	07/28/14 13:23	VLO	R-01
Vanadium [7440-62-2] ^	**126**		ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:37	JDH	
Zinc [7440-66-6] ^	**281**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:37	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-06
Sampled: 07/16/14 10:40
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 18:29	ref	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 18:29	ref	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 18:29	ref	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 18:29	ref	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 18:29	ref	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 18:29	ref	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 18:29	ref	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 18:29	ref	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 18:29	ref	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 18:29	ref	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 18:29	ref	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 18:29	ref	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 18:29	ref	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 18:29	ref	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 18:29	ref	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 18:29	ref	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 18:29	ref	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 18:29	ref	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 18:29	ref	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 18:29	ref	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 18:29	ref	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 18:29	ref	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 18:29	ref	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 18:29	ref	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 18:29	ref	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Tetrachloroethene [127-18-4] ^	**5.6**		ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 18:29	ref	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 18:29	ref	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:29	ref	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 18:29	ref	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 18:29	ref	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 18:29	ref	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 18:29	ref	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-06
Sampled: 07/16/14 10:40
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 18:29	ref	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*82 %*	*51-122*	*4G29024*	*EPA 8260B*	*07/29/14 18:29*	*ref*	
Dibromofluoromethane	*51*	*1*	*50.0*	*103 %*	*68-117*	*4G29024*	*EPA 8260B*	*07/29/14 18:29*	*ref*	
Toluene-d8	*45*	*1*	*50.0*	*89 %*	*67-127*	*4G29024*	*EPA 8260B*	*07/29/14 18:29*	*ref*	

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Description: 5503-OW4A
Matrix: Ground Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-06
Sampled: 07/16/14 10:40
Sampled By: Courtney Murphy

Received: 07/18/14 13:00
Work Order: C408686

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.842**	J	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 12:12	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Barium [7440-39-3] ^	**66.2**	J	ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:39	JDH	
Beryllium [7440-41-7] ^	**0.171**	J	ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:39	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:39	JDH	
Chromium [7440-47-3] ^	**5.23**	J	ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Cobalt [7440-48-4] ^	**2.17**	J	ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Copper [7440-50-8] ^	**2.59**	J	ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Lead [7439-92-1] ^	2.10	U	ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Nickel [7440-02-0] ^	**3.86**	J	ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:39	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 12:12	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:39	JDH	
Thallium [7440-28-0] ^	**0.112**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 12:12	VLO	
Vanadium [7440-62-2] ^	**4.72**	J	ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:39	JDH	
Zinc [7440-66-6] ^	**10.5**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:39	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-OW16 | **Lab Sample ID:** C408686-07 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:05 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 10:46	ref	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 10:46	ref	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,1-Dichloroethane [75-34-3] ^	**4.1**	J	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 10:46	ref	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 10:46	ref	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 10:46	ref	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,2-Dichlorobenzene [95-50-1] ^	**2.8**	J	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 10:46	ref	
1,2-Dichloroethane [107-06-2] ^	**0.69**	J	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 10:46	ref	
1,4-Dichlorobenzene [106-46-7] ^	**11**		ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 10:46	ref	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 10:46	ref	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 10:46	ref	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 10:46	ref	
Acetone [67-64-1] ^	**29**	J	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 10:46	ref	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 10:46	ref	
Benzene [71-43-2] ^	**10**		ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 10:46	ref	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 10:46	ref	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 10:46	ref	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 10:46	ref	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Chlorobenzene [108-90-7] ^	**0.85**	J	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 10:46	ref	
Chloroethane [75-00-3] ^	**1.3**	J	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 10:46	ref	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 10:46	ref	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 10:46	ref	
cis-1,2-Dichloroethene [156-59-2] ^	**17**		ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 10:46	ref	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 10:46	ref	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 10:46	ref	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 10:46	ref	
Methylene chloride [75-09-2] ^	**2.3**		ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Tetrachloroethene [127-18-4] ^	**4.2**		ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Toluene [108-88-3] ^	**0.52**	J	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 10:46	ref	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 10:46	ref	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 10:46	ref	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 10:46	ref	
Trichloroethene [79-01-6] ^	**3.5**		ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 10:46	ref	
Vinyl chloride [75-01-4] ^	**1.5**		ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 10:46	ref	
Xylenes (Total) [1330-20-7] ^	**62**		ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 10:46	ref	

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Description:	5503-OW16	**Lab Sample ID:**	C408686-07	**Received:**	07/18/14 13:00
Matrix:	Ground Water	**Sampled:**	07/16/14 11:05	**Work Order:**	C408686
Project:	Lincoln County Landfill	**Sampled By:**	Courtney Murphy		

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	**Notes**
4-Bromofluorobenzene	*42*	*1*	*50.0*	*83 %*	*51-122*	*4G28025*	*EPA 8260B*	*07/29/14 10:46*	*ref*	
Dibromofluoromethane	*49*	*1*	*50.0*	*97 %*	*68-117*	*4G28025*	*EPA 8260B*	*07/29/14 10:46*	*ref*	
Toluene-d8	*43*	*1*	*50.0*	*86 %*	*67-127*	*4G28025*	*EPA 8260B*	*07/29/14 10:46*	*ref*	

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Description: 5503-OW16 | **Lab Sample ID:** C408686-07 | **Received:** 07/18/14 13:00

Matrix: Ground Water | **Sampled:** 07/16/14 11:05 | **Work Order:** C408686

Project: Lincoln County Landfill | **Sampled By:** Courtney Murphy

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	07/28/14 12:16	VLO	
Arsenic [7440-38-2] ^	5.40	U	ug/L	1	5.40	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Barium [7440-39-3] ^	**286**		ug/L	1	1.00	10.0	100	EPA 6010C	07/24/14 12:41	JDH	
Beryllium [7440-41-7] ^	**0.703**	J	ug/L	1	0.100	1.00	1	EPA 6010C	07/24/14 12:41	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	07/24/14 12:41	JDH	
Chromium [7440-47-3] ^	**46.6**		ug/L	1	1.40	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Cobalt [7440-48-4] ^	**42.7**		ug/L	1	1.10	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Copper [7440-50-8] ^	**11.7**		ug/L	1	1.60	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Lead [7439-92-1] ^	**15.6**		ug/L	1	2.10	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Nickel [7440-02-0] ^	**59.6**		ug/L	1	1.80	10.0	50	EPA 6010C	07/24/14 12:41	JDH	
Selenium [7782-49-2] ^	0.910	U	ug/L	1	0.910	3.00	10	EPA 6020A	07/28/14 12:16	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	07/24/14 12:41	JDH	
Thallium [7440-28-0] ^	**1.11**	J	ug/L	1	0.110	1.00	5.5	EPA 6020A	07/28/14 12:16	VLO	
Vanadium [7440-62-2] ^	**33.2**		ug/L	1	1.40	10.0	25	EPA 6010C	07/24/14 12:41	JDH	
Zinc [7440-66-6] ^	**75.5**		ug/L	1	3.80	10.0	10	EPA 6010C	07/24/14 12:41	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-08
Sampled: 07/16/14 10:25
Sampled By: ENCO

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.17	U	ug/L	1	0.17	1.0	5	EPA 8260B	07/29/14 11:15	ref	
1,1,1-Trichloroethane [71-55-6] ^	0.12	U	ug/L	1	0.12	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.28	U	ug/L	1	0.28	1.0	3	EPA 8260B	07/29/14 11:15	ref	
1,1,2-Trichloroethane [79-00-5] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,1-Dichloroethane [75-34-3] ^	0.13	U	ug/L	1	0.13	1.0	5	EPA 8260B	07/29/14 11:15	ref	
1,1-Dichloroethene [75-35-4] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 11:15	ref	
1,2,3-Trichloropropane [96-18-4] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/14 11:15	ref	
1,2-Dibromoethane [106-93-4] ^	0.66	U	ug/L	1	0.66	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,2-Dichlorobenzene [95-50-1] ^	0.19	U	ug/L	1	0.19	1.0	5	EPA 8260B	07/29/14 11:15	ref	
1,2-Dichloroethane [107-06-2] ^	0.21	U	ug/L	1	0.21	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,2-Dichloropropane [78-87-5] ^	0.10	U	ug/L	1	0.10	1.0	1	EPA 8260B	07/29/14 11:15	ref	
1,4-Dichlorobenzene [106-46-7] ^	0.19	U	ug/L	1	0.19	1.0	1	EPA 8260B	07/29/14 11:15	ref	
2-Butanone [78-93-3] ^	1.3	U	ug/L	1	1.3	5.0	100	EPA 8260B	07/29/14 11:15	ref	
2-Hexanone [591-78-6] ^	0.88	U	ug/L	1	0.88	5.0	50	EPA 8260B	07/29/14 11:15	ref	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/14 11:15	ref	
Acetone [67-64-1] ^	1.2	U	ug/L	1	1.2	5.0	100	EPA 8260B	07/29/14 11:15	ref	
Acrylonitrile [107-13-1] ^	3.5	U	ug/L	1	3.5	10	200	EPA 8260B	07/29/14 11:15	ref	
Benzene [71-43-2] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Bromochloromethane [74-97-5] ^	0.48	U	ug/L	1	0.48	1.0	3	EPA 8260B	07/29/14 11:15	ref	
Bromodichloromethane [75-27-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Bromoform [75-25-2] ^	0.22	U	ug/L	1	0.22	1.0	3	EPA 8260B	07/29/14 11:15	ref	
Bromomethane [74-83-9] ^	0.14	U	ug/L	1	0.14	1.0	10	EPA 8260B	07/29/14 11:15	ref	
Carbon disulfide [75-15-0] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/14 11:15	ref	
Carbon tetrachloride [56-23-5] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Chlorobenzene [108-90-7] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 11:15	ref	
Chloroethane [75-00-3] ^	0.23	U	ug/L	1	0.23	1.0	10	EPA 8260B	07/29/14 11:15	ref	
Chloroform [67-66-3] ^	0.18	U	ug/L	1	0.18	1.0	5	EPA 8260B	07/29/14 11:15	ref	
Chloromethane [74-87-3] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 11:15	ref	
cis-1,2-Dichloroethene [156-59-2] ^	0.15	U	ug/L	1	0.15	1.0	5	EPA 8260B	07/29/14 11:15	ref	
cis-1,3-Dichloropropene [10061-01-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Dibromochloromethane [124-48-1] ^	0.17	U	ug/L	1	0.17	1.0	3	EPA 8260B	07/29/14 11:15	ref	
Dibromomethane [74-95-3] ^	0.27	U	ug/L	1	0.27	1.0	10	EPA 8260B	07/29/14 11:15	ref	
Ethylbenzene [100-41-4] ^	0.13	U	ug/L	1	0.13	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Iodomethane [74-88-4] ^	1.7	U	ug/L	1	1.7	5.0	10	EPA 8260B	07/29/14 11:15	ref	
Methylene chloride [75-09-2] ^	0.23	U	ug/L	1	0.23	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Styrene [100-42-5] ^	0.11	U	ug/L	1	0.11	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Tetrachloroethene [127-18-4] ^	0.17	U	ug/L	1	0.17	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Toluene [108-88-3] ^	0.14	U	ug/L	1	0.14	1.0	1	EPA 8260B	07/29/14 11:15	ref	
trans-1,2-Dichloroethene [156-60-5] ^	0.21	U	ug/L	1	0.21	1.0	5	EPA 8260B	07/29/14 11:15	ref	
trans-1,3-Dichloropropene [10061-02-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 11:15	ref	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.70	U	ug/L	1	0.70	1.0	100	EPA 8260B	07/29/14 11:15	ref	
Trichloroethene [79-01-6] ^	0.15	U	ug/L	1	0.15	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Trichlorofluoromethane [75-69-4] ^	0.24	U	ug/L	1	0.24	1.0	1	EPA 8260B	07/29/14 11:15	ref	
Vinyl acetate [108-05-4] ^	0.95	U	ug/L	1	0.95	5.0	50	EPA 8260B	07/29/14 11:15	ref	
Vinyl chloride [75-01-4] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/29/14 11:15	ref	

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Description: 5503-TripBlank
Matrix: Water
Project: Lincoln County Landfill

Lab Sample ID: C408686-08
Sampled: 07/16/14 10:25
Sampled By: ENCO

Received: 07/18/14 13:00
Work Order: C408686

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.45	U	ug/L	1	0.45	3.0	5	EPA 8260B	07/29/14 11:15	ref	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*81 %*	*51-122*	*4G28025*	*EPA 8260B*	*07/29/14 11:15*	*ref*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*68-117*	*4G28025*	*EPA 8260B*	*07/29/14 11:15*	*ref*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*67-127*	*4G28025*	*EPA 8260B*	*07/29/14 11:15*	*ref*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4G28025 - EPA 5030B_MS

Blank (4G28025-BLK1) Prepared: 07/28/2014 12:16 Analyzed: 07/29/2014 02:20

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*40*			*ug/L*	*50.0*		*80*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4G28025 - EPA 5030B_MS

Blank (4G28025-BLK1) Continued Prepared: 07/28/2014 12:16 Analyzed: 07/29/2014 02:20

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*48*			*ug/L*	*50.0*		*97*	*68-117*			
Surrogate: Toluene-d8	*43*			*ug/L*	*50.0*		*86*	*67-127*			

LCS (4G28025-BS1) Prepared: 07/28/2014 12:16 Analyzed: 07/29/2014 02:49

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0		112	75-133			
Benzene	21		1.0	ug/L	20.0		105	81-134			
Chlorobenzene	21		1.0	ug/L	20.0		107	83-117			
Toluene	18		1.0	ug/L	20.0		91	71-118			
Trichloroethene	22		1.0	ug/L	20.0		110	74-119			

Matrix Spike (4G28025-MS1) Prepared: 07/28/2014 12:16 Analyzed: 07/29/2014 03:19

Source: C409522-06

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.21 U	119	75-133			
Benzene	22		1.0	ug/L	20.0	0.15 U	109	81-134			
Chlorobenzene	23		1.0	ug/L	20.0	0.17 U	115	83-117			
Toluene	20		1.0	ug/L	20.0	0.14 U	100	71-118			
Trichloroethene	23		1.0	ug/L	20.0	0.15 U	114	74-119			

Matrix Spike Dup (4G28025-MSD1) Prepared: 07/28/2014 12:16 Analyzed: 07/29/2014 03:48

Source: C409522-06

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	112	75-133	6	20	
Benzene	20		1.0	ug/L	20.0	0.15 U	102	81-134	6	17	
Chlorobenzene	22		1.0	ug/L	20.0	0.17 U	110	83-117	5	16	
Toluene	19		1.0	ug/L	20.0	0.14 U	94	71-118	6	17	
Trichloroethene	21		1.0	ug/L	20.0	0.15 U	104	74-119	9	22	

Batch 4G29024 - EPA 5030B_MS

Blank (4G29024-BLK1) Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 14:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.17	U	1.0	ug/L							
1,1,1-Trichloroethane	0.12	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.28	U	1.0	ug/L							
1,1,2-Trichloroethane	0.14	U	1.0	ug/L							
1,1-Dichloroethane	0.13	U	1.0	ug/L							
1,1-Dichloroethene	0.21	U	1.0	ug/L							
1,2,3-Trichloropropane	0.23	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.66	U	1.0	ug/L							
1,2-Dichlorobenzene	0.19	U	1.0	ug/L							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4G29024 - EPA 5030B_MS

Blank (4G29024-BLK1) Continued Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 14:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichloroethane	0.21	U	1.0	ug/L							
1,2-Dichloropropane	0.10	U	1.0	ug/L							
1,4-Dichlorobenzene	0.19	U	1.0	ug/L							
2-Butanone	1.3	U	5.0	ug/L							
2-Hexanone	0.88	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.2	U	5.0	ug/L							
Acrylonitrile	3.5	U	10	ug/L							
Benzene	0.15	U	1.0	ug/L							
Bromochloromethane	0.48	U	1.0	ug/L							
Bromodichloromethane	0.17	U	1.0	ug/L							
Bromoform	0.22	U	1.0	ug/L							
Bromomethane	0.14	U	1.0	ug/L							
Carbon disulfide	1.5	U	5.0	ug/L							
Carbon tetrachloride	0.17	U	1.0	ug/L							
Chlorobenzene	0.17	U	1.0	ug/L							
Chloroethane	0.23	U	1.0	ug/L							
Chloroform	0.18	U	1.0	ug/L							
Chloromethane	0.13	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.15	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.20	U	1.0	ug/L							
Dibromochloromethane	0.17	U	1.0	ug/L							
Dibromomethane	0.27	U	1.0	ug/L							
Ethylbenzene	0.13	U	1.0	ug/L							
Iodomethane	1.7	U	5.0	ug/L							
Methylene chloride	0.23	U	1.0	ug/L							
Styrene	0.11	U	1.0	ug/L							
Tetrachloroethene	0.17	U	1.0	ug/L							
Toluene	0.14	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.21	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.15	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.70	U	1.0	ug/L							
Trichloroethene	0.15	U	1.0	ug/L							
Trichlorofluoromethane	0.24	U	1.0	ug/L							
Vinyl acetate	0.95	U	5.0	ug/L							
Vinyl chloride	0.32	U	1.0	ug/L							
Xylenes (Total)	0.45	U	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*40*			*ug/L*	*50.0*		*80*	*51-122*			
Surrogate: Dibromofluoromethane	*48*			*ug/L*	*50.0*		*97*	*68-117*			
Surrogate: Toluene-d8	*43*			*ug/L*	*50.0*		*85*	*67-127*			

LCS (4G29024-BS1) Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 15:01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0		103	75-133			
Benzene	20		1.0	ug/L	20.0		98	81-134			
Chlorobenzene	21		1.0	ug/L	20.0		106	83-117			
Toluene	17		1.0	ug/L	20.0		86	71-118			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 4G29024 - EPA 5030B_MS

LCS (4G29024-BS1) Continued Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 15:01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	21		1.0	ug/L	20.0		104	74-119			

Matrix Spike (4G29024-MS1) Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 15:31

Source: C409612-08

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.21 U	111	75-133			
Benzene	21		1.0	ug/L	20.0	0.15 U	105	81-134			
Chlorobenzene	22		1.0	ug/L	20.0	0.17 U	112	83-117			
Toluene	19		1.0	ug/L	20.0	0.14 U	97	71-118			
Trichloroethene	22		1.0	ug/L	20.0	0.15 U	112	74-119			

Matrix Spike Dup (4G29024-MSD1) Prepared: 07/29/2014 12:39 Analyzed: 07/29/2014 16:00

Source: C409612-08

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.21 U	105	75-133	6	20	
Benzene	20		1.0	ug/L	20.0	0.15 U	100	81-134	5	17	
Chlorobenzene	21		1.0	ug/L	20.0	0.17 U	106	83-117	6	16	
Toluene	18		1.0	ug/L	20.0	0.14 U	88	71-118	10	17	
Trichloroethene	21		1.0	ug/L	20.0	0.15 U	103	74-119	8	22	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4G22017 - EPA 3005A

Blank (4G22017-BLK1) Prepared: 07/22/2014 10:46 Analyzed: 07/28/2014 11:17

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.910	U	3.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (4G22017-BS1) Prepared: 07/22/2014 10:46 Analyzed: 07/28/2014 11:20

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	201		2.00	ug/L	200		101	80-120			
Selenium	213		3.00	ug/L	200		106	80-120			
Thallium	212		1.00	ug/L	200		106	80-120			

Matrix Spike (4G22017-MS1) Prepared: 07/22/2014 10:46 Analyzed: 07/28/2014 11:28

Source: C408527-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	197		2.00	ug/L	200	1.28	98	75-125			
Selenium	214		3.00	ug/L	200	0.910 U	107	75-125			
Thallium	198		1.00	ug/L	200	0.110 U	99	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4G22017 - EPA 3005A

Matrix Spike Dup (4G22017-MSD1) Prepared: 07/22/2014 10:46 Analyzed: 07/28/2014 11:31

Source: C408527-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	201		2.00	ug/L	200	1.28	100	75-125	2	20	
Selenium	218		3.00	ug/L	200	0.910 U	109	75-125	2	20	
Thallium	202		1.00	ug/L	200	0.110 U	101	75-125	2	20	

Post Spike (4G22017-PS1) Prepared: 07/22/2014 10:46 Analyzed: 07/28/2014 11:47

Source: C408527-02

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	194		2.00	ug/L	200	1.28	97	80-120			
Selenium	209		3.00	ug/L	200	0.0731	104	80-120			
Thallium	189		1.00	ug/L	200	0.0403	95	80-120			

Batch 4G22019 - EPA 3005A

Blank (4G22019-BLK1) Prepared: 07/22/2014 11:00 Analyzed: 07/24/2014 10:39

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	5.40	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.40	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	2.10	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (4G22019-BS1) Prepared: 07/22/2014 11:00 Analyzed: 07/24/2014 10:42

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	201		10.0	ug/L	200		100	80-120			
Barium	207		10.0	ug/L	200		104	80-120			
Beryllium	20.3		1.00	ug/L	20.0		102	80-120			
Cadmium	20.0		1.00	ug/L	20.0		100	80-120			
Chromium	197		10.0	ug/L	200		99	80-120			
Cobalt	201		10.0	ug/L	200		101	80-120			
Copper	195		10.0	ug/L	200		97	80-120			
Lead	202		10.0	ug/L	200		101	80-120			
Nickel	208		10.0	ug/L	200		104	80-120			
Silver	205		10.0	ug/L	200		103	80-120			
Vanadium	202		10.0	ug/L	200		101	80-120			
Zinc	211		10.0	ug/L	200		105	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4G22019 - EPA 3005A

Matrix Spike (4G22019-MS1) Prepared: 07/22/2014 11:00 Analyzed: 07/24/2014 10:48

Source: C408527-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	212		10.0	ug/L	200	5.40 U	106	75-125			
Barium	215		10.0	ug/L	200	3.98	105	75-125			
Beryllium	21.4		1.00	ug/L	20.0	0.100 U	107	75-125			
Cadmium	20.3		1.00	ug/L	20.0	0.360 U	101	75-125			
Chromium	208		10.0	ug/L	200	1.40 U	104	75-125			
Cobalt	206		10.0	ug/L	200	2.21	102	75-125			
Copper	207		10.0	ug/L	200	1.60 U	104	75-125			
Lead	206		10.0	ug/L	200	2.10 U	103	75-125			
Nickel	224		10.0	ug/L	200	14.5	105	75-125			
Silver	217		10.0	ug/L	200	1.90 U	109	75-125			
Vanadium	215		10.0	ug/L	200	2.66	106	75-125			
Zinc	215		10.0	ug/L	200	3.80 U	107	75-125			

Matrix Spike Dup (4G22019-MSD1) Prepared: 07/22/2014 11:00 Analyzed: 07/24/2014 10:50

Source: C408527-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	212		10.0	ug/L	200	5.40 U	106	75-125	0.1	20	
Barium	214		10.0	ug/L	200	3.98	105	75-125	0.5	20	
Beryllium	20.7		1.00	ug/L	20.0	0.100 U	104	75-125	3	20	
Cadmium	20.2		1.00	ug/L	20.0	0.360 U	101	75-125	0.5	20	
Chromium	199		10.0	ug/L	200	1.40 U	99	75-125	5	20	
Cobalt	205		10.0	ug/L	200	2.21	101	75-125	0.4	20	
Copper	197		10.0	ug/L	200	1.60 U	98	75-125	5	20	
Lead	205		10.0	ug/L	200	2.10 U	102	75-125	0.3	20	
Nickel	223		10.0	ug/L	200	14.5	104	75-125	0.5	20	
Silver	207		10.0	ug/L	200	1.90 U	104	75-125	5	20	
Vanadium	207		10.0	ug/L	200	2.66	102	75-125	4	20	
Zinc	215		10.0	ug/L	200	3.80 U	108	75-125	0.05	20	

Post Spike (4G22019-PS1) Prepared: 07/22/2014 11:00 Analyzed: 07/24/2014 10:53

Source: C408527-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.203		0.0100	mg/L	0.200	0.00185	101	80-120			
Barium	0.206		0.0100	mg/L	0.200	0.00398	101	80-120			
Beryllium	0.0205		0.00100	mg/L	0.0200	5.58E-6	102	80-120			
Cadmium	0.0195		0.00100	mg/L	0.0200	1.96E-7	97	80-120			
Chromium	0.198		0.0100	mg/L	0.200	0.00109	98	80-120			
Cobalt	0.197		0.0100	mg/L	0.200	0.00221	97	80-120			
Copper	0.197		0.0100	mg/L	0.200	-0.00133	99	80-120			
Lead	0.197		0.0100	mg/L	0.200	-0.000399	99	80-120			
Nickel	0.215		0.0100	mg/L	0.200	0.0145	100	80-120			
Silver	0.208		0.0100	mg/L	0.200	0.000906	103	80-120			
Vanadium	0.205		0.0100	mg/L	0.200	0.00266	101	80-120			
Zinc	0.204		0.0100	mg/L	0.200	0.00253	101	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 4G22019 - EPA 3005A

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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102-A Woodwinds Industrial Ct. Cary, NC 27511 (919) 467-3090 Fax (919) 467-3515

Page 1 of 1

Client Name: S&ME, Inc. (SM002)	Project Number: 7235-14-019
Address: 9751 Southern Pine Blvd.	Project Name/Desc: Lincoln County Landfill
City/ST/Zip: Charlotte, NC 28273	PO # / Billing Info: 60739
Tel: (704) 523-4726 Fax: (704) 525-3953	Reporting Contact: Courtney Murphy
Sampler(s) Name, Affiliation (Print): Courtney Murphy	Billing Contact: Barbara Ellington
Sampler(s) Signature: Courtney Murphy	Site Location / Time Zone: Creuse, NC

Requested Analyses: 8260B Appendix 1; Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due __/__/__

Lab Workorder: C408686

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn	Sample Comments
	5503-MW17	7-16-14	1140	G	GW	4	X	X	
	5503-MW17R	7-16-14	1350	G	GW	4	X	X	
	5503-MW28	7-16-14	1025	G	GW	4	X	X	
	5503-MW37	7-16-14	1400	G	GW	4	X	X	
	5503-OW1	7-16-14	1130	G	GW	4	X	X	
	5503-OW4A	7-16-14	1040	G	GW	4	X	X	
	5503-OW16	7-16-14	1105	G	GW	4	X	X	
	5503-TripBlank				WA	2	X		
						30	<-- Total # of Containers		

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
		Courtney Murphy	7-16-14/1630	[signature]	7/18/14 1300
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-1006 3.3		Condition Upon Receipt: X Acceptable ___ Unacceptable	

Matrix : GW-Groundwater SO-Soil DW-Drinking Water SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments) Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Appendix VII – Historical Tetrachloroethene Concentrations

Appendix I
Historical Tetrachloroethene (PCE) Concentrations (ug/L) in Groundwater Monitoring Wells
Lincoln County Landfill
S&ME Project No. 7235-14-019

MW-13		MW-14		MW-17		MW-19		MW-20	
Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):
8/5/1993	ND<2.5	8/5/1993	ND<2.5	8/5/1993	ND<2.5	NS	NS	NS	NS
8/6/1993	ND<2.5	8/6/1993	ND<2.5	8/6/1993	ND<2.5	NS	NS	NS	NS
8/9/1993	ND<2.5	8/9/1993	ND<2.5	8/9/1993	ND<2.5	NS	NS	NS	NS
8/11/1993	ND<2.5	8/11/1993	ND<2.5	8/11/1993	ND<2.5	NS	NS	NS	NS
4/15/1994	ND<2.5	4/15/1994	ND<2.5	4/15/1994	ND<2.5	NS	NS	NS	NS
11/22/1994	ND<5	11/22/1994	ND<5	11/22/1994	ND<5	NS	NS	NS	NS
4/30/1996	**6**	4/30/1996	ND<5	4/30/1996	ND<5	NS	NS	NS	NS
4/16/1997	ND<5	4/16/1997	ND<5	4/16/1997	ND<5	4/16/1997	ND<5	4/16/1997	ND<5
10/29/1997	ND<5	10/29/1997	ND<5	10/29/1997	ND<5	10/29/1997	ND<5	10/29/1997	ND<5
5/28/1998	**5.2**	5/28/1998	ND<5	5/28/1998	ND<5	5/28/1998	ND<5	5/28/1998	ND<5
12/4/1998	ND<5	12/4/1998	ND<5	12/4/1998	ND<5	12/4/1998	ND<5	12/4/1998	ND<5
4/28/1999	ND<5	4/28/1999	ND<5	4/28/1999	ND<5	4/28/1999	ND<5	4/28/1999	ND<5
10/13/1999	ND<5	10/13/1999	ND<5	10/13/1999	ND<5	10/13/1999	ND<5	10/13/1999	ND<5
4/13/2000	ND<5	4/13/2000	ND<5	4/13/2000	ND<5	4/13/2000	ND<5	4/13/2000	ND<5
10/31/2000	ND<5	10/31/2000	ND<5	10/31/2000	ND<5	10/31/2000	ND<5	10/31/2000	ND<5
4/18/2001	ND<5	4/18/2001	ND<5	4/18/2001	ND<5	4/18/2001	ND<5	4/18/2001	ND<5
10/18/2001	ND<5	10/18/2001	ND<5	10/18/2001	ND<5	10/18/2001	ND<5	10/18/2001	ND<5
4/3/2002	ND<5	4/3/2002	ND<5	4/3/2002	ND<5	4/3/2002	ND<5	4/3/2002	ND<5
10/23/2002	ND<5	10/23/2002	ND<5	NS	NS	10/23/2002	ND<5	10/23/2002	ND<5
4/23/2003	ND<10	4/23/2003	ND<5	4/23/2003	ND<5	4/23/2003	ND<5	4/23/2003	ND<5
10/8/2003	ND<5	10/8/2003	ND<5	10/8/2003	ND<5	10/8/2003	ND<5	10/8/2003	ND<5
4/21/2004	ND<5	4/21/2004	ND<5	4/21/2004	ND<5	4/21/2004	ND<5	4/21/2004	ND<5
10/6/2004	ND<5	10/6/2004	ND<5	10/6/2004	ND<5	10/6/2004	ND<5	10/6/2004	ND<5
4/20/2005	ND<5	4/20/2005	ND<5	4/20/2005	ND<5	4/20/2005	ND<5	4/20/2005	ND<5

Appendix I
Historical Tetrachloroethene (PCE) Concentrations (ug/L) in Groundwater Monitoring Wells
Lincoln County Landfill
S&ME Project No. 7235-14-019

MW-13		MW-14		MW-17		MW-19		MW-20	
Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):	Sample Date:	PCE Concentration (ug/L):
10/19/2005	**4.1**	10/19/2005	ND<1	10/18/2005	ND<1	10/19/2005	**1.4**	10/19/2005	ND<1
4/26/2006	**3.5**	4/26/2006	ND<1	4/26/2006	ND<1	4/26/2006	**1.4**	4/26/2006	ND<1
10/4/2006	ND<1	10/4/2006	ND<1	10/4/2006	ND<1	10/4/2006	ND<1	10/4/2006	ND<1
4/11/2007	**6**	4/11/2007	ND<0.25	4/10/2007	ND<0.25	4/11/2007	ND<0.25	4/11/2007	ND<0.25
10/17/2007	**1.4**	10/17/2007	ND<0.25	10/16/2007	ND<0.25	10/17/2007	**0.85**	10/17/2007	**1.3**
4/23/2008	**3.1**	4/23/2008	0.43	4/22/2008	**0.85**	4/23/2008	**1.3**	4/23/2008	0.58
10/16/2008	**4.3**	10/16/2008	ND<0.36	10/14/2008	**1.3**	10/16/2008	**1.9**	10/15/2008	**1.7**
4/21/2009	**3.2**	4/21/2009	0.58 J	4/21/2009	ND<0.36 U	4/21/2009	**1.7**	4/21/2009	ND<0.36 U
10/14/2009	**3.9**	10/14/2009	0.47 J	10/14/2009	0.65 J	10/14/2009	**1.3**	10/14/2009	**1.6**
4/20/2010	**3.1**	4/20/2010	0.5 J	4/20/2010	**0.96 J**	4/20/2010	**1.4**	4/20/2010	0.61 J
10/12/2010	**4.9**	10/12/2010	**2.3**	10/13/2010	**2.4**	10/12/2010	**4**	10/13/2010	**1.6**
4/19/2011	**3.3**	4/19/2011	ND<0.73 U	4/20/2011	ND<0.73 U	4/19/2011	**1.5**	4/19/2011	ND<0.73 U
10/11/2011	**3.2**	10/11/2011	ND<0.73 U	NS	NS	10/11/2011	**2**	10/11/2011	ND<0.73 U
4/17/2012	**3.3**	4/17/2012	0.54 J	4/18/2012	**1.3**	4/17/2012	**1.6**	4/17/2012	0.62 J
10/9/2012	**3.7**	10/9/2012	0.64 J	NS	NS	10/9/2012	**2.2**	10/9/2012	**0.78 J**
4/24/2013	**3.1**	4/24/2013	0.49 J	4/23/2013	**1.1**	4/24/2013	**2**	4/24/2013	ND<0.27 U
10/8/2013	**2.8**	10/8/2013	ND<0.17 U	10/9/2013	**2**	10/8/2013	**2.5**	10/8/2013	**1.1**
4/15/2014	**3.4**	4/15/2014	ND<0.17 U	4/16/2014	**1.2**	4/15/2014	**1.6**	4/15/2014	ND<0.17 U
10/7/2014	**3.3**	10/7/2014	ND<0.17 U	NS	NS	10/7/2014	ND<0.17 U	10/7/2014	**1.5**

Notes:

NS = Not Sampled

ug/L = micrograms per liter (parts per billion)

Bold and highlighted indicates above 15A NCAC 2L, 15A NCAC 2B, or SW GWP standard

15A NCAC 2L Standard for PCE is 0.7 ug/L

NCDENR SWSL for PCE is 1 ug/L