

SCS ENGINEERS, PC

October 22, 2013
File No. 02209366.04

Mr. Ervin Lane, Hydrogeologist
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
217 West Jones Street
Raleigh, North Carolina 27603

Subject: **Closed Anson County Landfill - Facility Permit Number 04-01**
2013 Annual Water Quality Monitoring Report

Dear Mr. Lane:

On behalf of Anson County, SCS Engineers, PC is submitting the attached 2013 annual Water Quality Monitoring Report for the closed Anson County Landfill, Facility Permit Number 04-01. The 2013 monitoring event is the 2nd of the requested annual groundwater monitoring events to be conducted for five (5) years. This request is based on a letter dated May 16, 2011 from Mr. Ervin Lane with NCDENR, Division of Waste Management, Solid Waste Section. In addition to the Report an Environmental Monitoring Reporting Form and the electronic data deliverable is be submitted. Groundwater sampling was conducted on April 23, 2013 for the 2013 annual monitoring event and laboratory analyzed for 40 CFR Part 258 Appendix I constituents.

In summary, during this monitoring event no Appendix I volatile organic compound (VOC) constituents were detected above their respective compliance limit within the Landfill's four monitoring wells. Several inorganic metals were detected within the monitoring wells above their respective 15A NCAC 02L .0202 Groundwater Quality Standard or North Carolina Groundwater Protection Standard compliance limit. These metals include Chromium, Cobalt, Lead, Nickel and Vanadium that were detected in monitoring well MW-D except for Cobalt which was detected in monitoring well MW-B and MW-C also. The historical groundwater monitoring laboratory analytical results for all four monitoring wells is included in the Water Quality Monitoring Report.

As stated in the Report the detection of inorganic metals during laboratory analysis is not always caused by a release from the landfill rather than contributed to the natural occurring of the metals in the in-situ soils as well as the turbidity or suspended particulates in the groundwater sample. If you have any questions or need additional information please do not hesitate to contact either myself at 704-504-3107 (agleenn@scsengineers.com) or Mr. Mike Sessions, Anson County's Utilities Director at 704-694-5208.

Sincerely,



Albert D. Glenn, P.E.

Project Manager

SCS ENGINEERS, PC

cc: Mike Sessions – Anson County

Attachments: 2013 Annual Water Quality Monitoring Report, Environmental Monitoring Reporting Form, and Electronic Data Deliverable.

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

Instructions:

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

Solid Waste Monitoring Data Submittal Information

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

SCS Engineers, PC

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

Name: Albert D. Glenn, PE Phone: 704-504-3107
 E-mail: aglenn@scsengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Anson County Landfill	2668 Haileys Ferry Road (SR-1801) Lilesville, NC 28091	04-01	.0500	April 23, 2013

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

- Groundwater monitoring data from monitoring wells Methane gas monitoring data
 Groundwater monitoring data from private water supply wells Corrective action data (specify) _____
 Leachate monitoring data Other(specify) _____
 Surface water monitoring data

Notification attached?

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

Certification

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

Kristin Gettys Irish, PG Project Professional 401-228-4300
 Facility Representative Name (Print) Title (Area Code) Telephone Number
Kristin Gettys Irish 10/24/13 Affix NC Licensed/ Professional Geologist Seal
 Signature Date

2520 Whitehall Park Drive, Suite 450; Charlotte, NC 28273

Facility Representative Address

C-1837

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

Revised 6/2009





**WATER QUALITY MONITORING REPORT
2013 ANNUAL SAMPLING EVENT
ANSON COUNTY LANDFILL
FACILITY PERMIT NO. 04-01**

Prepared for:

ANSON COUNTY



Anson County Utilities Department
907 North Washington Street
Wadesboro, North Carolina 28170
(704) 694-5208

Prepared by:

SCS ENGINEERS, PC
2520 Whitehall Park Drive, Suite 450
Charlotte, North Carolina 28273
(704) 504-3107
License Number C-1837

Date: October 21, 2013
File No.: 02209366.04

Offices Nationwide
www.scsengineers.com

**WATER QUALITY MONITORING REPORT
2013 ANNUAL SAMPLING EVENT
ANSON COUNTY LANDFILL
FACILITY PERMIT NO. 04-01**

Presented To:

Anson County Utilities Department
907 North Washington Street
Wadesboro, North Carolina 28170
(704) 694-5208

Presented From:

SCS ENGINEERS, PC
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Date: October 21, 2013
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Attachments

- Attachment 1 – Monitoring Well Sampling Logs**
- Attachment 2 – Constituents for Detection Monitoring 40 CFR 258, Appendix I**
- Attachment 3 – Laboratory Analytical Results**
- Attachment 4 – Relevant Documentation and Correspondence**

SCS Engineers, PC (SCS) is submitting this Water Quality Monitoring Report for the closed Anson County Landfill, a.k.a. Lilesville Landfill, on behalf of the Anson County Utilities Department. The Landfill's North Carolina Department of Natural Resources (NCDENR) facility permit number is 04-01. This report provides background information, description of field activities, data, and summary and analysis of the laboratory analytical results from the groundwater monitoring sampling event conducted in April 2013.

This monitoring event is the second (2nd) annual monitoring event during a five (5) year period as requested in a letter dated May 16, 2011 from Mr. Ervin Lane, Compliance Hydrogeologist with NCDENR; Division of Waste Management; Solid Waste Section.

1 BACKGROUND

Two solid waste landfills, approximately 49.7 and 11.6-acres in size, previously operated along Haileys Ferry Road (SR 1801) in Lilesville, North Carolina. See attached **Figure No. 1** for the landfill locations and approximate landfilled waste extents. The 49.7-acre landfill began operations before 1972 and was closed prior to 1978. The 11.6-acre landfill which is permitted and subjected to groundwater monitoring was closed with a final cover system in the fall of 1994 with landfill operations dating back to 1978. The 11.6-acre permitted landfill North Carolina Department of Natural Resources (NCDENR) Facility Permit No. is 04-01. Both landfills are unlined.

Based on a letter dated January 18, 1996 from Mr. James Coffey with the Department of Environment, Health and Natural Resources - DEHNR (currently NCDENR) to Anson County, the permitted 11.6-acre landfill was considered officially closed subject to post-closure conditions including groundwater monitoring. This letter is included in **Attachment 4** for reference. Since 1996, the landfill has been in a post-closure care period. Based on review of previously prepared documentation, groundwater monitoring has been conducted at the permitted landfill since 1992. Currently, the groundwater monitoring program at the landfill consists of four monitoring wells: one (1) background well and three (3) compliance wells. The background well is designated as MW-A with the compliance wells being designated as MW- B, MW-C, and MW-D.

A Groundwater Monitoring Evaluation Report dated March 18, 2011 was prepared and submitted to NCDENR by Engineering & Environmental Science Company (E²S) of Raleigh, North Carolina on behalf of Anson County. This report outlined the historical groundwater monitoring results at the landfill from 1992 to 2006, evaluated the need to continue with groundwater monitoring and a request to stop further groundwater monitoring at the landfill. The County received a letter dated May 16, 2011 from Mr. Ervin Lane with NCDENR, Division of Waste Management stating that the Division had reviewed the Groundwater Monitoring Evaluation Report and request to stop the groundwater monitoring and determined that the County needs to continue groundwater monitoring on an annual basis for the next five (5) years. The letter also stated after five (5) years of additional monitoring, the monitoring results will be re-evaluated by the NCDENR to determine the need for continued groundwater monitoring at the landfill. The letter from NCDENR is included in **Attachment 4** for reference.

2 FIELD ACTIVITIES

On April 23, 2013, SCS personnel collected groundwater samples from the four (4) existing monitoring wells at the Anson County Landfill for laboratory analysis of constituents listed in Appendix I of the 40 Code of Federal Regulations (CFR) Part 258. The list of Appendix I constituents is included for reference in **Attachment 2**. The wells are designated as MW-A, MW-B, MW-C, and MW-D. Groundwater was purged and samples were collected from the monitoring wells using low flow sampling procedures.

SCS's field sampling logs containing field measurements for pH, conductivity, temperature, water levels, and dissolved oxygen are included in **Attachment 1**.

3 GROUNDWATER LEVELS AND FLOW

Water level data for the April 2013 sampling event is summarized in **Table 1**. Based on the water level data, a Groundwater Surface Contour Map is presented as **Figure 1**. The groundwater flow direction is primarily towards the eastern property boundary. The calculated groundwater flow velocity and estimated values for hydraulic conductivity and porosity are included below in **Table 1**. Please note that for all the monitoring wells, the estimated values for hydraulic conductivity and effective porosity in Table 1 are from the Groundwater Monitoring Evaluation Report prepared by Engineering & Environmental Science Company (E²S) dated March 18, 2011.

TABLE 1
Groundwater Level and Flow Data
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

Well ID	Date	GS Elevation	TOC Elevation	K (ft/yr)	n	DTW (feet)	WL-Elev. (feet)	I (ft/ft)	V (ft/yr)
MW-A	04-23-2013	NM	462.63	517.21	0.25	13.25	449.38	0.021	43.83
MW-B	04-23-2013	NM	451.20	517.21	0.25	16.65	434.55	0.021	43.83
MW-C	04-23-2013	NM	438.19	517.21	0.25	5.85	432.34	0.005	10.89
MW-D	04-23-2013	NM	436.16	517.21	0.25	6.40	429.76	0.003	7.02

Legend:

GS = ground surface **DTW** = depth to water from TOC (measured) **NM** = Not Measured
TOC = top of casing **WL-Elev** = water level elevation
n = effective porosity (estimated based on previous GW monitoring reports and site conditions)
K = hydraulic conductivity (estimated based on previous GW monitoring reports and site conditions)
V = groundwater flow rate (calculated) $V = (K \cdot I) / n$
I = hydraulic gradient (calculated) $I = \text{WL-Elev. Difference} / \text{horizontal distance}$

4.1 GROUNDWATER ANALYTICAL RESULTS

The description of the Appendix I constituents detected during the April 2013 annual groundwater monitoring event above their respective 2L or Groundwater Protection Standard compliance limit is as follows:

4.1.1 VOLATILE ORGANIC COMPOUNDS (VOCS)

Chlorobenzene was the only VOC detected during the monitoring event, in monitoring well MW-C at a concentration of 1.4 µg/L which is below the 2L compliance limit of 50 µg/L.

4.1.2 METALS

In one or more of the monitoring wells during the monitoring event the metals Chromium, Cobalt, Lead, Nickel and Vanadium were detected above their respective 2L or North Carolina Groundwater Protection Standard compliance limit. These detections are summarized as follows:

- **Chromium** was detected in monitoring well MW-D at a concentration of 350 µg/L which is above the 2L compliance limit of 10 µg/L.
- **Cobalt** was detected in monitoring wells MW-B, MW-C, and MW-D at concentrations of 19.3 µg/L, 48.4 µg/L and 13.3 µg/L, respectively. The Groundwater Protection Standard compliance limit for Cobalt is 1 µg/L. A 2L compliance limit is not established for Cobalt.
- **Lead** was detected in monitoring well MW-D at a concentration of 28.2 µg/L which is above the 2L compliance limit of 15 µg/L.
- **Nickel** was detected in monitoring well MW-D at a concentration of 160 µg/L which is above the 2L compliance limit of 100 µg/L.
- **Vanadium** was detected in monitoring well MW-D at a concentration of 22.3 µg/L which is above the Groundwater Protection Standard compliance limit of 0.3 µg/L. A 2L compliance limit is not established for Vanadium.

In addition to the metals above; Barium, Beryllium, Copper, and Zinc were detected at concentrations below their respective compliance limit. A summary of these constituents and there detected concentrations are as follows:

- **Barium** was detected in all four (4) monitoring wells below its 2L compliance limit of 700 µg/L. In background monitoring well MW-A the concentration was 21.4 µg/L. In compliance well MW-B the concentration was 15.5 µg/L, MW-C was 83.8 µg/L and MW-D was 74.1 µg/L.

- **Beryllium** was only detected in monitoring well MW-D at a concentration of 1.4 µg/L which is less than its Groundwater Protection Standard compliance limit of 4 µg/L. A 2L compliance limit is not established for Beryllium.
- **Copper** was only detected in monitoring well MW-D at a concentration of 25.0 µg/L which is less than its 2L compliance limit of 1000 µg/L.
- **Zinc** was only detected in monitoring well MW-D at a concentration of 27.5 µg/L which is less than its 2L compliance limit of 1000 µg/L.

No other Appendix I metals were detected during the April 2013 groundwater monitoring event.

5 SUMMARY AND ANALYSIS

A summary of the results from the April 2013 annual water quality monitoring event is as follows:

5.1 VOCS DETECTION SUMMARY

During the April 2013 annual monitoring event no VOCs were detected above the current 2L or GWP compliance limits in the monitoring wells. The only VOC detected was Chlorobenzene in monitoring well MW-C at a concentration below the 2L compliance limit of 1.4 µg/L. Chlorobenzene was detected below its compliance limit during the previous annual monitoring event in October 2012 and has historically been detected in monitoring well MW-C below its compliance limit.

During the previous annual monitoring event in October 2012 Benzene was detected above its 2L compliance limit of 1.0 µg/L within monitoring well MW-C with a concentration of 1.3 µg/L. Benzene was not detected during this monitoring event in any of the monitoring wells.

The monitoring wells historical analytical results for Chlorobenzene as well as other previously detected VOCs are presented in **Table 3**.

5.2 METALS DETECTION SUMMARY

The metals detected above their respective 2L or GWP compliance limit during this monitoring event were in monitoring well MW-D, except Cobalt, which was detected in monitoring wells MW-B, MW-C, and MW-D. Further description of each metal detected above their respective compliance limit is as follows.

During this monitoring event Chromium was detected above its 2L compliance limit of 10 µg/L within monitoring well MW-D with a concentration of 350 µg/L. Chromium was also detected above its compliance limit during the October 2012 annual monitoring event in monitoring well MW-D. Chromium has historically been detected sporadically in monitoring well MW-D mostly below its 2L compliance limit.

Cobalt was also detected during this monitoring event above the North Carolina Groundwater Protection Standard of 1 µg/L within monitoring wells MW-B with a concentration of 19.3 µg/L, MW-C with a concentration of 48.4 µg/L, and MW-D with a concentration of 13.3 µg/L. Cobalt was detected above its compliance limit during the previous October 2012 annual monitoring event in monitoring well MW-D only.

Lead was detected during this monitoring event above its 2L compliance limit of 15 µg/L within monitoring well MW-D at a concentration of 28.2 µg/L. Lead has historically been detected sporadically in all the monitoring wells. Lead was detected above its compliance limit during the previous October 2012 annual monitoring event in monitoring well MW-D only.

Vanadium was detected above the North Carolina Groundwater Protection Standard of 0.3 µg/L within monitoring well MW-D with a concentration of 22.3 µg/L. Vanadium was detected above its compliance limit during the previous October 2012 annual monitoring event in monitoring well MW-D only.

The monitoring wells historical analytical results for metals are presented in **Table 3**.

TABLE 3
Historical Groundwater Monitoring Results
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

Sample Date	Detection Limit	Compliance Limit 15A NCAC 02L or Groundwater Protection Standard	Analytical Results (µg/L)			
			MW-A	MW-B	MW-C	MW-D
Parameter :	Benzene					
Apr-99	2		ND<2	ND<2	ND<2	ND<2
Oct-00	1		ND<1	ND<1	2.1	ND<1
Oct-01	2		ND<2	ND<2	2.7	ND<2
Apr-02	1		ND<1	ND<1	1.5	ND<1
Oct-03	1		ND<1	ND<1	1.3	ND<1
May-04	1		ND<1	ND<1	ND<1	ND<1
Oct-04	5		ND<5	ND<5	ND<5	ND<5
May-05	5		ND<5	ND<5	ND<5	ND<5
Oct-06	5		ND<5	ND<5	ND<5	ND<5
Oct-12	1	1	ND<1	ND<1	1.3	ND<1
Apr-13	1	1	ND<1	ND<1	ND<1	ND<1

TABLE 3 (continued)
Historical Groundwater Monitoring Results
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

Sample Date	Detection Limit	Compliance Limit 15A NCAC 02L or Groundwater Protection Standard	Analytical Results (µg/L)			
			MW-A	MW-B	MW-C	MW-D
Parameter :	Chlorobenzene					
Apr-99	2		ND<2	ND<2	ND<2	ND<2
Oct-00	1		ND<1	ND<1	14	ND<1
Oct-01	2		ND<2	ND<2	17	ND<2
Apr-02	1		ND<1	ND<1	11	ND<1
Oct-03	1		ND<1	ND<1	6	ND<1
May-04	1		ND<1	ND<1	ND<1	ND<1
Oct-04	5		ND<5	ND<5	ND<5	ND<5
May-05	5		ND<5	ND<5	ND<5	ND<5
Oct-06	5		ND<5	ND<5	9	ND<5
Oct-12	1	50	ND<1	ND<1	5.2	ND<1
Apr-13	1	50	ND<1	ND<1	1.4	ND<1
Parameter :	Arsenic					
Apr-99	5		ND<5	ND<5	ND<5	ND<5
Oct-00	5		ND<5	ND<5	6	ND<5
Oct-01	5		ND<5	27	ND<5	ND<5
Apr-02	5		ND<5	ND<5	8	ND<5
Oct-03	5		ND<5	ND<5	7	ND<5
May-04	5		8	5	5	ND<5
Oct-04	20		ND<20	ND<20	ND<20	ND<20
May-05	20		16	31	81	72
Oct-06	20		ND<20	ND<20	ND<20	ND<20
Oct-12	5	10	ND<5	ND<5	5.4	ND<5
Apr-13	5	10	ND<5	ND<5	ND<5	ND<5

TABLE 3 (continued)
Historical Groundwater Monitoring Results
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

Sample Date	Detection Limit	Compliance Limit 15A NCAC 02L or Groundwater Protection Standard	Analytical Results (µg/L)			
			MW-A	MW-B	MW-C	MW-D
Parameter :	Barium					
Apr-99	20		20	14	76	66
Oct-00	20		21	150	211	53
Oct-01	20		21	26	238	66
Apr-02	20		23	18	18	52
Oct-03	20		17	17	205	49
May-04	20		23	24	91	51
Oct-04	40		ND<40	45	150	70
May-05	40		28	31	81	72
Oct-06	40		ND<40	52	260	65
Oct-12	5	700	18.1	19.6	176	69.4
Apr-13	5	700	21.4	15.5	83.8	74.1
Parameter :	Chromium					
Apr-99	5		ND<5	ND<5	ND<5	ND<5
Oct-00	5		ND<5	ND<5	ND<5	ND<5
Oct-01	5		ND<5	ND<5	ND<5	10
Apr-02	5		ND<5	ND<5	ND<5	ND<5
Oct-03	5		ND<5	ND<5	ND<5	6
May-04	5		ND<5	ND<5	ND<5	ND<5
Oct-04	20		ND<20	ND<20	ND<20	ND<20
May-05	20		ND<20	ND<20	ND<20	ND<20
Oct-06	20		ND<20	ND<20	ND<20	ND<20
Oct-12	5	10	ND<5	ND<5	ND<5	176
Apr-13	5	10	ND<5	ND<5	ND<5	350

TABLE 3 (continued)
Historical Groundwater Monitoring Results
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

Sample Date	Detection Limit	Compliance Limit 15A NCAC 02L or Groundwater Protection Standard	Analytical Results (µg/L)			
			MW-A	MW-B	MW-C	MW-D
Parameter :	Lead					
Apr-99	3		ND<3	ND<3	ND<3	8
Oct-00	3		ND<3	ND<3	3	34
Oct-01	3		ND<3	5	ND<3	24
Apr-02	2		ND<2	ND<2	4	4
Oct-03	2		ND<2	ND<2	ND<2	3
May-04	2		6	4	ND<2	ND<2
Oct-04	15		ND<15	ND<15	ND<15	ND<15
May-05	10		ND<10	ND<10	ND<10	ND<10
Oct-06	40		ND<40	ND<40	ND<40	ND<40
Oct-12	5	15	ND<5	ND<5	ND<5	24.8
Apr-13	5	15	ND<5	ND<5	ND<5	28.2
Parameter :	Beryllium					
Oct-12	1	4	ND<1	ND<1	ND<1	ND<1
Apr-13	1	4	ND<1	ND<1	ND<1	1.4
Parameter :	Cobalt					
Oct-12	5	1	ND<5	ND<5	ND<5	6
Apr-13	5	1	ND<5	19.3	48.4	13.3
Parameter :	Copper					
Oct-12	5	1000	ND<5	ND<5	ND<5	26.6
Apr-13	5	1000	ND<5	ND<5	ND<5	25
Parameter :	Nickel					
Oct-12	5	100	ND<5	ND<5	ND<5	86.6
Apr-13	5	100	ND<5	ND<5	ND<5	160

TABLE 3 (continued)
Historical Groundwater Monitoring Results
Closed Anson County Landfill (Lilesville Landfill) - Facility Permit No. 04-01

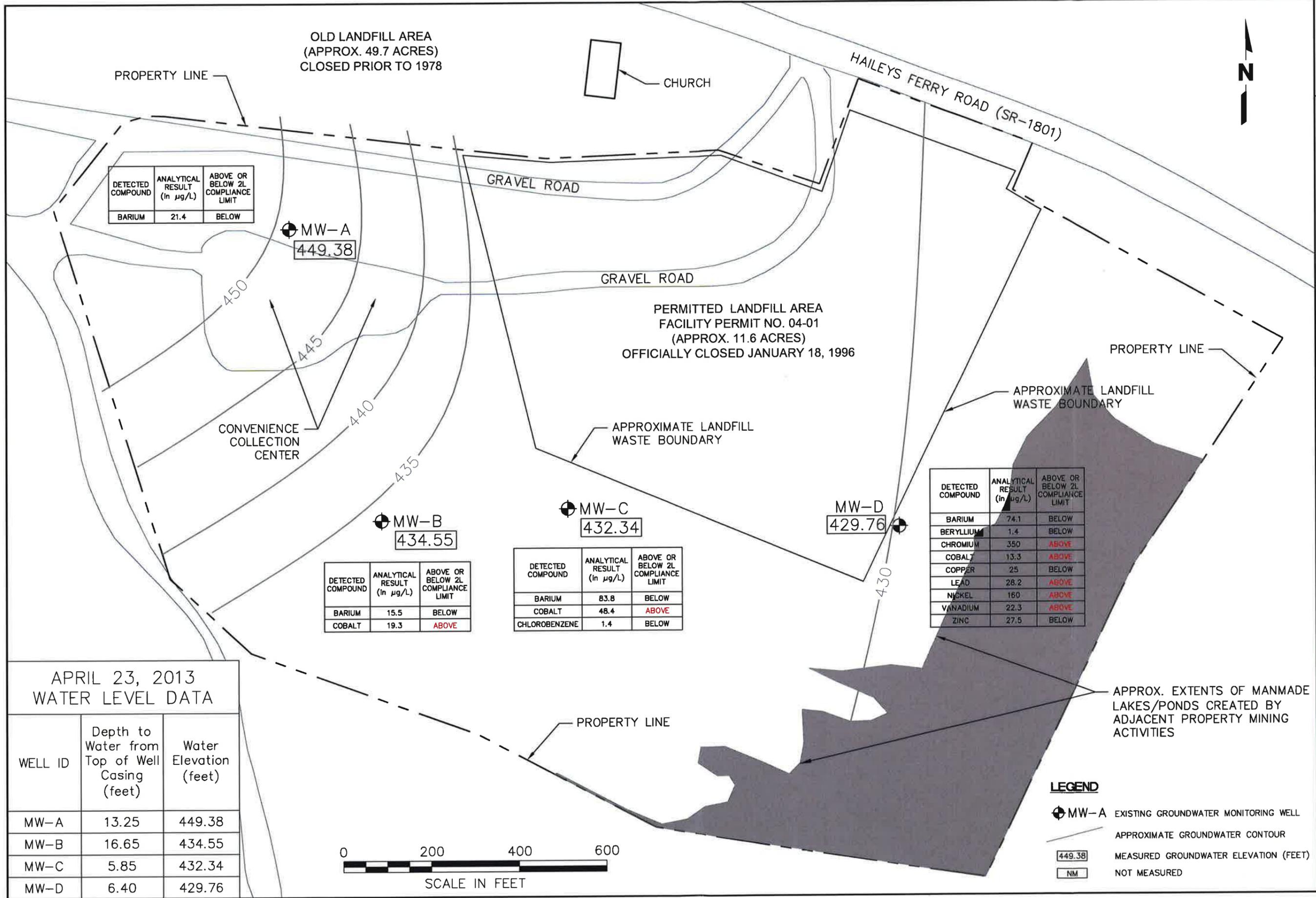
Sample Date	Detection Limit	Compliance Limit 15A NCAC 02L or Groundwater Protection Standard	Analytical Results (µg/L)			
			MW-A	MW-B	MW-C	MW-D
Parameter :	Vanadium					
Oct-12	5	0.3	ND<5	ND<5	ND<5	18
Apr-13	5	0.3	ND<5	ND<5	ND<5	22.3
Parameter :	Zinc					
Oct-12	10	1000	ND<10	ND<10	ND<10	31
Apr-13	10	1000	ND<10	ND<10	ND<10	27.5

5.3 ANALYSIS

Metal concentrations in groundwater are often dependent on the turbidity or suspended particulates (from the aquifer formation) retrieved with the groundwater sample and also metals natural occurring in the in-situ soil. The turbidity is a function of the sampling method, well construction, well development, depth to groundwater, and grain size/consolidation of the water-bearing zone. Since unfiltered samples are acidified in the field at the time of sample collection, metals contained within the particulates are dissolved into the water sample. Thus, the presence of turbidity in groundwater samples often results in elevated (false positive) analytical concentrations for metals. Therefore, the presence of elevated metal concentrations does not necessarily correlate with groundwater impact.

Certain metals are considered natural occurring within the in-situ soils and not caused by a release from a landfill. An example of this is a closed MSW landfill located in Union County, North Carolina where groundwater alternate source demonstrations⁽¹⁾ for metals were completed and the metals Barium, Beryllium, Chromium, Cobalt, Copper, Lead, Nickel, Vanadium and Zinc were determined to be natural occurring at considerable levels in the in-situ soils. The landfill located in Union County is within the vicinity of and having similar geologic conditions as to the closed Anson County - Lilesville Landfill. So the existence of these metals in the in-situ soils at the Anson County - Lilesville Landfill is probable. Further investigation of the existence of these metals and levels within the Anson County - Lilesville Landfill's in-situ soils may be undertaken by the Anson County Utilities Department if deemed beneficial to the groundwater monitoring or so directed by NCDENR.

(1) Reference: Alternate Source Demonstration Report, Union County Landfill, Wingate North Carolina dated July 2008 and Revised Alternate Source Demonstration for the Union County Landfill dated November 2012.



ATTACHMENT 1

Monitoring Well Sampling Logs

**ANSON COUNTY LANDFILL - CLOSED LILESVILLE LANDFILL
ANSON COUNTY, NORTH CAROLINA
MONITORING WELL SAMPLE LOG**

WELL ID: MW-A
 DATE: 4/23/2013
 PERSONNEL: Michael Cobb; SCS Engineers, PC
Adam Smith; SCS Engineers, PC

WEATHER: Cloudy, Mid 60s

REASON FOR SAMPLING: Compliance.

Total Well Depth: 27.8 ft.
 Depth to Water: 13.25 ft.
 Water Column: 14.55 ft.
 Well Volume: 2.35 gal.

Field Readings	1	2	3	4	
Time	1300	1303	1306	1309	
Turbidity	13.36	9.3	6.92	4.01	
pH	5.63	5.34	5.28	5.2	
DO Mg/L	56.1	8.3	4.09	2.86	
Temperature	16.54	16.4	16.45	16.44	
Sp. Conductivity	55	39	38	38	Total purged from well: 15 gal

	5	6	7	8	9	10	11	12
Time	1312	1315	1318	1321				
Turbidity	4.83	3.12	2.98	2.68				
pH	5.27	5.2	5.21	5.2				
DO Mg/L	2.3	1.34	1.26	1.1				
Temperature	16.35	16.35	16.35	16.35				
Sp. Conductivity	38	38	38	38				

Notes:

Purged 3 well volumes before taking measurements.

Sample ID: MW-A

Sample Time: 1325
 Laboratory: Pace Analytical
 Shipping Date: 4/24/2013

**ANSON COUNTY LANDFILL - CLOSED LILESVILLE LANDFILL
ANSON COUNTY, NORTH CAROLINA
MONITORING WELL SAMPLE LOG**

WELL ID: MW-B
 DATE: 4/23/2013
 PERSONNEL: Michael Cobb; SCS Engineers, PC
Adam Smith; SCS Engineers, PC

WEATHER: Cloudy, Mid 60s

REASON FOR SAMPLING: Compliance.

Total Well Depth: 27.3 ft.
 Depth to Water: 16.65 ft.
 Water Column: 10.65 ft.
 Well Volume: 1.72 gal.

Field Readings	1	2	3	4	
Time	1425	1428	1431	1434	
Turbidity	5.56	11.3	5.43	9.12	
pH	6.42	6.35	6.32	6.37	
DO Mg/L	4.25	2.12	1.75	1.2	
Temperature	15.45	15.24	15.12	15.1	
Sp. Conductivity	67	68	68	69	Total purged from well: 27 gal

	5	6	7	8	9	10	11	12
Time	1437	1440	1350	1354	1357	1401	1403	
Turbidity	9.18	9.92	77.14	64.79	2.14	2.58	4.1	
pH	6.35	6.39	5.58	5.48	5.5	5.43	5.47	
DO Mg/L	1.25	1.25	0.7	0.65	0.75	0.71	0.71	
Temperature	15.07	15.09	18.9	18.9	18.9	18.9	18.9	
Sp. Conductivity	69	69	61	61	62	62	61	

Notes:

Purged 10 well volumes before taking measurements due to muddy appearance of water.

Sample ID: MW-B

Sample Time: 1445
 Laboratory: Pace Analytical
 Shipping Date: 4/24/2013

**ANSON COUNTY LANDFILL - CLOSED LILESVILLE LANDFILL
ANSON COUNTY, NORTH CAROLINA
MONITORING WELL SAMPLE LOG**

WELL ID: MW-C
 DATE: 4/23/2013
 PERSONNEL: Michael Cobb; SCS Engineers, PC
Adam Smith; SCS Engineers, PC

WEATHER: Cloudy, Mid 60s

REASON FOR SAMPLING: Compliance.

Total Well Depth: 22.6 ft.
 Depth to Water: 5.85 ft.
 Water Column: 16.75 ft.
 Well Volume: 2.71 gal.

Field Readings	1	2	3	4	
Time	1121	1125	1128	1131	
Turbidity	2.82	0.98	1.95	1.5	
pH	5.08	5.3	5.57	5.83	
DO Mg/L	4.12	2.6	2.08	1.94	
Temperature	13.5	13.44	13.37	13.37	
Sp. Conductivity	338	331	331	330	Total purged from well: 20 gal

	5	6	7	8	9	10	11	12
Time	1134							
Turbidity	1.56							
pH	5.93							
DO Mg/L	1.8							
Temperature	13.42							
Sp. Conductivity	329							

Notes:

Purged 5 well volumes before taking measurements.

Sample ID: MW-C

Sample Time: 1140
 Laboratory: Pace Analytical
 Shipping Date: 10/24/2013

**ANSON COUNTY LANDFILL - CLOSED LILESVILLE LANDFILL
 ANSON COUNTY, NORTH CAROLINA
 MONITORING WELL SAMPLE LOG**

WELL ID: MW-D
 DATE: 4/23/2013
 PERSONNEL: Michael Cobb; SCS Engineers, PC
Adam Smith; SCS Engineers, PC

WEATHER: Cloudy, Mid 60s

REASON FOR SAMPLING: Compliance.

Total Well Depth: 35.45 ft.
 Depth to Water: 6.4 ft.
 Water Column: 29.05 ft.
 Well Volume: 4.93 gal.

Field Readings	1	2	3	4	
Time					
Turbidity					
pH					
Sp. Conductivity					
DO Mg/L					
Temp.					Total purged from well: 15 gal

Notes:
Well dry before initial purge completed.
Waited for well to recharge and then sampled.

Sample ID: MW-D

Sample Time: 1515
 Laboratory: Pace Analytical
 Shipping Date: 4/24/2013

ATTACHMENT 2

Constituents for Detection Monitoring 40 CFR 258, Appendix I

**Constituents for Detection Monitoring
(40 CFR 258, Appendix I)**

Common name	CAS RN
Antimony	(Total)
Arsenic	(Total)
Barium	(Total)
Beryllium	(Total)
Cadmium	(Total)
Chromium	(Total)
Cobalt	(Total)
Copper	(Total)
Lead	(Total)
Nickel	(Total)
Selenium	(Total)
Silver	(Total)
Thallium	(Total)
Vanadium	(Total)
Zinc	(Total)
Acetone	67-64-1
Acrylonitrile	107-13-1
Benzene	71-43-2
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform; Tribromomethane	75-25-2
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane; Ethyl chloride	75-00-3
Chloroform; Trichloromethane	67-66-3
Dibromochloromethane; Chlorodibromomethane	124-48-1
1,2-Dibromo-3-chloropropane; DBCP	96-12-8
1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
trans-1,4-Dichloro-2-butene	110-57-6
1,1-Dichloroethane; Ethylidene chloride	75-34-3
1,2-Dichloroethane; Ethylene dichloride	107-06-2
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane; Propylene dichloride	78-87-5
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4
2-hexanone; Methyl butyl ketone	591-78-6
Methyl bromide; Bromomethane	74-83-9
Methyl chloride; Chloromethane	74-87-3
Methylene bromide Dibromomethane	74-95-3
Methylene chloride; Dichloromethane	75-09-2
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
Methyl iodide; Iodomethane	74-88-4
4-Methyl-2-pentanone; Methyl isobutyl isobutyl ketone	108-10-1
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene; Tetrachlorethene; Perchloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trochloroethane; Methylchloroform	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethylene; Trichlorethene	79-01-6
Trichlorofluoromethane; CFC-11	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylenes	1330-20-7

ATTACHMENT 3

Laboratory Analytical Results

Pace Analytical Services, Inc.



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Huntersville, NC 28078
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May 20, 2013

Mr. Albert Glenn
SCS Engineers
2520 Whitehall Park Drive
Suite 450
Charlotte, NC 28273

RE: Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Dear Mr. Glenn:

Enclosed are the analytical results for sample(s) received by the laboratory on April 24, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE ANALYTE COUNT

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92155745001	MW-A	EPA 6010	JDA, JMW	15	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	MCK	51	PASI-C
		SM 4500-S2D	AES	1	PASI-A
		SM 5210B	LMD	1	PASI-A
		EPA 300.0	SAE	2	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	LMD	1	PASI-A
		SM 5220D	EWS	1	PASI-A
		SM 5310B	AES	1	PASI-A
92155745002	MW-B	EPA 6010	JDA, JMW	15	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	MCK	51	PASI-C
		SM 4500-S2D	AES	1	PASI-A
		SM 5210B	JTM	1	PASI-A
		EPA 300.0	SAE	2	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	LMD	1	PASI-A
		SM 5220D	EWS	1	PASI-A
		SM 5310B	AES	1	PASI-A
92155745003	MW-C	EPA 6010	JDA, JMW	15	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	MCK	51	PASI-C
		SM 4500-S2D	AES	1	PASI-A
		SM 5210B	LMD	1	PASI-A
		EPA 300.0	SAE	2	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	LMD	1	PASI-A
		SM 5220D	EWS	1	PASI-A
		SM 5310B	AES	1	PASI-A
92155745004	MW-D	EPA 6010	JDA, JMW	15	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	MCK	51	PASI-C
		SM 4500-S2D	AES	1	PASI-A
		SM 5210B	JTM	1	PASI-A
		EPA 300.0	SAE	2	PASI-A
EPA 353.2	DMN	1	PASI-A		

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-A Lab ID: 92155745001 Collected: 04/23/13 13:25 Received: 04/24/13 16:00 Matrix: Water								
8260 MSV Low Level Landfill Analytical Method: EPA 8260								
1,2-Dichloropropane	ND	ug/L	1.0	1		04/29/13 04:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:14	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/29/13 04:14	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/29/13 04:14	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/29/13 04:14	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/29/13 04:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/29/13 04:14	108-10-1	
Styrene	ND	ug/L	1.0	1		04/29/13 04:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/29/13 04:14	127-18-4	
Toluene	ND	ug/L	1.0	1		04/29/13 04:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/29/13 04:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/29/13 04:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/29/13 04:14	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/29/13 04:14	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/29/13 04:14	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/29/13 04:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101 %		70-130	1		04/29/13 04:14	460-00-4	
Dibromofluoromethane (S)	107 %		70-130	1		04/29/13 04:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		70-130	1		04/29/13 04:14	17060-07-0	
Toluene-d8 (S)	101 %		70-130	1		04/29/13 04:14	2037-26-5	
4500S2D Sulfide Water Analytical Method: SM 4500-S2D								
Sulfide	ND	mg/L	0.10	1		04/30/13 10:45	18496-25-8	
5210B BOD, 5 day Analytical Method: SM 5210B								
BOD, 5 day	ND	mg/L	2.0	1	04/25/13 00:57	04/29/13 20:18		B2
300.0 IC Anions 28 Days Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.50	1		05/07/13 03:07	16984-48-8	
Sulfate	3.6	mg/L	2.0	1		05/07/13 03:07	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.020	1		04/25/13 01:17		
4500 Chloride Analytical Method: SM 4500-Cl-E								
Chloride	3.7	mg/L	1.0	1		04/29/13 19:55	16887-00-6	
5220D COD Analytical Method: SM 5220D								
Chemical Oxygen Demand	119	mg/L	25.0	1		05/08/13 15:00		

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Sample: MW-B Lab ID: 92155745002 Collected: 04/23/13 14:45 Received: 04/24/13 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Antimony	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 02:59	7440-38-2	
Barium	15.5	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:09	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/25/13 12:05	04/27/13 02:59	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/25/13 12:05	04/27/13 02:59	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-47-3	
Cobalt	19.3	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-48-4	
Copper	ND	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:09	7440-50-8	
Lead	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 02:59	7782-49-2	
Silver	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/25/13 12:05	04/27/13 02:59	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 02:59	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 02:59	7440-66-6	

7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	1	04/30/13 14:50	05/01/13 14:09	7439-97-6	

8260 MSV Low Level Landfill								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		04/29/13 04:30	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/29/13 04:30	107-13-1	
Benzene	ND	ug/L	1.0	1		04/29/13 04:30	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/29/13 04:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/29/13 04:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/29/13 04:30	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/29/13 04:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/29/13 04:30	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/29/13 04:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/29/13 04:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/29/13 04:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/29/13 04:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/29/13 04:30	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/29/13 04:30	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/29/13 04:30	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/29/13 04:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/29/13 04:30	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/29/13 04:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 04:30	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 04:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/29/13 04:30	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/29/13 04:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/29/13 04:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:30	156-60-5	

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Sample: MW-B	Lab ID: 92155745002	Collected: 04/23/13 14:45	Received: 04/24/13 16:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,2-Dichloropropane	ND	ug/L	1.0	1		04/29/13 04:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/29/13 04:30	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/29/13 04:30	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/29/13 04:30	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/29/13 04:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/29/13 04:30	108-10-1	
Styrene	ND	ug/L	1.0	1		04/29/13 04:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/29/13 04:30	127-18-4	
Toluene	ND	ug/L	1.0	1		04/29/13 04:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/29/13 04:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/29/13 04:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/29/13 04:30	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/29/13 04:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/29/13 04:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/29/13 04:30	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102 %		70-130	1		04/29/13 04:30	460-00-4	
Dibromofluoromethane (S)	111 %		70-130	1		04/29/13 04:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		70-130	1		04/29/13 04:30	17060-07-0	
Toluene-d8 (S)	99 %		70-130	1		04/29/13 04:30	2037-26-5	
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D						
Sulfide	0.14	mg/L	0.10	1		04/30/13 10:45	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B						
BOD, 5 day	ND	mg/L	2.0	1	04/25/13 14:05	04/30/13 10:36		B2
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Fluoride	ND	mg/L	0.50	1		05/07/13 03:40	16984-48-8	
Sulfate	2.5	mg/L	2.0	1		05/07/13 03:40	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		04/25/13 01:31		
4500 Chloride		Analytical Method: SM 4500-Cl-E						
Chloride	3.8	mg/L	1.0	1		04/29/13 19:56	16887-00-6	
5220D COD		Analytical Method: SM 5220D						
Chemical Oxygen Demand	58.0	mg/L	25.0	1		05/08/13 15:00		

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

Sample: MW-B		Lab ID: 92155745002	Collected: 04/23/13 14:45	Received: 04/24/13 16:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC		Analytical Method: SM 5310B						
Total Organic Carbon	2.0	mg/L	1.0	1		05/02/13 20:08	7440-44-0	

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-C								
Lab ID: 92155745003 Collected: 04/23/13 11:40 Received: 04/24/13 16:00 Matrix: Water								
Analytical Method: EPA 6010 Preparation Method: EPA 3010								
6010 ICP Groundwater								
Antimony	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:03	7440-38-2	
Barium	83.8	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:12	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/25/13 12:05	04/27/13 03:03	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/25/13 12:05	04/27/13 03:03	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-47-3	
Cobalt	48.4	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-48-4	
Copper	ND	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:12	7440-50-8	
Lead	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:03	7782-49-2	
Silver	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/25/13 12:05	04/27/13 03:03	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:03	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:03	7440-66-6	
7470 Mercury								
Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	1	04/30/13 14:50	05/01/13 14:12	7439-97-6	
8260 MSV Low Level Landfill								
Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	1		04/29/13 04:46	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/29/13 04:46	107-13-1	
Benzene	ND	ug/L	1.0	1		04/29/13 04:46	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/29/13 04:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/29/13 04:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/29/13 04:46	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/29/13 04:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/29/13 04:46	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/29/13 04:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/29/13 04:46	56-23-5	
Chlorobenzene	1.4	ug/L	1.0	1		04/29/13 04:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/29/13 04:46	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/29/13 04:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/29/13 04:46	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/29/13 04:46	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/29/13 04:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/29/13 04:46	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/29/13 04:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 04:46	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 04:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/29/13 04:46	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/29/13 04:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/29/13 04:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 04:46	156-60-5	

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW

Pace Project No.: 92155745

Sample: MW-C	Lab ID: 92155745003	Collected: 04/23/13 11:40	Received: 04/24/13 16:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,2-Dichloropropane	ND	ug/L	1.0	1		04/29/13 04:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 04:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/29/13 04:46	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/29/13 04:46	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/29/13 04:46	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/29/13 04:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/29/13 04:46	108-10-1	
Styrene	ND	ug/L	1.0	1		04/29/13 04:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 04:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/29/13 04:46	127-18-4	
Toluene	ND	ug/L	1.0	1		04/29/13 04:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/29/13 04:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/29/13 04:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/29/13 04:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/29/13 04:46	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/29/13 04:46	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/29/13 04:46	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/29/13 04:46	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99 %		70-130	1		04/29/13 04:46	460-00-4	
Dibromofluoromethane (S)	109 %		70-130	1		04/29/13 04:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130	1		04/29/13 04:46	17060-07-0	
Toluene-d8 (S)	102 %		70-130	1		04/29/13 04:46	2037-26-5	
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D						
Sulfide	ND	mg/L	0.10	1		04/30/13 10:45	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B						
BOD, 5 day	7.9	mg/L	2.0	1	04/25/13 00:57	04/29/13 20:18		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Fluoride	ND	mg/L	0.50	1		05/07/13 05:17	16984-48-8	
Sulfate	ND	mg/L	2.0	1		05/07/13 05:17	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	ND	mg/L	0.020	1		04/25/13 00:48		
4500 Chloride		Analytical Method: SM 4500-Cl-E						
Chloride	34.1	mg/L	1.0	1		04/29/13 19:57	16887-00-6	
5220D COD		Analytical Method: SM 5220D						
Chemical Oxygen Demand	115	mg/L	25.0	1		05/08/13 15:00		

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW

Pace Project No.: 92155745

Sample: MW-D Lab ID: 92155745004 Collected: 04/23/13 15:15 Received: 04/24/13 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Antimony	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:06	7440-38-2	
Barium	74.1	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:15	7440-39-3	
Beryllium	1.4	ug/L	1.0	1	04/25/13 12:05	04/27/13 03:06	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/25/13 12:05	04/27/13 03:06	7440-43-9	
Chromium	350	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-47-3	
Cobalt	13.3	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-48-4	
Copper	25.0	ug/L	5.0	1	04/25/13 12:05	04/28/13 21:15	7440-50-8	
Lead	28.2	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7439-92-1	
Nickel	160	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:06	7782-49-2	
Silver	ND	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/25/13 12:05	04/27/13 03:06	7440-28-0	
Vanadium	22.3	ug/L	5.0	1	04/25/13 12:05	04/27/13 03:06	7440-62-2	
Zinc	27.5	ug/L	10.0	1	04/25/13 12:05	04/27/13 03:06	7440-66-6	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	04/30/13 14:50	05/01/13 14:14	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		04/29/13 05:01	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/29/13 05:01	107-13-1	
Benzene	ND	ug/L	1.0	1		04/29/13 05:01	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/29/13 05:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/29/13 05:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/29/13 05:01	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/29/13 05:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/29/13 05:01	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/29/13 05:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/29/13 05:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/29/13 05:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/29/13 05:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/29/13 05:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/29/13 05:01	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/29/13 05:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/29/13 05:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/29/13 05:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/29/13 05:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 05:01	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/29/13 05:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/29/13 05:01	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/29/13 05:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/29/13 05:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/29/13 05:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 05:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/29/13 05:01	156-60-5	

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

Sample:	Lab ID:	Collected:	Received:	Matrix:				
MW-D	92155745004	04/23/13 15:15	04/24/13 16:00	Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill								
Analytical Method: EPA 8260								
1,2-Dichloropropane	ND	ug/L	1.0	1		04/29/13 05:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 05:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/29/13 05:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/29/13 05:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/29/13 05:01	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/29/13 05:01	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/29/13 05:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/29/13 05:01	108-10-1	
Styrene	ND	ug/L	1.0	1		04/29/13 05:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 05:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/29/13 05:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/29/13 05:01	127-18-4	
Toluene	ND	ug/L	1.0	1		04/29/13 05:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/29/13 05:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/29/13 05:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/29/13 05:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/29/13 05:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/29/13 05:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/29/13 05:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/29/13 05:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/29/13 05:01	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103 %		70-130	1		04/29/13 05:01	460-00-4	
Dibromofluoromethane (S)	110 %		70-130	1		04/29/13 05:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130	1		04/29/13 05:01	17060-07-0	
Toluene-d8 (S)	102 %		70-130	1		04/29/13 05:01	2037-26-5	
4500S2D Sulfide Water								
Analytical Method: SM 4500-S2D								
Sulfide	ND	mg/L	0.10	1		04/30/13 10:45	18496-25-8	
5210B BOD, 5 day								
Analytical Method: SM 5210B								
BOD, 5 day	ND	mg/L	2.0	1	04/25/13 14:05	04/30/13 10:36		B2
300.0 IC Anions 28 Days								
Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.50	1		05/07/13 05:50	16984-48-8	
Sulfate	2.4	mg/L	2.0	1		05/07/13 05:50	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres								
Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.020	1		04/25/13 01:32		
4500 Chloride								
Analytical Method: SM 4500-Cl-E								
Chloride	2.1	mg/L	1.0	1		04/29/13 19:58	16887-00-6	
5220D COD								
Analytical Method: SM 5220D								
Chemical Oxygen Demand	88.0	mg/L	25.0	1		05/08/13 15:00		

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ANALYTICAL RESULTS

Project: ANSON CO. LILESVILLE GW

Pace Project No.: 92155745

Sample: MW-D		Lab ID: 92155745004	Collected: 04/23/13 15:15	Received: 04/24/13 16:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC		Analytical Method: SM 5310B						
Total Organic Carbon	ND	mg/L	1.0	1		05/02/13 20:30	7440-44-0	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: MERP/5134 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 965565 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/01/13 12:37	

LABORATORY CONTROL SAMPLE: 965566

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 965567 965568

Parameter	92155995001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
	Units	Result									
Mercury	ug/L	ND	2.5	2.5	2.2	2.4	90	98	75-125	8	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW

Pace Project No.: 92155745

QC Batch: MPRP/13149 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 963011 Matrix: Water
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	04/27/13 01:33	
Arsenic	ug/L	ND	10.0	04/27/13 01:33	
Barium	ug/L	ND	5.0	04/28/13 19:46	
Beryllium	ug/L	ND	1.0	04/27/13 01:33	
Cadmium	ug/L	ND	1.0	04/27/13 01:33	
Chromium	ug/L	ND	5.0	04/28/13 19:46	
Cobalt	ug/L	ND	5.0	04/27/13 01:33	
Copper	ug/L	ND	5.0	04/28/13 19:46	
Lead	ug/L	ND	5.0	04/27/13 01:33	
Nickel	ug/L	ND	5.0	04/27/13 01:33	
Selenium	ug/L	ND	10.0	04/27/13 01:33	
Silver	ug/L	ND	5.0	04/27/13 01:33	
Thallium	ug/L	ND	5.4	04/27/13 01:33	
Vanadium	ug/L	ND	5.0	04/27/13 01:33	
Zinc	ug/L	ND	10.0	04/27/13 01:33	

LABORATORY CONTROL SAMPLE: 963012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	489	98	80-120	
Arsenic	ug/L	500	494	99	80-120	
Barium	ug/L	500	488	98	80-120	
Beryllium	ug/L	500	527	105	80-120	
Cadmium	ug/L	500	537	107	80-120	
Chromium	ug/L	500	495	99	80-120	
Cobalt	ug/L	500	513	103	80-120	
Copper	ug/L	500	484	97	80-120	
Lead	ug/L	500	496	99	80-120	
Nickel	ug/L	500	529	106	80-120	
Selenium	ug/L	500	488	98	80-120	
Silver	ug/L	250	254	102	80-120	
Thallium	ug/L	500	444	89	80-120	
Vanadium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	547	109	80-120	

MATRIX SPIKE SAMPLE: 963013

Parameter	Units	92155698001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	469	94	75-125	
Arsenic	ug/L	ND	500	482	96	75-125	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

MATRIX SPIKE SAMPLE: 963013

Parameter	Units	92155698001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	21.6J	500	486	93	75-125	
Beryllium	ug/L	2.9	500	499	99	75-125	
Cadmium	ug/L	ND	500	511	102	75-125	
Chromium	ug/L	ND	500	474	95	75-125	
Cobalt	ug/L	ND	500	490	98	75-125	
Copper	ug/L	ND	500	468	94	75-125	
Lead	ug/L	ND	500	469	93	75-125	
Nickel	ug/L	ND	500	503	101	75-125	
Selenium	ug/L	ND	500	469	94	75-125	
Silver	ug/L	ND	250	243	97	75-125	
Thallium	ug/L	ND	500	423	84	75-125	
Vanadium	ug/L	ND	500	489	98	75-125	
Zinc	ug/L	ND	500	528	104	75-125	

SAMPLE DUPLICATE: 963014

Parameter	Units	92155698002 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	26.7J	26.1	2	
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	ND	ND		
Cobalt	ug/L	17.1	16.6	3	
Copper	ug/L	ND	ND		
Lead	ug/L	ND	ND		
Nickel	ug/L	ND	ND		
Selenium	ug/L	ND	ND		
Silver	ug/L	ND	ND		
Thallium	ug/L	7.4	ND		
Vanadium	ug/L	ND	ND		
Zinc	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: MSV/22789 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 964650 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,1-Dichloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,1-Dichloroethene	ug/L	ND	1.0	04/28/13 23:34	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/28/13 23:34	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	04/28/13 23:34	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/28/13 23:34	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/28/13 23:34	
1,2-Dichloroethane	ug/L	ND	1.0	04/28/13 23:34	
1,2-Dichloropropane	ug/L	ND	1.0	04/28/13 23:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/28/13 23:34	
2-Butanone (MEK)	ug/L	ND	5.0	04/28/13 23:34	
2-Hexanone	ug/L	ND	5.0	04/28/13 23:34	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	04/28/13 23:34	
Acetone	ug/L	ND	25.0	04/28/13 23:34	
Acrylonitrile	ug/L	ND	10.0	04/28/13 23:34	
Benzene	ug/L	ND	1.0	04/28/13 23:34	
Bromochloromethane	ug/L	ND	1.0	04/28/13 23:34	
Bromodichloromethane	ug/L	ND	1.0	04/28/13 23:34	
Bromoform	ug/L	ND	1.0	04/28/13 23:34	
Bromomethane	ug/L	ND	2.0	04/28/13 23:34	
Carbon disulfide	ug/L	ND	2.0	04/28/13 23:34	
Carbon tetrachloride	ug/L	ND	1.0	04/28/13 23:34	
Chlorobenzene	ug/L	ND	1.0	04/28/13 23:34	
Chloroethane	ug/L	ND	1.0	04/28/13 23:34	
Chloroform	ug/L	ND	1.0	04/28/13 23:34	
Chloromethane	ug/L	ND	1.0	04/28/13 23:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/28/13 23:34	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/28/13 23:34	
Dibromochloromethane	ug/L	ND	1.0	04/28/13 23:34	
Dibromomethane	ug/L	ND	1.0	04/28/13 23:34	
Ethylbenzene	ug/L	ND	1.0	04/28/13 23:34	
Iodomethane	ug/L	ND	5.0	04/28/13 23:34	
Methylene Chloride	ug/L	ND	1.0	04/28/13 23:34	
Styrene	ug/L	ND	1.0	04/28/13 23:34	
Tetrachloroethene	ug/L	ND	1.0	04/28/13 23:34	
Toluene	ug/L	ND	1.0	04/28/13 23:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/28/13 23:34	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/28/13 23:34	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	04/28/13 23:34	
Trichloroethene	ug/L	ND	1.0	04/28/13 23:34	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

METHOD BLANK: 964650 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichlorofluoromethane	ug/L	ND	1.0	04/28/13 23:34	
Vinyl acetate	ug/L	ND	2.0	04/28/13 23:34	
Vinyl chloride	ug/L	ND	1.0	04/28/13 23:34	
Xylene (Total)	ug/L	ND	2.0	04/28/13 23:34	
1,2-Dichloroethane-d4 (S)	%	102	70-130	04/28/13 23:34	
4-Bromofluorobenzene (S)	%	102	70-130	04/28/13 23:34	
Dibromofluoromethane (S)	%	108	70-130	04/28/13 23:34	
Toluene-d8 (S)	%	100	70-130	04/28/13 23:34	

LABORATORY CONTROL SAMPLE: 964651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.4	107	70-130	
1,1,1-Trichloroethane	ug/L	50	61.0	122	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	70-130	
1,1,2-Trichloroethane	ug/L	50	59.2	118	70-130	
1,1-Dichloroethane	ug/L	50	60.5	121	70-130	
1,1-Dichloroethene	ug/L	50	70.1	140	70-132	L3
1,2,3-Trichloropropane	ug/L	50	54.8	110	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.1	100	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.4	109	70-130	
1,2-Dichlorobenzene	ug/L	50	50.7	101	70-130	
1,2-Dichloroethane	ug/L	50	55.8	112	70-130	
1,2-Dichloropropane	ug/L	50	60.5	121	70-130	
1,4-Dichlorobenzene	ug/L	50	48.8	98	70-130	
2-Butanone (MEK)	ug/L	100	116	116	70-145	
2-Hexanone	ug/L	100	105	105	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	70-140	
Acetone	ug/L	100	126	126	50-175	
Acrylonitrile	ug/L	250	294	118	70-143	
Benzene	ug/L	50	53.9	108	70-130	
Bromochloromethane	ug/L	50	58.4	117	70-130	
Bromodichloromethane	ug/L	50	54.9	110	70-130	
Bromoform	ug/L	50	53.8	108	70-130	
Bromomethane	ug/L	50	57.6	115	54-130	
Carbon disulfide	ug/L	50	71.7	143	70-131	F3,L3
Carbon tetrachloride	ug/L	50	61.1	122	70-132	
Chlorobenzene	ug/L	50	52.5	105	70-130	
Chloroethane	ug/L	50	67.8	136	64-134	L3
Chloroform	ug/L	50	57.5	115	70-130	
Chloromethane	ug/L	50	60.6	121	64-130	
cis-1,2-Dichloroethene	ug/L	50	58.0	116	70-131	
cis-1,3-Dichloropropene	ug/L	50	57.8	116	70-130	
Dibromochloromethane	ug/L	50	54.4	109	70-130	
Dibromomethane	ug/L	50	56.5	113	70-131	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

LABORATORY CONTROL SAMPLE: 964651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	50	51.1	102	70-130	
Iodomethane	ug/L	100	132	132	49-180	
Methylene Chloride	ug/L	50	59.5	119	63-130	
Styrene	ug/L	50	52.6	105	70-130	
Tetrachloroethene	ug/L	50	55.2	110	70-130	
Toluene	ug/L	50	53.4	107	70-130	
trans-1,2-Dichloroethene	ug/L	50	60.1	120	70-130	
trans-1,3-Dichloropropene	ug/L	50	60.1	120	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	48.5	97	70-141	
Trichloroethene	ug/L	50	55.0	110	70-130	
Trichlorofluoromethane	ug/L	50	66.3	133	62-133	
Vinyl acetate	ug/L	100	111	111	66-157	
Vinyl chloride	ug/L	50	51.7	103	69-130	
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 964839 964840

Parameter	Units	92155591011		MS	MSD	MS	MSD	MS	MSD	% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.							
1,1-Dichloroethene	ug/L	ND	50	50	50	70.7	83.1	141	166	70-166	16	
Benzene	ug/L	0.94J	50	50	50	60.1	63.6	118	125	70-148	6	
Chlorobenzene	ug/L	1.2J	50	50	50	52.6	54.6	103	107	70-146	4	
Toluene	ug/L	ND	50	50	50	56.1	59.1	112	118	70-155	5	
Trichloroethene	ug/L	ND	50	50	50	67.2	69.5	134	139	69-151	3	
1,2-Dichloroethane-d4 (S)	%							102	105	70-130		
4-Bromofluorobenzene (S)	%							100	101	70-130		
Dibromofluoromethane (S)	%							107	108	70-130		
Toluene-d8 (S)	%							100	103	70-130		

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WET/25171 Analysis Method: SM 4500-S2D
 QC Batch Method: SM 4500-S2D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 965146 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	04/30/13 10:45	

LABORATORY CONTROL SAMPLE: 965147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	.5	0.51	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 965148 965149

Parameter	Units	92155734006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WET/25114 Analysis Method: SM 5210B
 QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
 Associated Lab Samples: 92155745001, 92155745003

METHOD BLANK: 962871 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/29/13 20:18	

LABORATORY CONTROL SAMPLE: 962872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	218	110	84.5-115.4	

SAMPLE DUPLICATE: 962873

Parameter	Units	92155745003 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	7.9	7.9	0	

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 Asheville, NC 28804
 (828)254-7176

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

QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WET/25122 Analysis Method: SM 5210B
 QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
 Associated Lab Samples: 92155745002, 92155745004

METHOD BLANK: 962966 Matrix: Water
 Associated Lab Samples: 92155745002, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/30/13 10:36	

LABORATORY CONTROL SAMPLE: 962967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	84.5-115.4	

SAMPLE DUPLICATE: 962968

Parameter	Units	92155745002 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		B2

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WETA/15242 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 968749 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.50	05/06/13 19:01	
Sulfate	mg/L	ND	2.0	05/06/13 19:01	

LABORATORY CONTROL SAMPLE: 968750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	20	19.7	99	90-110	

MATRIX SPIKE SAMPLE: 968751

Parameter	Units	92155951001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	ND	5	5.0	97	90-110	
Sulfate	mg/L	ND	20	21.4	99	90-110	

MATRIX SPIKE SAMPLE: 968753

Parameter	Units	92155745002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	ND	5	4.7	95	90-110	
Sulfate	mg/L	2.5	20	20.9	92	90-110	

SAMPLE DUPLICATE: 968752

Parameter	Units	92155951001 Result	Dup Result	RPD	Qualifiers
Fluoride	mg/L	ND	ND		
Sulfate	mg/L	ND	ND		

SAMPLE DUPLICATE: 968754

Parameter	Units	92155745002 Result	Dup Result	RPD	Qualifiers
Fluoride	mg/L	ND	ND		
Sulfate	mg/L	2.5	2.5	0	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WETA/15147 Analysis Method: EPA 353.2
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
 Associated Lab Samples: 92155745003

METHOD BLANK: 962847 Matrix: Water
 Associated Lab Samples: 92155745003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	04/25/13 00:16	

LABORATORY CONTROL SAMPLE: 962848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	100	90-110	

MATRIX SPIKE SAMPLE: 962849

Parameter	Units	92155565006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.89	2.5	3.2	93	90-110	

MATRIX SPIKE SAMPLE: 962851

Parameter	Units	92155758015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.2	2.5	6.4	87	90-110	M1

SAMPLE DUPLICATE: 962850

Parameter	Units	92155565006 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.89	0.89	0	

SAMPLE DUPLICATE: 962852

Parameter	Units	92155758015 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	4.2	4.2	0	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WETA/15148 Analysis Method: EPA 353.2
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
 Associated Lab Samples: 92155745001, 92155745002, 92155745004

METHOD BLANK: 962853 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.020	04/25/13 01:01	

LABORATORY CONTROL SAMPLE: 962854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.5	2.5	100	90-110	

MATRIX SPIKE SAMPLE: 962855

Parameter	Units	92155565009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.14	2.5	2.5	93	90-110	

MATRIX SPIKE SAMPLE: 962857

Parameter	Units	92155619003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.90	2.5	3.0	83	90-110	M1

SAMPLE DUPLICATE: 962856

Parameter	Units	92155565009 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.14	0.14	0	

SAMPLE DUPLICATE: 962858

Parameter	Units	92155619003 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.90	0.90	1	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
 Pace Project No.: 92155745

QC Batch: WETA/15193 Analysis Method: SM 4500-Cl-E
 QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 965093 Matrix: Water
 Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	04/29/13 20:12	

LABORATORY CONTROL SAMPLE: 965094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.4	102	90-110	

MATRIX SPIKE SAMPLE: 965095

Parameter	Units	92155758001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	194	20	210	82	75-125	

SAMPLE DUPLICATE: 965096

Parameter	Units	92155758002 Result	Dup Result	RPD	Qualifiers
Chloride	mg/L	7.0	7.0	1	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

QC Batch: WETA/15262 Analysis Method: SM 5220D
QC Batch Method: SM 5220D Analysis Description: 5220D COD
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 970199 Matrix: Water
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	05/08/13 15:00	

LABORATORY CONTROL SAMPLE: 970200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	760	101	90-110	

MATRIX SPIKE SAMPLE: 970201

Parameter	Units	92155626001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	30500	75000	119000	118	75-125	

MATRIX SPIKE SAMPLE: 970203

Parameter	Units	92155626002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5300	15000	18900	91	75-125	

SAMPLE DUPLICATE: 970202

Parameter	Units	92155626001 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	30500	30800	1	

SAMPLE DUPLICATE: 970204

Parameter	Units	92155626002 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	5300	6150	15	

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QUALITY CONTROL DATA

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

QC Batch: WETA/15208 Analysis Method: SM 5310B
QC Batch Method: SM 5310B Analysis Description: 5310B TOC
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

METHOD BLANK: 966250 Matrix: Water
Associated Lab Samples: 92155745001, 92155745002, 92155745003, 92155745004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/02/13 15:19	

LABORATORY CONTROL SAMPLE: 966251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	24.0	96	90-110	

MATRIX SPIKE SAMPLE: 966252

Parameter	Units	92156039002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.6	25	27.2	102	75-125	

MATRIX SPIKE SAMPLE: 966254

Parameter	Units	92155941008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.2	25	27.1	96	75-125	

SAMPLE DUPLICATE: 966253

Parameter	Units	92156039003 Result	Dup Result	RPD	Qualifiers
Total Organic Carbon	mg/L	3.5	3.4	4	

SAMPLE DUPLICATE: 966255

Parameter	Units	92155941009 Result	Dup Result	RPD	Qualifiers
Total Organic Carbon	mg/L	1.7	1.6	4	

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QUALIFIERS

Project: ANSON CO. LILESVILLE GW
Pace Project No.: 92155745

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

- B2 Oxygen usage is less than 2.0 for all dilutions set. The reported value is an estimated less than value and is calculated for the dilution using the most amount of sample.
- F3 The recovery of the second source standard used to verify the initial calibration curve for this analyte is outside the laboratory's control limits. The result is estimated.
- L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ANSON CO. LILESVILLE GW

Pace Project No.: 92155745

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92155745001	MW-A	EPA 3010	MPRP/13149	EPA 6010	ICP/11977
92155745002	MW-B	EPA 3010	MPRP/13149	EPA 6010	ICP/11977
92155745003	MW-C	EPA 3010	MPRP/13149	EPA 6010	ICP/11977
92155745004	MW-D	EPA 3010	MPRP/13149	EPA 6010	ICP/11977
92155745001	MW-A	EPA 7470	MERP/5134	EPA 7470	MERC/4992
92155745002	MW-B	EPA 7470	MERP/5134	EPA 7470	MERC/4992
92155745003	MW-C	EPA 7470	MERP/5134	EPA 7470	MERC/4992
92155745004	MW-D	EPA 7470	MERP/5134	EPA 7470	MERC/4992
92155745001	MW-A	EPA 8260	MSV/22789		
92155745002	MW-B	EPA 8260	MSV/22789		
92155745003	MW-C	EPA 8260	MSV/22789		
92155745004	MW-D	EPA 8260	MSV/22789		
92155745001	MW-A	SM 4500-S2D	WET/25171		
92155745002	MW-B	SM 4500-S2D	WET/25171		
92155745003	MW-C	SM 4500-S2D	WET/25171		
92155745004	MW-D	SM 4500-S2D	WET/25171		
92155745001	MW-A	SM 5210B	WET/25114	SM 5210B	WET/25115
92155745002	MW-B	SM 5210B	WET/25122	SM 5210B	WET/25129
92155745003	MW-C	SM 5210B	WET/25114	SM 5210B	WET/25115
92155745004	MW-D	SM 5210B	WET/25122	SM 5210B	WET/25129
92155745001	MW-A	EPA 300.0	WETA/15242		
92155745002	MW-B	EPA 300.0	WETA/15242		
92155745003	MW-C	EPA 300.0	WETA/15242		
92155745004	MW-D	EPA 300.0	WETA/15242		
92155745001	MW-A	EPA 353.2	WETA/15148		
92155745002	MW-B	EPA 353.2	WETA/15148		
92155745003	MW-C	EPA 353.2	WETA/15147		
92155745004	MW-D	EPA 353.2	WETA/15148		
92155745001	MW-A	SM 4500-CI-E	WETA/15193		
92155745002	MW-B	SM 4500-CI-E	WETA/15193		
92155745003	MW-C	SM 4500-CI-E	WETA/15193		
92155745004	MW-D	SM 4500-CI-E	WETA/15193		
92155745001	MW-A	SM 5220D	WETA/15262		
92155745002	MW-B	SM 5220D	WETA/15262		
92155745003	MW-C	SM 5220D	WETA/15262		
92155745004	MW-D	SM 5220D	WETA/15262		
92155745001	MW-A	SM 5310B	WETA/15208		
92155745002	MW-B	SM 5310B	WETA/15208		
92155745003	MW-C	SM 5310B	WETA/15208		
92155745004	MW-D	SM 5310B	WETA/15208		

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Sample Condition Upon Receipt (SCUR)

Document Number: F-CHR-CS-03-rev.10

Issuing Authority: Pace Huntersville Quality Office

Client Name: SCS

Where Received: [x] Huntersville [] Asheville [] Eden [] Raleigh

Courier: [] Fed Ex [] UPS [] USPS [] Client [] Commercial [x] Pace Other

Optional Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: [] yes [x] no Seals intact: [] yes [] no

Packing Material: [] Bubble Wrap [x] Bubble Bags [] None [] Other

Thermometer Used: IR Gun T1101 T1102 Type of Ice: [x] Wet [] Blue [] None [x] Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 2.9 C Biological Tissue is Frozen: Yes [] No [x] N/A

Date and Initials of person examining contents: 4/24/13

Temp should be above freezing to 6°C

Comments:

Table with 16 rows of checklist items including Chain of Custody Present, Chain of Custody Filled Out, Chain of Custody Relinquished, Sampler Name & Signature on COC, Samples Arrived within Hold Time, Short Hold Time Analysis (<72hr), Rush Turn Around Time Requested, Sufficient Volume, Correct Containers Used, Containers Intact, Filtered volume received for Dissolved tests, Sample Labels match COC, All containers needing preservation have been checked, All containers needing preservation are found to be in compliance with EPA recommendation, exceptions: VOA, collform, TOC, O&G, WI-DRO (water), Samples checked for dechlorination, Headspace in VOA Vials (>6mm), Trip Blank Present, Trip Blank Custody Seals Present, Pace Trip Blank Lot # (if purchased).

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

SCURF Review:

Signature

Date:

4/24/13

SRF Review:

Signature

Date:

4/24/13

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

W0#: 92155745



92155745



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
 Required Client Information:
 Company: SCS Engineers
 Address: 2520 Whitehall Park Dr.
 City: St. Louis
 State: MO
 Zip: 63104
 Phone: 314-504-3167
 Fax: 314-504-3171
 Requested Due Date/TAT: 5/20/07

Section B
 Required Project Information:
 Report To: Albert Glenn
 Copy To:
 Purchase Order No.:
 Project Name: Anso Co. Lilesville CV
 Project Number: 02209366-02

Section C
 Invoice Information:
 Attention: Albert Glenn
 Company Name: SCS Engineers
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
 STATE: _____

Page: _____ of _____
 1665407

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Face Project No. / Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME					
1	MU-A	Drinking Water	4/23	1315	G	WT		16	Unpreserved	Y	Analysis Test ↑	92155245	
2	MU-B	Waste Water	4/23	1445	G	WT		16	Unpreserved	Y	Analysis Test ↑	001	
3	MU-C	Soil/Solid	4/23	1140	G	WT		16	Unpreserved	Y	Analysis Test ↑	002	
4	MU-D	Oil	4/23	1515	G	WT		16	Unpreserved	Y	Analysis Test ↑	003	
5												004	
6													
7													
8													
9													
10													
11													
12													

ADDITIONAL COMMENTS
 Relinquished by / Affiliation: Donald M. Cobb WMLM SU DATE: 4/24/13 TIME: 11:00
 Relinquished by / Affiliation: DM ready DATE: 4-24-13 TIME: 16:00
 Relinquished by / Affiliation: Donna M. Cobb DATE: 4-24-13 TIME: 15:05
 Relinquished by / Affiliation: DM ready DATE: 4-24-13 TIME: 16:00

SAMPLE CONDITIONS
 Temp in °C: _____
 Received on: _____
 Sealed Cooler (Y/N): _____
 Custody (Y/N): _____
 Samples Intact (Y/N): _____

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Donald M. Cobb
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 4/24/13

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Summit Environmental Technologies, Inc.

3310 Win St.

Cuyahoga Falls, Ohio 44223

TEL: (330) 253-8211 FAX: (330) 253-4489

Website: <http://www.settek.com>

May 01, 2013

Kevin Godwin
Pace Analytical Services Inc
9800 Kinsey Avenue Suite 100
Huntersville, NC 28078
TEL: (704) 875-9092
FAX: (704) 875-9091

RE: 92155745

Order No.: 13040764

Dear Kevin Godwin:

Summit Environmental Technologies, Inc. received 4 sample(s) on 4/26/2013 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Limit of Detection (LOD) and less than the Method Detection Limit (MDL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Dr. Mo Osman
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

A2LA 0724.01, Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg 5, Indiana C-OH-13, Kansas E-10347, Kentucky (underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Tennessee TN04018, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: <http://www.settek.com>

Workorder Sample Summary

WO#: 13040764
01-May-13

CLIENT: Pace Analytical Services Inc
Project: 92155745

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
13040764-001	92155745001		4/23/2013 1:25:00 PM	4/26/2013 10:00:00 AM	Non-Potable Water
13040764-002	92155745002		4/23/2013 2:45:00 PM	4/26/2013 10:00:00 AM	Non-Potable Water
13040764-003	92155745003		4/23/2013 11:40:00 AM	4/26/2013 10:00:00 AM	Non-Potable Water
13040764-004	92155745004		4/23/2013 3:15:00 PM	4/26/2013 10:00:00 AM	Non-Potable Water



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Cuyahoga Falls, Ohio 44223
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Case Narrative

WO#: 13040764
Date: 5/1/2013

CLIENT: Pace Analytical Services Inc
Project: 92155745

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc. Work Order Number assigned to this report.

Paginated Report including: Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports and copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.

Original



Summit Environmental Technologies, Inc.
 3310 Win St.
 Cuyahoga Falls, Ohio 44223
 TEL: (330) 253-8211 FAX: (330) 253-4489
 Website: <http://www.settek.com>

WO#: 13040764
 Date Reported: 5/1/2013
 Company: Pace Analytical Services Inc
 Address: 9800 Kinney Avenue Suite 100
 Huntersville NC 28078

Received: 4/26/2013
 Project#: 92155745

Client ID#	Lab ID#	Collected	Analyte	Result Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
92155745001	001	4/23/2013	Total Organic Halides	ND mg/L	U	Non-Potable Water	EPA 9020	1	0.080	0.10	4/30/2013	JRK
92155745002	002	4/23/2013	Total Organic Halides	ND mg/L	U	Non-Potable Water	EPA 9020	1	0.080	0.10	4/30/2013	JRK
92155745003	003	4/23/2013	Total Organic Halides	ND mg/L	U	Non-Potable Water	EPA 9020	1	0.080	0.10	4/30/2013	JRK
92155745004	004	4/23/2013	Total Organic Halides	0.080 mg/L	J	Non-Potable Water	EPA 9020	1	0.080	0.10	4/30/2013	JRK



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QC SUMMARY REPORT

WO#: 13040764
 01-May-13

Client: Pace Analytical Services Inc
Project: 92155745

TestCode: TOX_NPW(9020)

Sample ID:	MB-R1817	Samp Type:	MBLK	TestCode:	TOX_NPW(90)	Units:	mg/L	Prep Date:	RunNo:	1817	
Client ID:	PBW	Batch ID:	R1817	TestNo:	SW9020			Analysis Date:	4/30/2013	SeqNo:	19573
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	0.053	0.10									J

Sample ID:	LCS-R1817	Samp Type:	LCS	TestCode:	TOX_NPW(90)	Units:	mg/L	Prep Date:	RunNo:	1817	
Client ID:	LCSW	Batch ID:	R1817	TestNo:	SW9020			Analysis Date:	4/30/2013	SeqNo:	19574
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Halides	0.32	0.10	0.3300	0	97.0	70	130				

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- M Manual Integration used to determine area response
- PL Permit Limit
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- U Samples with Calc Val < MDL
- C Value is below Minimum Compound Limit
- J Analyte detected below quantitation limits
- P Second column confirmation exceeds
- RL Reporting Detection Limit

Original

Chain of Custody



Workorder: 52155745 Workorder Name: ANSON CO. LILESVILLE GW Results Requested: 5/8/2013

Requester Name: *Kevin Godwin* Subcontract To: *Summit* P.O. # *HS1234Y*

Kevin Godwin
Pace Analytical Charlotte
5600 Kroyer Ave, Suite 100
Huntersville, NC 28078
Phone: 704.875-9052
Email: kevin.godwin@paceanalytical.com

13040764-01-04

Sample ID	Collect Date/Time	Lab ID	Matrix	Volume	Preservative Container	Comments
1	4/23/2013 15:25	50155745011	Water	1		
2	4/23/2013 14:42	50155745022	Water	1		
3	4/23/2013 11:40	50155745023	Water	1		
4	4/23/2013 15:05	50155745024	Water	1		
5						

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Y or N	Y or N
1	<i>Kevin Godwin</i>		<i>Kevin Godwin</i>					
2								
3								

Cooler Temperature on Receipt: *4.0* °C Custody Seal: *Y* or *N* Received on Ice: *Y* or *N* Samples Intact: *Y* or *N*

D.

ATTACHMENT 4

Relevant Documentation and Correspondence



North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

May 16, 2011

Mr. Sam Dawson
Anson County Utilities
907 North Washington Street
Wadesboro, NC 28170

Re: Groundwater Monitoring Evaluation
Anson County Landfill, Permit #04-01

Dear Mr. Dawson:

The Solid Waste Section (Section) has reviewed the *Groundwater Monitoring Evaluation* for the Anson County Landfill prepared by Engineering & Environmental Science Company. The evaluation concludes that groundwater monitoring at the facility is no longer necessary due to the absence of residences and presence of only two commercial properties within 3000 feet of the waste boundary, absence of receptors with the exception of lakes and ponds created by nearby mining activities, the results of a Solute Fate Transport Model, and historical contaminant concentrations in groundwater. The facility was granted official closure in a letter dated January 18, 1996 from the Section. Post closure condition # 8a states:

Groundwater quality at this facility is subject to the "Classification and Water Quality Standards Applicable to the Groundwaters of North Carolina," 15A NCAC 2L. This includes, but is not limited to, the provisions for detection monitoring, assessment, and corrective action.

A review of groundwater analytical data indicated the consistent detection of benzene at concentrations exceeding the 2L Standard in groundwater samples collected from MW-C except when laboratory reporting limits were greater than both the 2L Standard and Solid Waste Section Limit (SWSL). Anson County should continue groundwater monitoring on an annual basis for the next five years using laboratory reporting limits at or below the SWSLs in order to determine if the landfill is impacting groundwater. The Section will re-evaluate the need for continued groundwater monitoring at the end of the five year period.

Please contact me at (919) 508-8516 or by e-mail at ervin.lane@ncdenr.gov if you have any questions or concerns regarding this letter. Thank you in advance for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink that reads "Ervin Lane". The signature is written in a cursive, flowing style.

Ervin Lane
Compliance Hydrogeologist
Solid Waste Section

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



January 18, 1996

Mr. Steve Carpenter, County Manager
County of Anson
Courthouse, Room 30
Wadesboro, North Carolina 28170

RECEIVED JAN 22 1996

SUBJECT: Closure of the Anson County Landfill MSW Units
FACILITY PERMIT #: 04-01

Dear Mr. Carpenter:

The Solid Waste Section (the Section) has received and reviewed documentation submitted by Engineering & Environmental Science Company, thru your consultant, Hobbs, Upchurch & Associates, P.A. on your behalf regarding the subject facility. Based on this documentation, dated 23 September 1994, the Section has determined that the MSW unit at the subject facility has been closed in accordance with the applicable requirements. This determination may be rescinded should any of the documentation prove to be inaccurate.

The MSW unit at the subject facility is considered closed subject to the following post closure conditions. The owner and/or operator of the facility, Anson County, is responsible for compliance with these conditions. Condition #8 addresses continued water quality monitoring for the existing ground water monitoring system.

Please note, that this closure shall become effective upon written notification by the owner/operator that the facility shall be maintained in compliance with the post closure conditions specified in this letter. Rule .0510 also states that when a disposal unit is closed, the permit to operate that unit is terminated and any future disposal operations will require approval by the Section.

Page 2

County of Anson

Closure Letter

January 18, 1996

POST CLOSURE CONDITIONS

1. **MANAGEMENT OF LANDFILL GAS:** The owner and/or operator shall take the measures necessary to ensure that the closed site shall continue to meet the design standards for landfill gas found in Rule .0503(2)(a).
2. **MANAGEMENT OF SURFACE WATER:** The owner and/or operator shall take the measures necessary to ensure that the closed site shall meet the requirements of Rule .0503(2)(c). In addition, the landfill unit shall be maintained such that surface water runoff occurs in a controlled manner, and surface water shall not be impounded over waste.
3. **AIR QUALITY:** The owner/operator shall ensure that landfill units do not violate any applicable requirements developed under a State Implementation Plan approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.
4. **FINAL COVER SYSTEM:** The integrity and effectiveness of the final cover system and any permanent erosion control devices must be maintained. This could include making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events.
5. **PROPOSED USES:** The owner/operator shall submit a proposal for the Section's review and approval addressing post closure uses of the facility. Proposed post closure uses shall not violate any post closure conditions found in this letter. In particular, plans for post closure uses shall avoid possibilities for the entrapment of methane gas. Routine landfill gas monitoring within structures and at the facility boundary may not be sufficient to detect potentially dangerous situations.
6. **ONGOING SOLID WASTE MANAGEMENT ACTIVITIES:** Continuing solid waste management activities (e.g. yardwaste composting, scrap tire collection, solid waste transfer) shall not violate any post closure conditions found in this letter, and must meet any other applicable requirements.
7. **RECORDATION:** The owner/operator shall ensure that the recordation requirements for land disposal sites found in Rule .0204 are met.

Page 3
County of Anson
Closure Letter
January 18, 1996

8. WATER QUALITY MONITORING AND REPORTING REQUIREMENTS:

- a. Groundwater quality at this facility is subject to the "Classification and Water Quality Standards Applicable to the Groundwaters of North Carolina," 15A NCAC 2L. This includes, but is not limited to, the provisions for detection monitoring, assessment, and corrective action.
- b. The permittee shall sample the detection monitoring wells and surface water sampling location(s) at a minimum on a semi-annual basis.
- c. Water quality detection monitoring shall continue for a minimum of five years from the date of the Sections's receipt of the owner/operator's notification that the facility will be maintained in compliance with the post-closure conditions specified in this letter. After five years the Sections will determine if further monitoring is to be required.
- d. Sampling equipment and methods shall conform to specifications in Attachment 1, "North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities." The sampling parameters and methods shall be those found in Attachment 2, "Sampling and Analysis Requirements for Construction and Demolition Landfills and Closed Sanitary Landfills", or an alternate list of sampling parameters as approved by the Solid Waste Section.
- e. The permittee shall maintain a record of all monitoring events and analytical data. Reports of the sampling events and analytical data shall be submitted to the Section in a timely manner.
- f. Past ground water quality data for this facility indicates that Groundwater Quality Standards have been exceeded for some chemical constituents. Additional water quality assessment will be necessary in the future. Until such time Anson County will continue to monitor and sample ground water consistent with Conditions b, c, and d of this section.

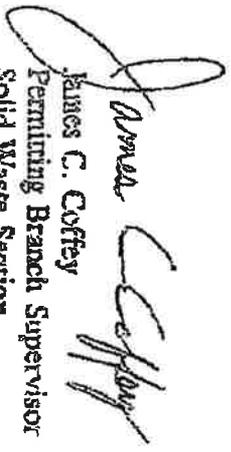
10/18/2008 14:00 FAX 910 082 1042

0

Page 4
County of Anson
Closure Letter
January 18, 1996

If there are questions regarding this closure letter please contact Jim Barber at (910) 486-1191 or the undersigned at (919) 733-0692.

Sincerely,


James C. Coffey
Permitting Branch Supervisor
Solid Waste Section

cc: Phil Prose
Terry Dover
Mark Fry
Dean Sutherberg; Hobbs, Upchurch & Associates
Cannon Files