Prepared for:

Coble's Sandrock, Inc.
5833 Foster Store Road
Liberty, North Carolina 27298

JEI Project No. 00419.0900.11, Task No. 34

SECOND SEMIANNUAL GROUNDWATER MONITORING REPORT OF 2009

COBLE'S SANDROCK CONSTRUCTION & DEMOLITION DEBRIS LANDFILL
ALAMANCE COUNTY, NORTH CAROLINA
PERMIT NO. 01-05

December 2009

Prepared by:

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

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

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

Instructions:

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

Solid Waste Monitoring Data Submittal Information

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

Joyce Engineering, Inc.

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

Name: Jeremey J. Kerly Phone: (336) 323-0092

E-mail: jkerly@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Coble's Sandrock, Inc. C&D Debris Landfill	5833 Foster Store Road Liberty, NC 27928	01-05	.0500	October 7-8, 2009

Environmental Status: (Check all that apply)

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

Type of data submitted: (Check all that apply)

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

Notification attached?

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

Certification

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

Jeremey J. Kerly | Project Consultant | (336) 323-0092

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

Signature | 12-8-09 Date

Affix NC Licensed Professional Geologist Seal

2211 West Meadowview Road, Suite 101 Greensboro, NC 27407

Facility Representative Address

C-0782

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

Revised 6/2009

Second Semiannual Groundwater Monitoring Report of 2009
Coble's Sandrock Construction & Demolition Debris Landfill
Alamance County, North Carolina

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1.0 INTRODUCTION

1.1 Site Information

The Coble's Sandrock Construction and Demolition (C&D) Debris Landfill is owned and operated by the Kent and Brenda Coble under Permit No. 01-05. The property consists of approximately 154 acres in Alamance County, one half mile east of Kimesville, North Carolina and approximately eight miles south of Burlington, North Carolina. The 154 acres includes the currently permitted 39.6 acres plus an adjacent expansion area of 114.4 acres. The current C & D facility has been in operation since 1998 on the currently permitted 39.6 acres previously approved for site suitability. It includes a total of 12.86 acres approved for waste disposal, including Phase 1 (7.0 acres), Phase 2A (1.1 acres), and Phase 2B (4.76 acres). The proposed 114.4 acre expansion property is contiguous with and south and east of the currently permitted facility, and includes two proposed new waste cells, Phase 3A (6.3 acres) and Phase 3B (5.6 acres).

The site is located in the Piedmont physiographic province on a group of knolls and valleys. The northeast-flowing Poppaw Creek is located along the northern facility property line. Two primary drainages (small, intermittent creeks) transect the site and flow into Poppaw Creek. One of the drainages flows west-southwest across the southern half of the site and has a 2- to 4-acre man-made pond at its upstream limit in the southeastern corner of the proposed site. The other drainage flows north-northwest, roughly parallel to the eastern site boundary, and is fed by outflow from a small pond located on the site property and by two smaller, spring-fed drainages which flow into it from off the site property to east. These streams and ponds are shown on Drawing No. 1. Adjoining land uses are primarily agricultural and residential. The regional topography is shown on an excerpt of the USGS 7.5 Minute Topographic Quadrangle for Kimesville, North Carolina included as Figure No. 1.

1.2 Site Geology

The site is located within the Carolina Slate Belt in the central Piedmont physiographic and geological province. The Carolina Slate Belt is made of metamorphosed sediments, volcanics, and intrusive igneous rocks and the site is underlain by a felsic intrusive complex. The complex is described as white to gray, fine- to coarse-grained, massive to foliated, metamorphosed bodies of assemblages of intimately associated felsic intrusive rock types. The rock types vary from granite, granodiorite, quartz diorite, to quartz monzonite. Narrow mafic dikes are common within the felsic intrusive units. This region is also characterized by regional- and small-scale Mesozoic diabase dikes. Most of the dikes are near-vertical and trend north-south to northwest-southeast and are characterized by plagioclase, augite and olivine minerals (Ragland, 1991).

The rock seen in float and/or large outcrops, as well as rock core from this site was predominantly medium-grained biotite-muscovite granite with foliation observed locally. Otherwise, site outcrops of granite are massive, with very little to no observed structure or foliation. No diabase dikes have been observed at the site, but numerous mafic (meta-volcanic) dikes do exist.

1.3 Regulatory Status

The Coble's Sandrock C&D Debris Landfill is currently in the detection monitoring program for C&D landfills under Section .0544 of the North Carolina Solid Waste Management Rules. The facility currently monitors for the eight RCRA metals and NC Appendix I list of volatile organic compounds. Once the Permit to Operate is issued for the Phase 3A and 3B expansion, the full list of NC Appendix I constituents will be sampled including mercury, chloride, manganese, sulfate, iron, alkalinity, and total dissolved solids.

2.0 FACILITY MONITORING PROGRAM

2.1 Groundwater Monitoring Program

Four active groundwater monitoring wells comprise the monitoring network at the Coble's Sandrock C&D Debris Landfill. The current compliance network consists of the following monitoring wells: MW-2, MW-4, MW-6 (facility background well), and MW-7. Monitoring wells MW-5, MW-8, MW-10S, and MW-10D are monitored for water levels only.

Monitoring Well	Date Installed	Classification	Monitoring Program	Total Depth from TOC (ft)	Lithology of Screened Interval
MW-1	3/25/97	Compliance	Abandoned	35.85	Saprolite/Part. Weathered Rock
MW-2	3/28/97	Compliance	Detection	22.98	Saprolite/Part. Weathered Rock
MW-3	3/31/97	Observation	Abandoned	59.82	Bedrock
MW-4	4/01/97	Compliance	Detection	24.22	Saprolite/Part. Weathered Rock
MW-5	1/18/02	Observation	Water Level	17.20	Saprolite/Part. Weathered Rock
MW-6	8/05/97	Background	Detection	41.00	Bedrock
MW-7	12/19/02	Compliance	Detection	16.00	Saprolite/Part. Weathered Rock
MW-8	3/21/05	Observation	Water Level	22.76	Saprolite/Part. Weathered Rock
MW-9	3/21/05	Observation	Abandoned	40.16	Partially Weathered Rock
MW-10S	3/22/05	Observation	Water Level	24.34	Bedrock
MW-10D	3/25/05	Observation	Water Level	66.86	Bedrock
PZ-19S	1/31/02	Observation	Water Level	13.00	Saprolite

Three monitoring wells (MW-1, MW-2, and MW-4) were installed during the Phase 1 site suitability study to characterize the uppermost aquifer. A letter dated September 18, 1998 from Trigon Engineering Consultants, Inc. to the Solid Waste Section stated that piezometer P-1 was converted to an upgradient monitoring well now known as MW-3. After April 2003, MW-3 was replaced with MW-6 (formerly P-3) as the upgradient background well. PZ-19S was installed originally as a piezometer for the new Phase 3 Expansion in January 2002 but has been since converted to a monitoring well for future compliance monitoring. Well MW-5 was added to the compliance network before the April 2002 sampling event, but was replaced with MW-7 before the November 2003 sampling event at the request of the Solid Waste Section. Four monitoring wells (MW-8, MW-9, MW-10S, and MW-10D) were installed in and around the Phase 3A waste cell limits between March 21 and 25, 2005. Monitoring wells MW-1, MW-3, and MW-9 were abandoned on September 30 and 31, 2008 for the Phase 3A and 3B expansion.

2.2 Surface Water Monitoring Program

Two surface water monitoring points comprise the surface water monitoring program for the Coble's Sandrock C&D Debris Landfill.

Surface Point	Classification	Monitoring Program
SW-1	Compliance	Detection
SW-2	Compliance	Detection

The two surface water monitoring points are monitored for RCRA metals and NC Appendix I list of volatile organics. Surface water point SW-1 monitors water quality in Poppaw Creek, shortly after it enters the site. The sample location is at the property line near the northwest edge of the site. Surface water monitoring point SW-2 serves as a downstream monitoring point. Samples from this point are collected at a location approximately 350 feet northeast of the proposed Phase 3 disposal area near the northeastern corner of the site and where a small tributary that flows adjacent to the eastern property boundary discharges into Poppaw Creek. Surface water monitoring point locations are shown on Drawing No. 1.

3.0 SECOND SEMIANNUAL SAMPLING EVENT OF 2009

3.1 Field Work and Visual Inspection

In order to detect potential releases of leachate and/or landfill gas migration in a timely manner, a visual inspection program has been implemented at the Coble's Sandrock C&D Debris Landfill. This inspection program involves field personnel making the following observations:

- Observation of stress induced on the biological community (i.e., dead or dying vegetation),
- Indications of leachate impact (i.e., seeps, impacted surface water),
- Observations of erosion; and
- Negative changes around the waste facility.

On October 7-8, 2009 personnel from JEI visited Coble's Sandrock C&D Debris Landfill to purge and sample monitoring wells MW-2, MW-4, MW-6, and MW-7. Surface monitoring points SW-1 and SW-2 were dry and were not sampled during the October 2009 event. Beginning with the background well (MW-6), depth-to-water measurement were obtained to the nearest 0.01 foot using an electronic water level indicator for all monitoring wells in the compliance network prior to purging.

Monitoring wells were purged and sampled using disposable bailers. Measurements of temperature, pH, specific conductivity, and turbidity were recorded in the site specific log book prior to purging, after each purge volume, and during sampling. Prior to sampling, laboratory-supplied containers were prepared with the following information:

- Monitoring well number (completed by field personnel),
- Date and time of sample collection (completed by field personnel),

- Initials of sampling personnel (completed by field personnel),
- Project name and number (completed by the laboratory),
- Chemical preservative (completed by the laboratory); and
- Requested chemical analysis (completed by the laboratory).

Groundwater samples from each monitoring well were collected directly from the disposable bailers in the provided laboratory containers either immediately after purging or within 24 hours of the final purge volume. Immediately after collection, the samples were placed on ice in a laboratory provided cooler. Field forms are provided in the Appendix.

3.2 Laboratory Analysis and JEI Quality Control

The October 2009 groundwater samples were submitted to Pace Analytical Services, Inc. of Huntersville, North Carolina under chain-of-custody control for analysis. As presented earlier, the groundwater samples were analyzed for the eight RCRA metals and NC Appendix I list of volatile organic compounds. JEI requested a Level II data report for the final laboratory report. The samples were received by the laboratory on October 9, 2009 in good condition, properly preserved, and within analysis hold times.

In addition to samples collected for compliance monitoring at the Coble's Sandrock C&D Debris Landfill, a Field Blank was collected by JEI personnel as part of the October 2009 sampling event. Also, a Trip Blank was prepared by the laboratory to accompany the volatile sampling containers to and from the laboratory. The Field Blank was analyzed for the eight RCRA metals and NC Appendix I list of volatile organic compounds while the Trip Blank was analyzed for NC Appendix I volatile organic compounds only.

Upon receipt of the laboratory data package, the data is reviewed by JEI personnel for the following:

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

No questions or problems were discovered based on the review to warrant laboratory notification.

4.0 HYDROGEOLOGICAL CONDITIONS

The surficial aquifer beneath the site occurs within saprolite, partially weathered rock (PWR), and bedrock. Generally, the saprolite and PWR units are relatively thin (5 to 40 feet) at and around the waste disposal areas. The saprolite and PWR are expected to behave as a relatively isotropic, porous medium, whereas groundwater flow in the bedrock is primarily through

fractures; however, the bedrock is highly fractured and well connected to the overlying units so they are expected to behave as a single aquifer. The groundwater potentiometric surface, based on water level measurements taken on October 7-8, 2009, is shown on Drawing No. 1.

Horizontal hydraulic gradients for the site were calculated using three groundwater flow line segments indicated on the groundwater surface contour map (Drawing No. 1). Average linear groundwater flow velocities were calculated using the modified Darcy equation:

$$\mathbf{V = Ki/n}$$

where **V** = average linear velocity (feet per day), **K** = hydraulic conductivity (ft/day), **i** = horizontal hydraulic gradient, and **n** = effective porosity. An effective porosity of **n** = 0.21 (21%) was assumed based on average effective porosities for saprolite and PWR determined by laboratory analysis of soil samples. The average gradients (**i**) were determined for each flow path shown on Drawing No. 1. The geometric mean of the hydraulic conductivities of all slug test conducted on the site (**K** = 1.97×10^{-1} ft/day) was used for groundwater flow calculations for the site.

The above equation makes the simplifying assumptions of a homogeneous, isotropic aquifer in a porous medium. Groundwater flow velocities were calculated using saprolite and PWR data because the site's uppermost aquifer is primarily in those hydrogeologic units. An average linear groundwater flow velocity was calculated across areas where bedrock is the surficial aquifer because rock cores have shown that bedrock is highly fractured to the point that groundwater flow is expected to behave relatively similar to the unconsolidated hydrogeologic units. Also, aquifer tests conducted on bedrock wells and piezometers showed similar range of values for hydraulic conductivity. Groundwater flow velocities within the fractured bedrock aquifer are likely to be variable.

Data and calculations for the horizontal gradients are presented in Table 2. The calculated horizontal gradients from three flow line segments across the site range from 0.022 to 0.057 ft/ft. Calculated linear groundwater velocities ranged from approximately 0.020 to 0.053 ft/day.

5.0 DATA ANALYSIS

Results from the October 7-8, 2009 sampling event were received October 22, 2009 from Pace Analytical Services, Inc. and are found in the Appendix. There were no exceedences of NC 2L Groundwater Standards (NC 2L) or Groundwater Protection Standards (GWPS) in compliance monitoring wells. No resampling was required for the October 2009 sampling event.

5.1 Analytical Results for Groundwater and Comparisons to Standards

The following inorganic and organic constituents were detected in groundwater during the October 2009 sampling event. All concentrations are reported in micrograms per liter (µg/L). Concentrations with a "J" are considered to be estimated. Concentrations with a "B" are considered attributed to lab or field contamination.

Constituent	NC 2L/ GWPS	Background	Downgradient			Blanks
		MW-6	MW-2	MW-4	MW-7	
Arsenic	50	ND	2.9J	ND	11.0	ND
Barium	2,000	39.7 B	77.9 B	106	259	18.5 J
Chromium	50	0.41 J	16.5	0.71 J	10.5	ND
Lead	15	ND	ND	ND	6.9 J	ND
Mercury	1.05	ND	ND	ND	0.25	ND
Selenium	50	ND	ND	ND	7.0 J	ND
Silver	17.5	0.25 J	0.51 J	1.3 J	2.4 J	ND
Benzene	1	ND	ND	0.46 J	ND	ND
Cis-1,2-Dichloroethylene	70	ND	ND	ND	0.26	ND
4-Methyl-2-pentanone	560	ND	ND	0.46 J	ND	ND
Xylenes (Total)	530	ND	ND	0.74 B	ND	0.76 J

*ND = Not detected above laboratory detection limits.

In general, the inorganic and organic results are consistent with historical data. Historical groundwater data can be found in Table 3. No inorganic or organic constituents were detected above the NC 2L or GWPS.

5.2 Analytical Results for Surface Water and Comparisons to Standards

No surface water samples were collected during the October 2009 sampling event due to both monitoring points being dry.

Constituent	NC 2B/EPA NC	SW-1	SW-2	Blanks
-	-	Dry	Dry	-

Historical surface water data can be found in Table 4.

6.0 CONCLUSION

There were no inorganic or organic constituents detected above the NC 2L or GWPS during the October 2009 sampling event at the Coble's Sandrock C&D Debris Landfill. Based on analytical results from the October 2009 sampling event, Coble's Sandrock C&D Debris Landfill will remain in the Detection Monitoring Program for C&D landfills. The next scheduled semiannual sampling event is scheduled for April 2010.

7.0 REFERENCES

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United States Geological Survey. Kimesville 7.5 minute Quadrangle.

Tables

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TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS

Location	Background	Downgradient										
	MW-6	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-8	MW-9	MW-10S	MW-10D	PZ-19S
TOC Elevation	652.56	602.46	582.31	613.05	582.64	577.41	583.33	574.26	589.09	592.46	592.76	572.18
Well Depth	41.00	35.85	22.98	59.82	24.22	17.20	16.00	22.76	40.16	24.34	66.86	13.00
Apr-00	NA	569.59	569.81	579.91	569.07	NI	NI	NI	NI	NI	NI	NI
Aug-00	627.42	568.21	566.97	578.23	568.08	NI	NI	NI	NI	NI	NI	NI
Oct-00	NA	569.30	568.55	578.25	568.81	NI	NI	NI	NI	NI	NI	NI
Nov-00	627.30	568.09	566.87	577.47	567.04	NI	NI	NI	NI	NI	NI	NI
Apr-01	627.17	571.48	569.72	578.67	569.06	NI	NI	NI	NI	NI	NI	NI
Dec-01	621.78	567.28	565.31	575.90	566.21	NI	NI	NI	NI	NI	NI	NI
Apr-02	623.94	568.17	567.84	576.09	568.21	569.32	NI	NI	NI	NI	NI	NI
Nov-02	626.32	570.60	570.36	578.47	569.74	570.45	NI	NI	NI	NI	NI	NI
Apr-03	633.40	571.66	569.18	579.70	568.84	570.32	574.38	NI	NI	NI	NI	567.41
Nov-03	632.53	568.49	567.38	578.54	567.47	569.59	572.44	NI	NI	NI	NI	566.78
Apr-04	630.13	568.54	568.44	578.92	567.83	569.86	573.63	NI	NI	NI	NI	567.04
Oct-04	628.60	567.86	567.92	577.61	567.91	570.30	573.30	NI	NI	NI	NI	567.15
Apr-05	630.65	568.90	568.69	578.54	568.16	570.76	574.54	NS	NS	NS	NS	567.19
Oct-05	625.65	567.16	565.52	576.33	566.43	569.12	571.24	NS	NS	NS	NS	565.66
27-Apr-06	624.46	567.84	569.36	NS	569.34	NS	572.77	NS	NS	NS	NS	568.10
11-Oct-06	624.45	567.91	567.22	577.59	568.29	570.11	571.77	567.03	567.92	583.95	583.62	NS
16-Apr-07	629.42	570.33	570.04	NS	569.38	571.49	574.94	569.10	569.76	584.80	585.37	NS
11-Oct-07	624.91	566.74	563.35	NS	564.43	NS	570.18	NS	NS	580.07	580.28	NS
15-Apr-08	625.12	569.67	569.41	NS	568.87	569.99	574.03	568.85	569.57	584.34	584.73	NS
15-Oct-08	625.86	AB	568.11	AB	569.00	570.33	573.64	564.91	AB	NS	NS	NS
18-Mar-09	NS	AB	NS	AB	NS	NS	NS	569.89	AB	585.42	NS	567.97
21-Apr-09	629.77	AB	569.89	AB	569.21	NS	575.52	569.14	AB	585.07	NS	567.90
21-May-09	NS	AB	NS	AB	NS	NS	NS	567.96	AB	584.17	NS	567.28
08-Oct-09	626.40	AB	564.24	AB	565.47	NS	571.25	565.47	AB	582.81	NS	564.00

Notes:

1. Water levels are measured from top of casing (TOC).
2. NS = Not sampled and/or water levels not measured.
3. AB = Monitoring well has been abandoned.
4. NI = Monitoring well has not been installed.
5. NA = Data not available.

TABLE 2

SUMMARY OF HORIZONTAL HYDRAULIC GRADIENTS AND LINEAR VELOCITIES

GRADIENT CALCULATION SEGMENT	FLOW LINE LENGTH (feet)	FLOW DIRECTION	GROUNDWATER ELEVATION (feet)	HORIZONTAL GRADIENT i (ft/ft)	HYDRAULIC CONDUCTIVITY K (ft/day)	EFFECTIVE POROSITY n	LINEAR VELOCITY V (ft/day)
i_1	1377	NW	630 600	0.022	1.97E-01	0.21	0.020
i_2	512	N	590 570	0.039	1.97E-01	0.21	0.037
i_3	353	W	590 570	0.057	1.97E-01	0.21	0.053
			Average:	0.039		Average:	0.037

NOTES:

1. The hydraulic conductivity (**K**) is taken from the geometric mean of **K** estimated from slug tests performed during hydrogeologic investigations.
2. The effective porosity (**n**) is taken from the average **n** determined by laboratory analysis of soil samples.
3. The horizontal hydraulic gradient (**i**) is the change in groundwater elevation divided by the segment length.
4. The groundwater flow velocity (**V**) is calculated based on the modified Darcy equation: **V=Ki/n**.

TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Date	DL	RL	Concentration (µg/L) Background		Downgradient						Blanks	
				MW-6		MW-1		MW-2		MW-3		MW-4		MW-5	MW-7		
Arsenic	Apr-00	8	10	NA		ND		ND		10	J	ND		NI	NI	ND	
	Nov-00	NR	10	WL		ND		ND		ND		ND		NI	NI	ND	
	Apr-01	NR	10	WI		ND		ND		ND		ND		NI	NI	ND	
	Dec-01	NR	10	WL		ND		ND		ND		ND		NI	NI	ND	
	Apr-02	NR	10	WL		ND		ND		ND		ND		ND	NI	ND	
	Nov-02	NR	10	WL		ND		ND		ND		ND		ND	NI	ND	
	Apr-03	NR	10	WL		ND		ND		ND		ND		ND	WL	ND	
	Nov-03	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-04	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-04	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-05	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-05	NR	10	ND		NS		ND		WL		ND		WL	ND	ND	
	28-Apr-06	NR	10	ND		ND		ND		NS		ND		NS	ND	ND	
	11-Oct-06	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	19-Apr-07	2.0	10	ND		ND		ND		NS		2.0	B	WL	ND	2.1	J
	11-Oct-07	3.0	10	ND		NS		ND		NS		ND		NS	ND	ND	
NC 2L = 50 µg/L (10/23/07)	15-Apr-08	2.7	10.0	ND		ND		ND		NS		ND		WL	ND	ND	
	15-Oct-08	2.7	10.0	ND		AB		ND		AB		ND		WL	ND	ND	
	22-Apr-09	2.7	10.0	ND		AB		ND		AB		ND		NS	11.4	ND	
	08-Oct-09	2.7	10.0	ND		AB		2.9	J	AB		ND		NS	11.0	ND	
Barium	Apr-00	2	8	NA		240		180		340		ND		NI	NI	ND	
	Nov-00	NR	500	WL		ND		ND		ND		ND		NI	NI	ND	
	Apr-01	NR	500	WL		ND		ND		ND		ND		NI	NI	ND	
	Dec-01	NR	500	WL		ND		ND		ND		ND		NI	NI	ND	
	Apr-02	NR	500	WL		ND		ND		ND		ND		ND	NI	ND	
	Nov-02	NR	500	WL		ND		ND		ND		ND		ND	NI	ND	
	Apr-03	NR	500	WL		ND		ND		ND		ND		ND	WL	ND	
	Nov-03	NR	500	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-04	NR	500	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-04	NR	500	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-05	NR	500	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-05	NR	500	ND		NS		ND		WL		ND		WL	ND	ND	
	28-Apr-06	NR	500	ND		ND		ND		NS		ND		NS	ND	ND	
	11-Oct-06	NR	500	ND		ND		ND		WL		ND		WL	ND	ND	
	19-Apr-07	0.20	100	58.8	J	19.4	J	66.0	J	NS		24.9	J	WL	140	0.30	J
	11-Oct-07	2.0	100	38.2	B	NS		478		NS		45.8	B	NS	241	35.8	J
NC 2L = 2,000 µg/L (10/23/07)	15-Apr-08	0.20	100	37.8	J	19.9	J	44.0	J	NS		31.3	J	WL	156	ND	
	15-Oct-08	0.20	100	41.3	J	AB		73.8	J	AB		19.9	J	WL	175	ND	
	22-Apr-09	0.20	100	46.4	B	AB		48.3	B	AB		19.8	B	NS	300	13.4	J
	08-Oct-09	0.20	100	39.7	B	AB		77.9	B	AB		106		NS	259	18.5	J
Cadmium	Apr-00	1	4	NA		2	J	2	J	4		ND		NI	NI	ND	
	Nov-00	NR	1	WL		2		ND		ND		ND		NI	NI	ND	
	Apr-01	NR	1	WL		ND		ND		ND		ND		NI	NI	ND	
	Dec-01	NR	1	WL		3.5		1.0		ND		ND		NI	NI	ND	
	Apr-02	NR	1	WL		ND		ND		ND		ND		ND	NI	ND	
	Nov-02	NR	1	WL		1.3		ND		ND		1.2		1.0	NI	ND	
	Apr-03	NR	1	WL		2.0		1.4		1.9		1.7		2.6	WL	ND	
	Nov-03	NR	1	ND		3.2		1.1		WL		1.4		WL	ND	ND	
	Apr-04	NR	1	1.8		ND		1.7		WL		ND		WL	ND	ND	
	Oct-04	NR	1	1		ND		ND		WL		ND		WL	ND	ND	
	Apr-05	NR	1	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-05	NR	1	ND		NS		ND		WL		ND		WL	ND	ND	
	28-Apr-06	NR	1	ND		ND		ND		NS		ND		NS	ND	ND	
	11-Oct-06	NR	1.00	ND		ND		ND		WL		ND		WL	ND	ND	
	19-Apr-07	0.50	1	ND		ND		ND		NS		ND		WL	ND	ND	
	11-Oct-07	0.1	1	ND		NS		0.4	J	NS		ND		NS	ND	ND	
NC 2L = 1.75 µg/L (10/23/07)	15-Apr-08	0.50	1.0	ND		ND		ND		NS		ND		WL	ND	ND	
	15-Oct-08	0.50	1.0	ND		AB		ND		AB		ND		WL	ND	ND	
	22-Apr-09	0.50	1.0	ND		AB		ND		AB		ND		NS	ND	ND	
	08-Oct-09	0.50	1.0	ND		AB		ND		AB		ND		NS	ND	ND	
Chromium	Apr-00	3	12	NA		36		30		76		10	J	NI	NI	ND	
	Nov-00	NR	10	WL		15		ND		ND		ND		NI	NI	ND	
	Apr-01	NR	10	WL		ND		ND		ND		ND		NI	NI	ND	
	Dec-01	NR	10	WL		31		10		ND		ND		NI	NI	ND	
	Apr-02	NR	10	WL		ND		ND		ND		ND		ND	NI	45	
	Nov-02	NR	10	WL		ND		ND		ND		ND		ND	NI	ND	
	Apr-03	NR	10	WL		ND		ND		ND		ND		ND	WL	ND	
	Nov-03	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-04	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-04	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Apr-05	NR	10	ND		ND		ND		WL		ND		WL	ND	ND	
	Oct-05	NR	10	ND		NS		14		WL		ND		WL	ND	ND	
	28-Apr-06	NR	10	ND		ND		ND		NS		ND		NS	ND	ND	
	11-Oct-06	NR	10.0	ND		ND		ND		WL		ND		WL	ND	ND	
	19-Apr-07	2.0	10	ND		ND		10.9		NS		3.8	J	WL	ND	ND	
	11-Oct-07	1.0	10	1.7	J	NS		121		NS		5.8	J	NS	12.7	ND	
Resample	28-Dec-07	1.0	10	NS		NS		15.7		NS		NS		NS	NS	ND	
NC 2L = 50 µg/L (10/23/07)	15-Apr-08	0.40	10.0	1.5	B	2.1	B	11.1		NS		7.7	J	WL	0.47	B	0.61	J
	15-Oct-08	0.40	10.0	1.6	J	AB		15.3		AB		1.3	J	WL	1.8	J	ND	
	22-Apr-09	0.40	10.0	0.53	J	AB		10.3		AB		2.6	J	NS	1.6	J	ND	
	08-Oct-09	0.40	10.0	0.41	J	AB		16.5		AB		0.71	J	NS	10.5		ND	

TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Date	Concentration (µg/L)																	
		DL	RL	Background		Downgradient												Blanks	
				MW-6		MW-1		MW-2		MW-3		MW-4		MW-5		MW-7			
Lead	Apr-00	3	12	NA		5	J	5	J	19		ND		NI		NI		ND	
	Nov-00	NR	10	WL		ND		ND		ND		ND		NI		NI		ND	
	Apr-01	NR	10	WL		ND		ND		ND		ND		NI		NI		ND	
	Dec-01	NR	10	WL		11		ND		ND		ND		NI		NI		ND	
	Apr-02	NR	10	WL		ND		ND		ND		ND		ND		NI		ND	
	Nov-02	NR	10	WL		ND		ND		ND		ND		ND		NI		ND	
	Apr-03	NR	10	WL		ND		ND		ND		ND		ND		WL		ND	
	Nov-03	NR	10	ND		ND		ND		WL		ND		WL		ND		ND	
	Apr-04	NR	10	ND		ND		ND		WL		ND		WL		ND		ND	
	Oct-04	NR	10	ND		ND		ND		WL		ND		WL		ND		ND	
	Apr-05	NR	10	ND		ND		ND		WL		ND		WL		ND		ND	
	Oct-05	NR	10	ND		NS		ND		WL		ND		WL		ND		ND	
	28-Apr-06	NR	10	ND		ND		ND		NS		ND		NS		ND		ND	
	11-Oct-06	NR	10.0	ND		ND		ND		WL		ND		WL		ND		ND	
	19-Apr-07	2.0	10	ND		ND		ND		NS		ND		WL		ND		ND	
	11-Oct-07	6.0	10	ND		NS		ND		NS		ND		NS		ND		ND	
NC 2L = 15 µg/L (10/23/07)	15-Apr-08	4.0	10.0	ND		ND		ND		NS		ND		WL		ND		ND	
	15-Oct-08	4.0	10.0	ND		AB		ND		AB		ND		WL		ND		ND	
	22-Apr-09	4.0	10.0	ND		AB		ND		AB		ND		NS		ND		ND	
	08-Oct-09	4.0	10.0	ND		AB		ND		AB		ND		NS		6.9	J	ND	
Mercury	22-Apr-09	0.070	0.20	ND		AB		ND		AB		ND		NS		0.12	J	ND	
NC 2L = 1.05 µg/L (10/23/07)	08-Oct-09	0.070	0.20	ND		AB		ND		AB		ND		NS		0.25		ND	
Selenium	Apr-00	4	16	NA		ND		ND		13	J	ND		NI		NI		ND	
	Nov-00	NR	20	WL		ND		ND		ND		ND		NI		NI		ND	
	Apr-01	NR	20	WL		ND		ND		ND		ND		NI		NI		ND	
	Dec-01	NR	20	WL		ND		ND		ND		ND		NI		NI		ND	
	Apr-02	NR	20	WL		ND		ND		ND		ND		ND		NI		ND	
	Nov-02	NR	20	WL		ND		ND		ND		ND		ND		NI		ND	
	Apr-03	NR	20	WL		ND		ND		ND		ND		ND		WL		ND	
	Nov-03	NR	20	ND		ND		ND		WL		ND		WL		ND		ND	
	Apr-04	NR	20	ND		ND		ND		WL		ND		WL		ND		ND	
	Oct-04	NR	20	ND		ND		ND		WL		ND		WL		ND		ND	
	Apr-05	NR	20	ND		ND		ND		WL		ND		WL		ND		ND	
	Oct-05	NR	20	ND		NS		ND		WL		ND		WL		ND		ND	
	28-Apr-06	NR	20	ND		ND		ND		NS		ND		NS		ND		ND	
	11-Oct-06	NR	20.0	ND		ND		ND		WL		ND		WL		ND		ND	
	19-Apr-07	2.0	10	2.3	B	ND		ND		NS		ND		WL		ND		3.5	J
	11-Oct-07	2.0	10	ND		NS		ND		NS		ND		NS		ND		ND	
NC 2L = 50 µg/L (10/23/07)	15-Apr-08	3.8	10.0	ND		ND		ND		NS		ND		WL		5.1	J	ND	
	15-Oct-08	3.8	10.0	ND		AB		4.4	B	AB		ND		WL		ND		5.6	J
	22-Apr-09	3.8	10.0	ND		AB		ND		AB		ND		NS		5.1	J	ND	
	08-Oct-09	3.8	10.0	ND		AB		ND		AB		ND		NS		7.0	J	ND	
Silver	15-Apr-08	0.10	10.0	ND		ND		ND		NS		0.32	J	WL		ND		ND	
NC 2L = 17.5 µg/L (10/23/07)	15-Oct-08	0.10	10.0	0.27	J	AB		0.21	J	AB		ND		WL		2.8	J	ND	
	22-Apr-09	0.10	10.0	0.18	B	AB		0.29	B	AB		0.21	B	NS		2.9	J	0.14	J
	08-Oct-09	0.10	10.0	0.25	J	AB		0.51	J	AB		1.3	J	NS		2.4	J	ND	
Benzene	08-Oct-09	0.25	1.0	ND		AB		ND		AB		0.46	J	NS		ND		ND	
NC 2L = 1 µg/L (10/23/07)																			
Cis-1,2-Dichloroethylene	11-Oct-07	0.2	5	ND		AB		ND		NS		ND		NS		0.4	J	ND	
NC 2L = 70 µg/L (10/23/07)	15-Apr-08	0.19	5.0	ND		ND		ND		NS		ND		WL		ND		ND	
	15-Oct-08	0.19	5.0	ND		AB		ND		AB		ND		WL		ND		ND	
	22-Apr-09	0.19	5.0	ND		AB		ND		AB		ND		NS		ND		ND	
	08-Oct-09	0.19	5.0	ND		AB		ND		AB		ND		NS		0.26	J	ND	
4-Methyl-2-pentanone(MIBK)	08-Oct-09	0.33	100.0	ND		AB		ND		AB		0.46	J	NS		ND		ND	
GWPS = 560 µg/L (10/23/07)																			
Xylene(Total)	08-Oct-09	0.66	2.0	ND		AB		ND		AB		0.74	B	NS		ND		0.76	J
NC 2L = 530 µg/L (10/23/07)																			

Notes:

1. All concentrations are in micrograms per liter (ug/L).
2. MW = Groundwater monitoring well.
3. RL = Laboratory reporting limit (NC SWSL {or lower} beginning in April 2007 to present).
4. DL = Laboratory detection limit.
6. ND = Not detected above laboratory reporting limit November 2000 to October 2006, not detected above laboratory detection limit April 2000 and April 2007 to present.
7. J = Estimated value between the DL and the RL April 2000 and the DL and NC SWSL (or lower) from April 2007 to present.
8. B = Blank qualified data.
9. NC 2L Standard = North Carolina's groundwater quality standard established under 15A NCAC 2L, .0202. (specific concentration established by date).
10. GWPS = Groundwater Protection Standards (specific concentration established by date).
11. Shaded values are above the NC 2L or GWP Standards.
12. AB = Monitoring well has been abandoned.
13. NS = Not sampled and/or water levels not measured.
14. NR = Not reported. Detections limits not required prior to April 2007 sampling event.
15. WL = Water levels only.
16. NA = Not available.
17. NC SWSL = North Carolina Solid Waste Section limits.

TABLE 4

SUMMARY OF HISTORICAL SURFACE WATER CONSTITUENTS

Constituent	Date	Concentration (µg/L)							
		DL	RL	SW-1		SW-2		Blanks	
Arsenic	Apr-00	8	10	ND		ND		ND	
	Nov-00	NR	10	ND		ND		ND	
	Apr-01	NR	10	ND		ND		ND	
	Dec-01	NR	10	ND		ND		ND	
	Apr-02	NR	10	ND		ND		ND	
	Nov-02	NR	10	ND		ND		ND	
	Apr-03	NR	10	ND		ND		ND	
	Nov-03	NR	10	ND		ND		ND	
	Apr-04	NR	10	ND		ND		ND	
	Oct-04	NR	10	ND		ND		ND	
	Apr-05	NR	10	ND		ND		ND	
	Oct-05	NR	10	ND		Dry		ND	
	28-Apr-06	NR	10	ND		ND		ND	
	11-Oct-06	NR	10	ND		ND		ND	
	19-Apr-07	2.0	10	ND		2.6	B	2.1	J
	11-Oct-07	3.0	10	Dry		Dry		ND	
NC2B/EPA NC = 50 µg/L (03/28/08)	15-Apr-08	2.7	10.0	ND		ND		ND	
	15-Oct-08	2.7	10.0	ND		4.4	J	ND	
	22-Apr-09	2.7	10.0	ND		ND		ND	
	08-Oct-09	2.7	10.0	Dry		Dry		ND	
Barium	Apr-00	2	8	ND		ND		ND	
	Nov-00	NR	500	ND		ND		ND	
	Apr-01	NR	500	ND		ND		ND	
	Dec-01	NR	500	ND		ND		ND	
	Apr-02	NR	500	ND		ND		ND	
	Nov-02	NR	500	ND		ND		ND	
	Apr-03	NR	500	ND		ND		ND	
	Nov-03	NR	500	ND		ND		ND	
	Apr-04	NR	500	ND		ND		ND	
	Oct-04	NR	500	ND		ND		ND	
	Apr-05	NR	500	ND		ND		ND	
	Oct-05	NR	500	ND		Dry		ND	
	28-Apr-06	NR	500	ND		ND		ND	
	11-Oct-06	NR	500	ND		ND		ND	
	19-Apr-07	0.20	100	28.1	J	40.7	J	0.30	J
	11-Oct-07	2.0	100	Dry		Dry		35.8	J
NC2B/EPA NC = NE µg/L (03/28/08)	15-Apr-08	0.20	100	19.9	J	20.0	J	ND	
	15-Oct-08	0.20	100	32.5	J	41.2	J	ND	
	22-Apr-09	0.20	100	24.5	B	24.9	B	13.4	J
	08-Oct-09	0.20	100	Dry		Dry		18.5	J
Cadmium	Apr-00	1	4	ND		ND		ND	
	Nov-00	NR	1	ND		ND		ND	
	Apr-01	NR	1	ND		ND		ND	
	Dec-01	NR	1	1.4		ND		ND	
	Apr-02	NR	1	ND		ND		ND	
	Nov-02	NR	1	ND		ND		ND	
	Apr-03	NR	1	1.2		1.2		ND	
	Nov-03	NR	1	ND		ND		ND	
	Apr-04	NR	1	ND		ND		ND	
	Oct-04	NR	1	ND		ND		ND	
	Apr-05	NR	1	ND		ND		ND	
	Oct-05	NR	1	ND		Dry		ND	
	28-Apr-06	NR	1	ND		ND		ND	
	11-Oct-06	NR	1.00	ND		ND		ND	
	19-Apr-07	0.50	1	ND		ND		ND	
	11-Oct-07	0.1	1	Dry		Dry		ND	
NC2B/EPA NC = 2 µg/L (03/28/08)	15-Apr-08	0.50	1.0	ND		ND		ND	
	15-Oct-08	0.50	1.0	ND		ND		ND	
	22-Apr-09	0.50	1.0	ND		ND		ND	
	08-Oct-09	0.50	1.0	Dry		Dry		ND	

TABLE 4

SUMMARY OF HISTORICAL SURFACE WATER CONSTITUENTS

Constituent	Date	Concentration (µg/L)						
		DL	RL	SW-1	SW-2		Blanks	
Chromium	Apr-00	3	12	ND	ND		ND	
	Nov-00	NR	10	ND	ND		ND	
	Apr-01	NR	10	ND	ND		ND	
	Dec-01	NR	10	ND	ND		ND	
	Apr-02	NR	10	ND	310		45	
	Nov-02	NR	10	ND	ND		ND	
	Apr-03	NR	10	ND	ND		ND	
	Nov-03	NR	10	ND	ND		ND	
	Apr-04	NR	10	ND	ND		ND	
	Oct-04	NR	10	ND	ND		ND	
	Apr-05	NR	10	ND	ND		ND	
	Oct-05	NR	10	ND	Dry		ND	
	28-Apr-06	NR	10	ND	ND		ND	
	11-Oct-06	NR	10.0	ND	ND		ND	
	19-Apr-07	2.0	10	ND	ND		ND	
	11-Oct-07	1.0	10	Dry	Dry		ND	
NC2B/EPA NC = 50 µg/L (03/28/08)	15-Apr-08	0.40	10.0	ND	0.93	B	0.61	J
	15-Oct-08	0.40	10.0	ND	ND		ND	
	22-Apr-09	0.40	10.0	ND	ND		ND	
	08-Oct-09	0.40	10.0	Dry	Dry		ND	
Lead	Apr-00	3	12	ND	ND		ND	
	Nov-00	NR	10	ND	ND		ND	
	Apr-01	NR	10	ND	ND		ND	
	Dec-01	NR	10	ND	ND		ND	
	Apr-02	NR	10	ND	ND		ND	
	Nov-02	NR	10	ND	ND		ND	
	Apr-03	NR	10	ND	ND		ND	
	Nov-03	NR	10	ND	ND		ND	
	Apr-04	NR	10	ND	ND		ND	
	Oct-04	NR	10	ND	ND		ND	
	Apr-05	NR	10	ND	ND		ND	
	Oct-05	NR	10	ND	Dry		ND	
	28-Apr-06	NR	10	ND	ND		ND	
	11-Oct-06	NR	10.0	ND	ND		ND	
	19-Apr-07	2.0	10	ND	ND		ND	
	11-Oct-07	6.0	10	Dry	Dry		ND	
NC2B/EPA NC = 25 µg/L (03/28/08)	15-Apr-08	4.0	10.0	ND	ND		ND	
	15-Oct-08	4.0	10.0	ND	ND		ND	
	22-Apr-09	4.0	10.0	ND	ND		ND	
	08-Oct-09	4.0	10.0	Dry	Dry		ND	
Selenium	Apr-00	4	16	ND	ND		ND	
	Nov-00	NR	20	ND	ND		ND	
	Apr-01	NR	20	ND	ND		ND	
	Dec-01	NR	20	ND	ND		ND	
	Apr-02	NR	20	ND	ND		ND	
	Nov-02	NR	20	ND	ND		ND	
	Apr-03	NR	20	ND	ND		ND	
	Nov-03	NR	20	ND	ND		ND	
	Apr-04	NR	20	ND	ND		ND	
	Oct-04	NR	20	ND	ND		ND	
	Apr-05	NR	20	ND	ND		ND	
	Oct-05	NR	20	ND	Dry		ND	
	28-Apr-06	NR	20	ND	ND		ND	
	11-Oct-06	NR	20.0	ND	ND		ND	
	19-Apr-07	2.0	10	ND	ND		3.5	J
	11-Oct-07	2.0	10	Dry	Dry		ND	
NC2B/EPA NC = 5 µg/L (03/28/08)	15-Apr-08	3.8	10.0	ND	ND		ND	
	15-Oct-08	3.8	10.0	ND	8.5	B	5.6	J
	22-Apr-09	3.8	10.0	ND	ND		ND	
	08-Oct-09	3.8	10.0	Dry	Dry		ND	

TABLE 4

SUMMARY OF HISTORICAL SURFACE WATER CONSTITUENTS

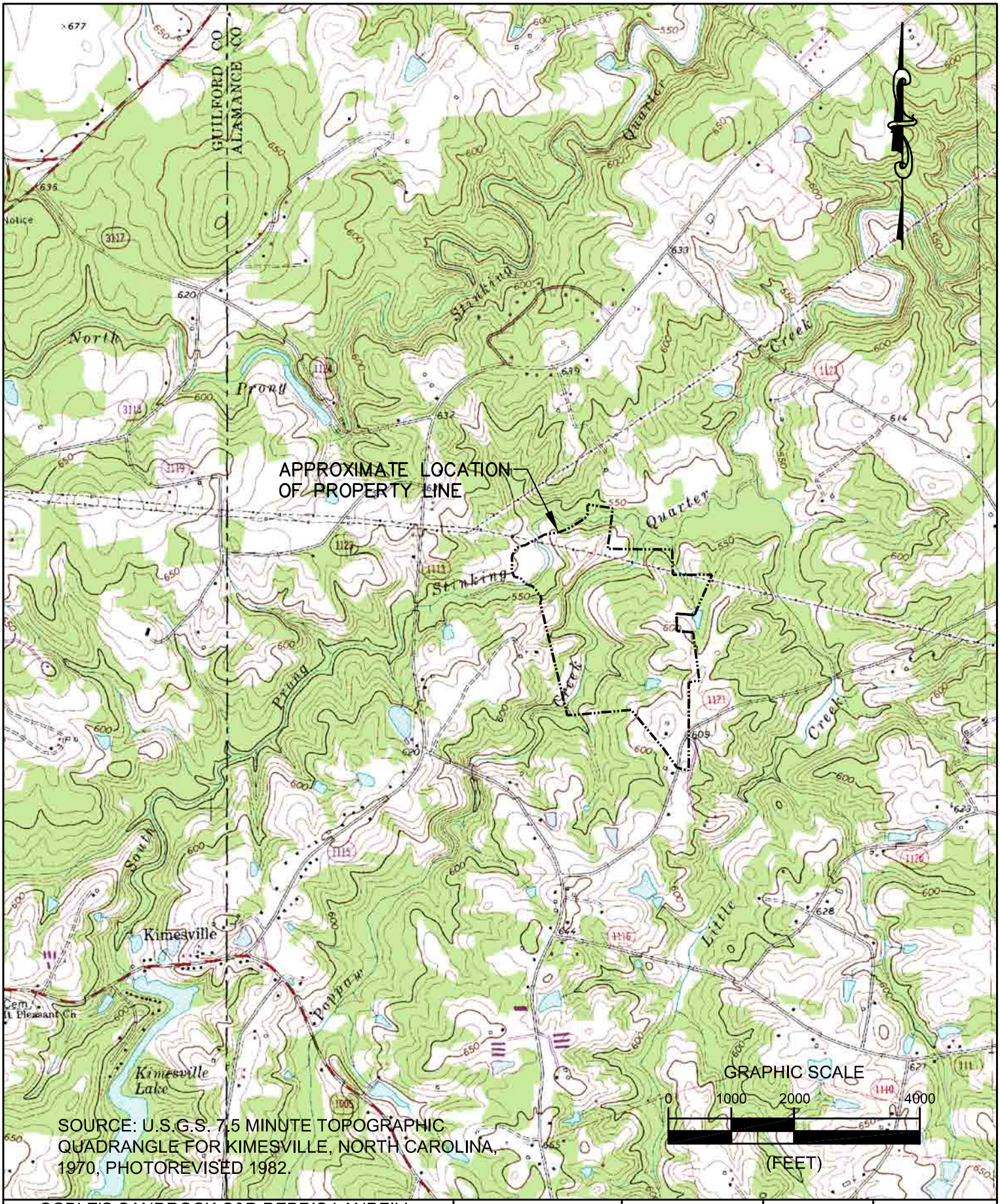
Constituent	Date	Concentration (µg/L)							
		DL	RL	SW-1		SW-2		Blanks	
Silver	15-Apr-08	0.10	10.0	ND		ND		ND	
NC2B/EPA NC = 0.06 µg/L (03/28/08)	15-Oct-08	0.10	10.0	0.13	J	0.11	J	ND	
	22-Apr-09	0.10	10.0	0.16	B	0.30	B	0.14	J
	08-Oct-09	0.10	10.0	Dry		Dry		ND	

Notes:

1. All concentrations are in micrograms per liter (mg/L).
2. SW = Surface water monitoring point.
3. RL = Laboratory reporting limit (NC SWSL {or lower} beginning in April 2007 to present).
4. DL = Laboratory detection limit.
5. ND = Not detected above laboratory reporting limit November 2000 to October 2006, not detected above laboratory detection limit April 2000 and April 2007 to present.
6. J = Estimated value between the DL and the RL April 2000 and the DL and NC SWSL (or lower) from April 2007 to present.
7. B = Blank qualified data.
8. NC 2B Standard = North Carolina's surface water standards (specific concentration established by date).
9. Shaded values are above the NC 2B Surface Water Standards or EPA National Criteria (EPA NC).
10. - = No data available/not reported.
11. NC SWSL = North Carolina Solid Waste Section limits.
12. The classification of the surface waters for Coble's Sandrock is Freshwater Aqudic Life.
13. NR = Not reported. Detections limits not required prior to April 2007 sampling event.
14. Dry = Surface water monitoring point was dry. No sample collected.
15. NE = Concentration not established.

Figure

Figure No. 1 Site Location Map



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE FOR KIMESVILLE, NORTH CAROLINA, 1970, PHOTOREVISED 1982.

COBLE'S SANDROCK C&D DEBRIS LANDFILL
KIMESVILLE, NC

SITE LOCATION MAP

JOYCE ENGINEERING, INC.
2211 W. MEADOWVIEW ROAD
GREENSBORO, NC 27407
PHONE: (336) 323-0092

DESIGNED RB
DRAWN CADD/RB
CHECKED JJK
APPROVED JJK
DATE 12/08/09

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SCALE
AS SHOWN

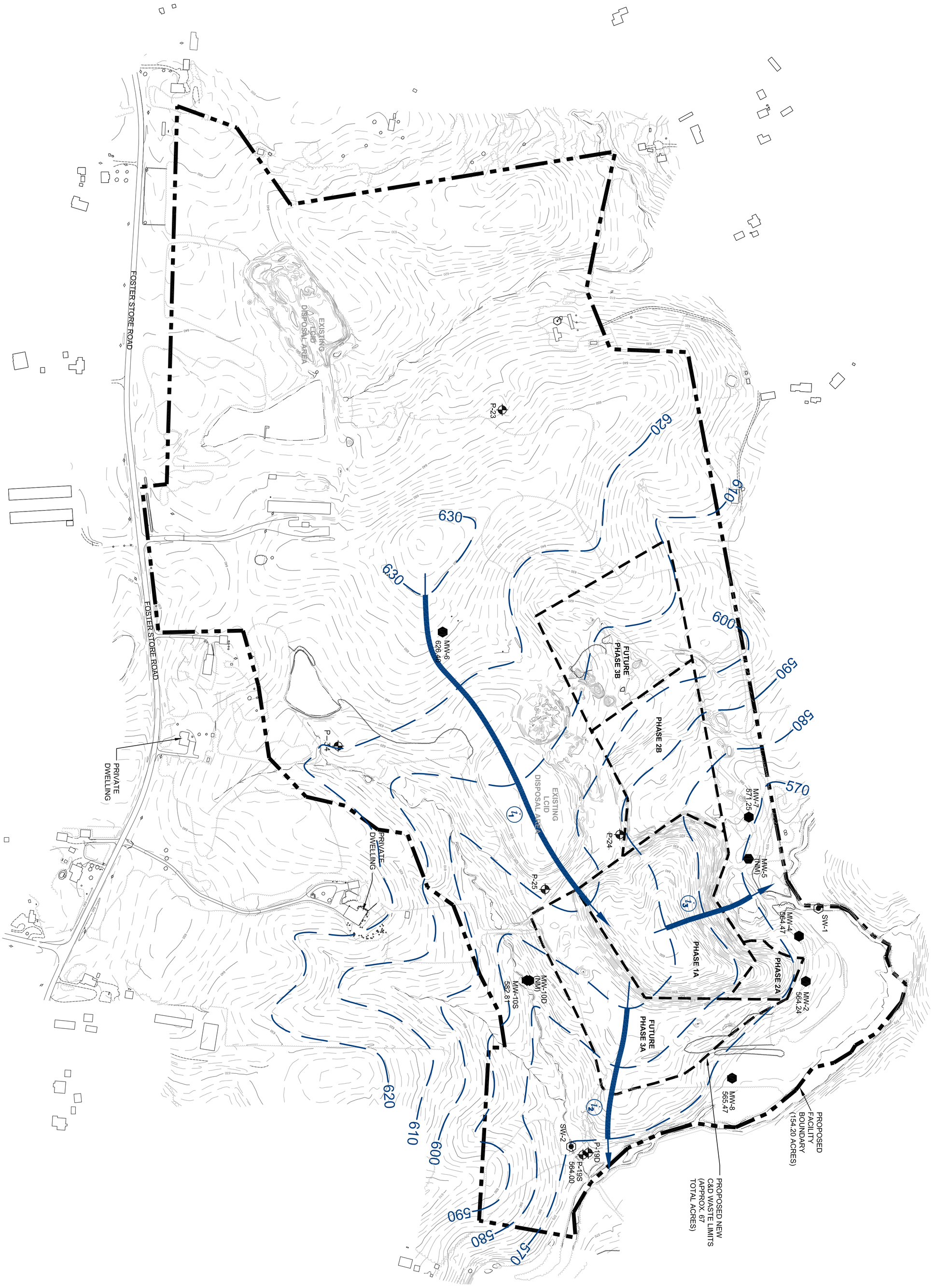
PROJECT NO.
00419.0900.11

FIGURE NO.
1

P:\Coble's Sandrock\Environmental\Groundwater Monitoring\October 2009\CAD Drawings_ Cobles Sandrock Site Location Map October 2009.dwg

Drawing

Drawing No. 1 Groundwater Surface Contour Map, October 7, 2009



LEGEND

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- GROUNDWATER CONTOURS
- EXISTING CELL BOUNDARIES
- GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- SEGMENT USED FOR GRADIENT CALCULATIONS
- PIEZOMETER LOCATION
- GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION

NOTES:

1. TOPOGRAPHIC CONTOUR INTERVAL= 2 FEET.
2. GROUNDWATER SURFACE CONTOUR = 5 FEET.

COBLES SANDROCK, INC.
KIMESVILLE, NORTH CAROLINA

GROUNDWATER SURFACE CONTOUR MAP
OCTOBER 7, 2009

ENGINEERING, INC.
2211 W. MEADOWVIEW ROAD
GREENSBORO, NC 27407
PHONE: (336) 323-0092
NC CORP LIC: C-0782

DESIGNED CTM
DRAWN CADD/RFB
CHECKED JJK
APPROVED JJK
DATE 12/08/09

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DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP

PROJECT NO. 00419.0900.11

SCALE AS NOTED

DRAWING NO. 1

P:\Coble's Sandrock\Environmental\Groundwater Monitoring\October 2009\CAD Drawings\Cobles Sandrock GW Map October 2009.dwg Layout=Layout1

Appendix

Laboratory Analytical Report and Field Forms

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2225 Riverside Dr.
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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 22, 2009

Mr. Jeremey Kerly
Joyce Engineering-NC
2211 West Meadowview Rd
Suite 101
Greensboro, NC 27407

RE: Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Dear Mr. Kerly:
Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Charlotte Certification IDs
West Virginia Certification #: 357
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 990060001
South Carolina Drinking Water Cert. #: 990060003
Tennessee Certification #: 04010

Asheville Certification IDs
West Virginia Certification #: 356
Florida/NELAP Certification #: E87648
Louisiana/LELAP Certification #: 03095
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
Connecticut Certification #: PH-0106
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Tennessee Certification #: 2980
Virginia Certification #: 00072
North Carolina Drinking Water Certification #: 37712

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SAMPLE SUMMARY

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9254956001	**0105-MW 2**	Water	10/08/09 09:05	10/09/09 16:00
9254956002	**0105-MW 4**	Water	10/08/09 11:25	10/09/09 16:00
9254956003	**0105-MW 6**	Water	10/08/09 08:45	10/09/09 16:00
9254956004	**0105-MW 7**	Water	10/08/09 11:50	10/09/09 16:00
9254956005	**0105-FIELD BLANK**	Water	10/08/09 12:05	10/09/09 16:00
9254956006	**TRIP BLANK**	Water	10/07/09 08:00	10/09/09 16:00

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SAMPLE ANALYTE COUNT

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9254956001	**0105-MW 2**	EPA 6010	JMW	7
		EPA 7470	SHB	1
		EPA 8260	AW	54
9254956002	**0105-MW 4**	EPA 6010	JMW	7
		EPA 7470	SHB	1
		EPA 8260	AW	54
9254956003	**0105-MW 6**	EPA 6010	JMW	7
		EPA 7470	SHB	1
		EPA 8260	AW	54
9254956004	**0105-MW 7**	EPA 6010	JMW	7
		EPA 7470	SHB	1
		EPA 8260	AW	54
9254956005	**0105-FIELD BLANK**	EPA 6010	JMW	7
		EPA 7470	SHB	1
		EPA 8260	AW	54
9254956006	**TRIP BLANK**	EPA 8260	AW	54

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 2 **Lab ID: 9254956001** Collected: 10/08/09 09:05 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**2.9J**	ug/L	10.0	2.7	1	10/20/09 09:40	10/21/09 23:24	7440-38-2	
Barium	**77.9J**	ug/L	100	0.20	1	10/20/09 09:40	10/21/09 23:24	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	10/20/09 09:40	10/21/09 23:24	7440-43-9	
Chromium	**16.5**	ug/L	10.0	0.40	1	10/20/09 09:40	10/21/09 23:24	7440-47-3	
Lead	ND	ug/L	10.0	4.0	1	10/20/09 09:40	10/21/09 23:24	7439-92-1	
Selenium	ND	ug/L	10.0	3.8	1	10/20/09 09:40	10/21/09 23:24	7782-49-2	
Silver	**0.51J**	ug/L	10.0	0.10	1	10/20/09 09:40	10/21/09 23:24	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.070	1	10/13/09 13:00	10/14/09 13:04	7439-97-6	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 07:18	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 07:18	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		10/18/09 07:18	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 07:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 07:18	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 07:18	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 07:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 07:18	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 07:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 07:18	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 07:18	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 07:18	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 07:18	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 07:18	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 07:18	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 07:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 07:18	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 07:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 07:18	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 07:18	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 07:18	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 07:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 07:18	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 07:18	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 07:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		10/18/09 07:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 07:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 07:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 07:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 07:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 07:18	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 07:18	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 07:18	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 07:18	75-09-2	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 2 **Lab ID: 9254956001** Collected: 10/08/09 09:05 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		10/18/09 07:18	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 07:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 07:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 07:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 07:18	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 07:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 07:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 07:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 07:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 07:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 07:18	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 07:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 07:18	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		10/18/09 07:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/18/09 07:18	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		10/18/09 07:18	95-47-6	
4-Bromofluorobenzene (S)	96	%	87-109		1		10/18/09 07:18	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		1		10/18/09 07:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		10/18/09 07:18	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/18/09 07:18	2037-26-5	

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 4 **Lab ID: 9254956002** Collected: 10/08/09 11:25 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	ND	ug/L	10.0	2.7	1	10/20/09 09:40	10/21/09 23:47	7440-38-2	
Barium	**106**	ug/L	100	0.20	1	10/20/09 09:40	10/21/09 23:47	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	10/20/09 09:40	10/21/09 23:47	7440-43-9	
Chromium	**0.71J**	ug/L	10.0	0.40	1	10/20/09 09:40	10/21/09 23:47	7440-47-3	
Lead	ND	ug/L	10.0	4.0	1	10/20/09 09:40	10/21/09 23:47	7439-92-1	
Selenium	ND	ug/L	10.0	3.8	1	10/20/09 09:40	10/21/09 23:47	7782-49-2	
Silver	**1.3J**	ug/L	10.0	0.10	1	10/20/09 09:40	10/21/09 23:47	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.070	1	10/13/09 13:00	10/14/09 13:12	7439-97-6	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 07:42	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 07:42	107-13-1	
Benzene	**0.46J**	ug/L	1.0	0.25	1		10/18/09 07:42	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 07:42	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 07:42	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 07:42	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 07:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 07:42	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 07:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 07:42	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 07:42	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 07:42	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 07:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 07:42	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 07:42	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 07:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 07:42	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 07:42	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 07:42	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 07:42	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 07:42	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 07:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 07:42	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 07:42	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 07:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		10/18/09 07:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 07:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 07:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 07:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 07:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 07:42	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 07:42	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 07:42	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 07:42	75-09-2	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 4 **Lab ID: 9254956002** Collected: 10/08/09 11:25 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Methyl-2-pentanone (MIBK)	**0.46J**	ug/L	100	0.33	1		10/18/09 07:42	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 07:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 07:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 07:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 07:42	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 07:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 07:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 07:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 07:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 07:42	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 07:42	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 07:42	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 07:42	75-01-4	
Xylene (Total)	**0.74J**	ug/L	2.0	0.66	1		10/18/09 07:42	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/18/09 07:42	1330-20-7	
o-Xylene	**0.23J**	ug/L	1.0	0.23	1		10/18/09 07:42	95-47-6	
4-Bromofluorobenzene (S)	97	%	87-109		1		10/18/09 07:42	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		10/18/09 07:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		1		10/18/09 07:42	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/18/09 07:42	2037-26-5	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 6 **Lab ID: 9254956003** Collected: 10/08/09 08:45 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	ND	ug/L	10.0	2.7	1	10/20/09 09:40	10/21/09 23:52	7440-38-2	
Barium	**39.7J**	ug/L	100	0.20	1	10/20/09 09:40	10/21/09 23:52	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	10/20/09 09:40	10/21/09 23:52	7440-43-9	
Chromium	**0.41J**	ug/L	10.0	0.40	1	10/20/09 09:40	10/21/09 23:52	7440-47-3	
Lead	ND	ug/L	10.0	4.0	1	10/20/09 09:40	10/21/09 23:52	7439-92-1	
Selenium	ND	ug/L	10.0	3.8	1	10/20/09 09:40	10/21/09 23:52	7782-49-2	
Silver	**0.25J**	ug/L	10.0	0.10	1	10/20/09 09:40	10/21/09 23:52	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.070	1	10/13/09 13:00	10/14/09 13:14	7439-97-6	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 08:06	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 08:06	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		10/18/09 08:06	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 08:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 08:06	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 08:06	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 08:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 08:06	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 08:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 08:06	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 08:06	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 08:06	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 08:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 08:06	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 08:06	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 08:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 08:06	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 08:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 08:06	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 08:06	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 08:06	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 08:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 08:06	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 08:06	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 08:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		10/18/09 08:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 08:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 08:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 08:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 08:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 08:06	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 08:06	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 08:06	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 08:06	75-09-2	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 6 **Lab ID: 9254956003** Collected: 10/08/09 08:45 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		10/18/09 08:06	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 08:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 08:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 08:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 08:06	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 08:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 08:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 08:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 08:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 08:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 08:06	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 08:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 08:06	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		10/18/09 08:06	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/18/09 08:06	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		10/18/09 08:06	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		10/18/09 08:06	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		10/18/09 08:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		10/18/09 08:06	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/18/09 08:06	2037-26-5	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 7 **Lab ID: 9254956004** Collected: 10/08/09 11:50 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**11.0**	ug/L	10.0	2.7	1	10/20/09 09:40	10/21/09 23:56	7440-38-2	
Barium	**259**	ug/L	100	0.20	1	10/20/09 09:40	10/21/09 23:56	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	10/20/09 09:40	10/21/09 23:56	7440-43-9	
Chromium	**10.5**	ug/L	10.0	0.40	1	10/20/09 09:40	10/21/09 23:56	7440-47-3	
Lead	**6.9J**	ug/L	10.0	4.0	1	10/20/09 09:40	10/21/09 23:56	7439-92-1	
Selenium	**7.0J**	ug/L	10.0	3.8	1	10/20/09 09:40	10/21/09 23:56	7782-49-2	
Silver	**2.4J**	ug/L	10.0	0.10	1	10/20/09 09:40	10/21/09 23:56	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**0.25**	ug/L	0.20	0.070	1	10/13/09 13:00	10/14/09 13:22	7439-97-6	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 08:30	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 08:30	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		10/18/09 08:30	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 08:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 08:30	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 08:30	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 08:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 08:30	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 08:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 08:30	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 08:30	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 08:30	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 08:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 08:30	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 08:30	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 08:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 08:30	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 08:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 08:30	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 08:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 08:30	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 08:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 08:30	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 08:30	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 08:30	75-35-4	
cis-1,2-Dichloroethene	**0.26J**	ug/L	5.0	0.19	1		10/18/09 08:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 08:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 08:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 08:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 08:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 08:30	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 08:30	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 08:30	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 08:30	75-09-2	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-MW 7 **Lab ID: 9254956004** Collected: 10/08/09 11:50 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		10/18/09 08:30	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 08:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 08:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 08:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 08:30	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 08:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 08:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 08:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 08:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 08:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 08:30	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 08:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 08:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		10/18/09 08:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/18/09 08:30	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		10/18/09 08:30	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		10/18/09 08:30	460-00-4	
Dibromofluoromethane (S)	102	%	85-115		1		10/18/09 08:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120		1		10/18/09 08:30	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		10/18/09 08:30	2037-26-5	

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ANALYTICAL RESULTS

Project: Cobie's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-FIELD BLANK **Lab ID: 9254956005** Collected: 10/08/09 12:05 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	ND	ug/L	10.0	2.7	1	10/20/09 09:40	10/22/09 00:01	7440-38-2	
Barium	**18.5J**	ug/L	100	0.20	1	10/20/09 09:40	10/22/09 00:01	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	10/20/09 09:40	10/22/09 00:01	7440-43-9	
Chromium	ND	ug/L	10.0	0.40	1	10/20/09 09:40	10/22/09 00:01	7440-47-3	
Lead	ND	ug/L	10.0	4.0	1	10/20/09 09:40	10/22/09 00:01	7439-92-1	
Selenium	ND	ug/L	10.0	3.8	1	10/20/09 09:40	10/22/09 00:01	7782-49-2	
Silver	ND	ug/L	10.0	0.10	1	10/20/09 09:40	10/22/09 00:01	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.070	1	10/13/09 13:00	10/14/09 13:24	7439-97-6	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 06:30	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 06:30	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		10/18/09 06:30	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 06:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 06:30	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 06:30	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 06:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 06:30	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 06:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 06:30	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 06:30	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 06:30	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 06:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 06:30	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 06:30	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 06:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 06:30	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 06:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 06:30	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 06:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 06:30	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 06:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 06:30	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 06:30	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 06:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		10/18/09 06:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 06:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 06:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 06:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 06:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 06:30	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 06:30	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 06:30	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 06:30	75-09-2	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: 0105-FIELD BLANK **Lab ID: 9254956005** Collected: 10/08/09 12:05 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		10/18/09 06:30	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 06:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 06:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 06:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 06:30	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 06:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 06:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 06:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 06:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 06:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 06:30	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 06:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 06:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		10/18/09 06:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/18/09 06:30	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		10/18/09 06:30	95-47-6	
4-Bromofluorobenzene (S)	95	%	87-109		1		10/18/09 06:30	460-00-4	
Dibromofluoromethane (S)	97	%	85-115		1		10/18/09 06:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		1		10/18/09 06:30	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/18/09 06:30	2037-26-5	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: TRIP BLANK **Lab ID: 9254956006** Collected: 10/07/09 08:00 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	2.2	1		10/18/09 05:43	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		10/18/09 05:43	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		10/18/09 05:43	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		10/18/09 05:43	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/18/09 05:43	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		10/18/09 05:43	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		10/18/09 05:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		10/18/09 05:43	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		10/18/09 05:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/18/09 05:43	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		10/18/09 05:43	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		10/18/09 05:43	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		10/18/09 05:43	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/18/09 05:43	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.5	1		10/18/09 05:43	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		10/18/09 05:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/18/09 05:43	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		10/18/09 05:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		10/18/09 05:43	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/18/09 05:43	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		10/18/09 05:43	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		10/18/09 05:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/18/09 05:43	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	0.49	1		10/18/09 05:43	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		10/18/09 05:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		10/18/09 05:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		10/18/09 05:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/18/09 05:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/18/09 05:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/18/09 05:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/18/09 05:43	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		10/18/09 05:43	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		10/18/09 05:43	74-88-4	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/18/09 05:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		10/18/09 05:43	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		10/18/09 05:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		10/18/09 05:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		10/18/09 05:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/18/09 05:43	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/18/09 05:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/18/09 05:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/18/09 05:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/18/09 05:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/18/09 05:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/18/09 05:43	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		10/18/09 05:43	108-05-4	

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ANALYTICAL RESULTS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Sample: TRIP BLANK **Lab ID: 9254956006** Collected: 10/07/09 08:00 Received: 10/09/09 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/18/09 05:43	75-01-4	
Xylene (Total)	**0.69J**	ug/L	2.0	0.66	1		10/18/09 05:43	1330-20-7	
m&p-Xylene	**0.69J**	ug/L	2.0	0.66	1		10/18/09 05:43	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		10/18/09 05:43	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		10/18/09 05:43	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		10/18/09 05:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120		1		10/18/09 05:43	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		10/18/09 05:43	2037-26-5	

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QUALITY CONTROL DATA

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

QC Batch: MPRP/5233 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005

METHOD BLANK: 352906 Matrix: Water
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	10/21/09 22:17	
Barium	ug/L	ND	100	10/21/09 22:17	
Cadmium	ug/L	ND	1.0	10/21/09 22:17	
Chromium	ug/L	ND	10.0	10/21/09 22:17	
Lead	ug/L	ND	10.0	10/21/09 22:17	
Selenium	ug/L	ND	10.0	10/21/09 22:17	
Silver	ug/L	ND	10.0	10/21/09 22:17	

LABORATORY CONTROL SAMPLE: 352907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	469	94	80-120	
Barium	ug/L	500	477	95	80-120	
Cadmium	ug/L	500	474	95	80-120	
Chromium	ug/L	500	476	95	80-120	
Lead	ug/L	500	481	96	80-120	
Selenium	ug/L	500	465	93	80-120	
Silver	ug/L	250	240	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 352908 352909

Parameter	Units	9254956001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	2.9J	500	500	477	474	95	94	75-125	1	25	
Barium	ug/L	77.9J	500	500	545	545	93	93	75-125	0	25	
Cadmium	ug/L	ND	500	500	467	466	93	93	75-125	0	25	
Chromium	ug/L	16.5	500	500	493	491	95	95	75-125	0	25	
Lead	ug/L	ND	500	500	462	460	92	92	75-125	0	25	
Selenium	ug/L	ND	500	500	466	464	93	93	75-125	0	25	
Silver	ug/L	0.51J	250	250	241	240	96	96	75-125	0	25	

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QUALITY CONTROL DATA

Project: Cobie's Sandrock 491.09.34
Pace Project No.: 9254956

QC Batch: MERP/2436 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005

METHOD BLANK: 349371 Matrix: Water
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/14/09 12:35	

LABORATORY CONTROL SAMPLE: 349372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 349373 349374

Parameter	Units	9254956001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.5	2.5	99	99	75-125	0	25	

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QUALITY CONTROL DATA

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

QC Batch: MSV/8679 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005, 9254956006

METHOD BLANK: 352638 Matrix: Water
Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005, 9254956006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	10/18/09 05:19	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/18/09 05:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	10/18/09 05:19	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/18/09 05:19	
1,1-Dichloroethane	ug/L	ND	5.0	10/18/09 05:19	
1,1-Dichloroethene	ug/L	ND	5.0	10/18/09 05:19	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/18/09 05:19	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	10/18/09 05:19	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/18/09 05:19	
1,2-Dichlorobenzene	ug/L	ND	5.0	10/18/09 05:19	
1,2-Dichloroethane	ug/L	ND	1.0	10/18/09 05:19	
1,2-Dichloroethene (Total)	ug/L	ND	5.0	10/18/09 05:19	
1,2-Dichloropropane	ug/L	ND	1.0	10/18/09 05:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/18/09 05:19	
2-Butanone (MEK)	ug/L	ND	100	10/18/09 05:19	
2-Hexanone	ug/L	ND	50.0	10/18/09 05:19	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	10/18/09 05:19	
Acetone	ug/L	ND	100	10/18/09 05:19	
Acrylonitrile	ug/L	ND	200	10/18/09 05:19	
Benzene	ug/L	ND	1.0	10/18/09 05:19	
Bromochloromethane	ug/L	ND	3.0	10/18/09 05:19	
Bromodichloromethane	ug/L	ND	1.0	10/18/09 05:19	
Bromoform	ug/L	ND	3.0	10/18/09 05:19	
Bromomethane	ug/L	ND	10.0	10/18/09 05:19	
Carbon disulfide	ug/L	ND	100	10/18/09 05:19	
Carbon tetrachloride	ug/L	ND	1.0	10/18/09 05:19	
Chlorobenzene	ug/L	ND	3.0	10/18/09 05:19	
Chloroethane	ug/L	ND	10.0	10/18/09 05:19	
Chloroform	ug/L	ND	5.0	10/18/09 05:19	
Chloromethane	ug/L	ND	1.0	10/18/09 05:19	
cis-1,2-Dichloroethene	ug/L	ND	5.0	10/18/09 05:19	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/18/09 05:19	
Dibromochloromethane	ug/L	ND	3.0	10/18/09 05:19	
Dibromomethane	ug/L	ND	10.0	10/18/09 05:19	
Ethylbenzene	ug/L	ND	1.0	10/18/09 05:19	
Iodomethane	ug/L	ND	10.0	10/18/09 05:19	
m&p-Xylene	ug/L	0.76J	2.0	10/18/09 05:19	
Methylene Chloride	ug/L	ND	2.0	10/18/09 05:19	
o-Xylene	ug/L	ND	1.0	10/18/09 05:19	
Styrene	ug/L	ND	1.0	10/18/09 05:19	
Tetrachloroethene	ug/L	ND	1.0	10/18/09 05:19	
Toluene	ug/L	ND	1.0	10/18/09 05:19	
trans-1,2-Dichloroethene	ug/L	ND	5.0	10/18/09 05:19	

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QUALITY CONTROL DATA

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

METHOD BLANK: 352638 Matrix: Water

Associated Lab Samples: 9254956001, 9254956002, 9254956003, 9254956004, 9254956005, 9254956006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/18/09 05:19	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	10/18/09 05:19	
Trichloroethene	ug/L	ND	1.0	10/18/09 05:19	
Trichlorofluoromethane	ug/L	ND	1.0	10/18/09 05:19	
Vinyl acetate	ug/L	ND	50.0	10/18/09 05:19	
Vinyl chloride	ug/L	ND	1.0	10/18/09 05:19	
Xylene (Total)	ug/L	0.76J	2.0	10/18/09 05:19	
1,2-Dichloroethane-d4 (S)	%	96	79-120	10/18/09 05:19	
4-Bromofluorobenzene (S)	%	97	87-109	10/18/09 05:19	
Dibromofluoromethane (S)	%	97	85-115	10/18/09 05:19	
Toluene-d8 (S)	%	100	70-120	10/18/09 05:19	

LABORATORY CONTROL SAMPLE: 352639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.4	101	83-125	
1,1,1-Trichloroethane	ug/L	50	49.1	98	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	100	73-127	
1,1,2-Trichloroethane	ug/L	50	51.9	104	77-123	
1,1-Dichloroethane	ug/L	50	49.3	99	76-129	
1,1-Dichloroethene	ug/L	50	50.7	101	78-146	
1,2,3-Trichloropropane	ug/L	50	52.7	105	72-125	
1,2-Dibromo-3-chloropropane	ug/L	50	51.6	103	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	52.3	105	81-125	
1,2-Dichlorobenzene	ug/L	50	47.6	95	82-126	
1,2-Dichloroethane	ug/L	50	50.2	100	72-126	
1,2-Dichloroethene (Total)	ug/L	100	97.7	98	50-150	
1,2-Dichloropropane	ug/L	50	50.5	101	80-127	
1,4-Dichlorobenzene	ug/L	50	46.6	93	79-125	
2-Butanone (MEK)	ug/L	100	119	119	50-134	
2-Hexanone	ug/L	100	111	111	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	70-131	
Acetone	ug/L	100	141	141	50-146	
Acrylonitrile	ug/L	250	267	107	66-124	
Benzene	ug/L	50	47.7	95	78-128	
Bromochloromethane	ug/L	50	49.4	99	73-124	
Bromodichloromethane	ug/L	50	47.7	95	81-125	
Bromoform	ug/L	50	50.8	102	71-125	
Bromomethane	ug/L	50	53.0	106	50-150	
Carbon disulfide	ug/L	50	52.6J	105	54-150	
Carbon tetrachloride	ug/L	50	50.0	100	81-137	
Chlorobenzene	ug/L	50	46.1	92	82-126	
Chloroethane	ug/L	50	51.9	104	69-140	
Chloroform	ug/L	50	48.5	97	77-129	
Chloromethane	ug/L	50	44.1	88	54-139	

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QUALITY CONTROL DATA

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

LABORATORY CONTROL SAMPLE: 352639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	49.8	100	76-133	
cis-1,3-Dichloropropene	ug/L	50	50.7	101	76-127	
Dibromochloromethane	ug/L	50	48.4	97	77-125	
Dibromomethane	ug/L	50	51.2	102	77-125	
Ethylbenzene	ug/L	50	47.3	95	80-127	
Iodomethane	ug/L	100	120	120	65-172	
m&p-Xylene	ug/L	100	97.9	98	82-127	
Methylene Chloride	ug/L	50	48.2	96	67-133	
o-Xylene	ug/L	50	47.0	94	83-124	
Styrene	ug/L	50	49.4	99	80-130	
Tetrachloroethene	ug/L	50	44.0	88	78-128	
Toluene	ug/L	50	46.4	93	76-126	
trans-1,2-Dichloroethene	ug/L	50	47.8	96	78-134	
trans-1,3-Dichloropropene	ug/L	50	50.9	102	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	53.1J	106	51-140	
Trichloroethene	ug/L	50	51.8	104	79-127	
Trichlorofluoromethane	ug/L	50	50.3	101	76-148	
Vinyl acetate	ug/L	100	96.2	96	50-150	
Vinyl chloride	ug/L	50	50.8	102	67-143	
Xylene (Total)	ug/L	150	145	97	83-125	
1,2-Dichloroethane-d4 (S)	%			99	79-120	
4-Bromofluorobenzene (S)	%			105	87-109	
Dibromofluoromethane (S)	%			102	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 352640 352641

Parameter	Units	9254956001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	56.3	55.2	113	110	60-150	2	30	
Benzene	ug/L	ND	50	50	50.6	50.0	101	100	74-136	1	30	
Chlorobenzene	ug/L	ND	50	50	48.8	48.7	98	97	79-135	0	30	
Toluene	ug/L	ND	50	50	48.4	48.0	97	96	73-131	1	30	
Trichloroethene	ug/L	ND	50	50	52.7	51.1	105	102	73-131	3	30	
1,2-Dichloroethane-d4 (S)	%						95	96	79-120			
4-Bromofluorobenzene (S)	%						97	97	87-109			
Dibromofluoromethane (S)	%						97	98	85-115			
Toluene-d8 (S)	%						100	99	70-120			

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QUALIFIERS

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

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.

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.

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

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Coble's Sandrock 491.09.34
Pace Project No.: 9254956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9254956001	0105-MW 2	EPA 7470	MERP/2436	EPA 7470	MERC/2419
9254956002	0105-MW 4	EPA 7470	MERP/2436	EPA 7470	MERC/2419
9254956003	0105-MW 6	EPA 7470	MERP/2436	EPA 7470	MERC/2419
9254956004	0105-MW 7	EPA 7470	MERP/2436	EPA 7470	MERC/2419
9254956005	0105-FIELD BLANK	EPA 7470	MERP/2436	EPA 7470	MERC/2419
9254956001	0105-MW 2	EPA 8260	MSV/8679		
9254956002	0105-MW 4	EPA 8260	MSV/8679		
9254956003	0105-MW 6	EPA 8260	MSV/8679		
9254956004	0105-MW 7	EPA 8260	MSV/8679		
9254956005	0105-FIELD BLANK	EPA 8260	MSV/8679		
9254956006	TRIP BLANK	EPA 8260	MSV/8679		
9254956001	0105-MW 2	EPA 3010	MPRP/5233	EPA 6010	ICP/4854
9254956002	0105-MW 4	EPA 3010	MPRP/5233	EPA 6010	ICP/4854
9254956003	0105-MW 6	EPA 3010	MPRP/5233	EPA 6010	ICP/4854
9254956004	0105-MW 7	EPA 3010	MPRP/5233	EPA 6010	ICP/4854
9254956005	0105-FIELD BLANK	EPA 3010	MPRP/5233	EPA 6010	ICP/4854

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1181108

Section A Required Client Information:

Company: Joyce Engineering - NC
Address: 2211 West Meadowview Rd
Greensboro NC 27407
Email To: JKerly@Joyceengineering.com
Phone: (336) 323-0092 Fax:
Requested Due Date/TAT: 10 days

Section B Required Project Information:

Report To: Jeremey Kerly
Copy To:
Purchase Order No.:
Project Name: Cobie's Sandrock
Project Number: 491.09.34

Section C Invoice Information:

Attention: Lecia Jones
Company Name: Joyce Engineering
Address: 1604 Dunby Ln. Richmond, VA 23222
Pace Quote Reference:
Pace Project Manager: Kevin Godwin
Pace Profile #: 2186-12

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER

Site Location STATE: NC

Section D Required Client Information

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

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	VOC 8260 WT	RCRA Metals	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	0105- MW2	WT	G			10/8/09	09:05		4			X	X						X	X		9254956 001
2	0105- MW2MS	WT	G			10/8/09	09:05		4			X	X						X	X		001
3	0105- MW2 MSD	WT	G			"	"		4			X	X						X	X		001
4	0105- MW4	WT	G				11:25		4			X	X						X	X		002
5	0105- MW6	WT	G				08:45		4			X	X						X	X		003
6	0105- MW7	WT	G				11:50		4			X	X						X	X		004
~~7~~	~~0105- SW1~~	~~WT~~	~~G~~						~~4~~			~~X~~	~~X~~						~~X~~	~~X~~		AK NO SAMPLE
~~8~~	~~0105- SW2~~	~~WT~~	~~G~~						~~4~~			~~X~~	~~X~~						~~X~~	~~X~~		AK NO SAMPLE
9	0105- Field Blank	WT	G				12:05		4			X	X						X	X		005
10	Trip Blank	WT				10/7/09	08:00		2				X						X			006
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Daniel S. Girdner	10/8/09	17:00	[signature] Pace clt	10-9-09	12:00				
	[signature] Pace clt	10-9-09	16:00	Moore Pace	10/9	1600	30	4	0	4
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: D. GIRDNER, A. EVERHART

SIGNATURE of SAMPLER: D. Girdner, [signature]

DATE Signed (MM/DD/YY): 10/08/09

*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.

F-ALL-Q-020rev.07, 15-May-2007

DATE: 10/7-8/09

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: COBLE'S SANDROCK & LF **Project No./Task No.:** 419.00.34

Well ID: 0105-MW2 **Sampler(s):** A. Everhart/ D. Girdner

Well Location: near top of hill; west side of LF

Well Diameter: 2 inches

Initial Depth to Water (DTW): 18.07 feet

Depth to Bottom (DTB): 22.98 feet

Water Column Thickness (WCT): 4.91 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 0.8 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 2.4 gallons

Actual Amount Purged/Bailed : 2.5 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 18.15 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	10:28	15.7	6.60	83.3	53.5	AE
0.80	10:30	15.2	6.11	78.5	187	AE
1.60	10:32	15.2	5.81	74.8	465	AE
2.4	10:35	15.1	5.84	76.7	>1000	AE
	10/08/09					
Before Sampling	9:05	14.2	6.57	82.9	586	AE

Comments (weather conditions, odor, color, silt, etc.):

10/7-Partly Cloudy Clearing, Mid 70's

10/8-Sunny, 60's

Signature: [signature] **Date:** 10/08/09

QA/QC Sign Off: [signature] **Date:** 12-1-09

DATE: 10/7-8/09

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: COBLE'S SANDROCK & LF **Project No./Task No.:** 419.00.34

Well ID: 0105-MW4 **Sampler(s):** A. Everhart/ D. Girdner

Well Location: between MW-5 and MW-2

Well Diameter: 2 inches

Initial Depth to Water (DTW): 17.17 feet

Depth to Bottom (DTB): 24.22 feet

Water Column Thickness (WCT): 7.05 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.15 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 3.4 gallons

Actual Amount Purged/Bailed : 3.45 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 17.22 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	12:48	17.3	5.79	235	26.9	AE
1.15	12:50	16.5	5.24	505	118	AE
2.30	12:53	16.3	5.23	671	190	AE
3.45	12:56	16.0	5.27	903	367	AE
	10/08/09					
Before Sampling	11:25	17.3	5.51	690	70.6	AE

Comments (weather conditions, odor, color, silt, etc.):

10/7-Sunny, 70's

10/8- Sunny, Low 70's

Signature: [signature] **Date:** 10/08/09

QA/QC Sign Off: [signature] **Date:** 11-6-09

DATE: 10/7-8/09

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: COBLE'S SANDROCK & LF **Project No./Task No.:** 419.00.34

Well ID: 0105-MW6 **Sampler(s):** A. Everhart/ D. Girdner

Well Location: flush mount in field that is fenced before the fill area (former P-3)

Well Diameter: 2 inches

Initial Depth to Water (DTW): 26.16 feet

Depth to Bottom (DTB): 41.00 feet

Water Column Thickness (WCT): 14.84 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.42 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 7.26 gallons

Actual Amount Purged/Bailed : 7.3 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 26.27 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	9:45	15.9	7.10	204	48.5	DG
2.42	9:50	15.3	6.15	192.8	25.6	DG
4.84	9:55	14.7	5.91	186.5	123	DG
7.26	10:00	14.8	5.86	212	194	DG
	10/08/09					
Before Sampling	8:45	14.0	7.06	177.2	24.8	DG

Comments (weather conditions, odor, color, silt, etc.):

10/7-Partly Cloudy mid 70's

10/8-Sunny 60's

Signature: Daniel A. Girdner **Date:** 10-8-09

QA/QC Sign Off: [signature] **Date:** 11-6-09

DATE: 10/7-8/09

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: COBLE'S SANDROCK & LF **Project No./Task No.:** 419.00.34

Well ID: 0105-MW7 **Sampler(s):** A. Everhart/ D. Girdner

Well Location: Westside of the landfill near MW5

Well Diameter: 2 inches

Initial Depth to Water (DTW): 12.08 feet

Depth to Bottom (DTB): 16.00 feet

Water Column Thickness (WCT): 3.93 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 0.64 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 1.92 gallons

Actual Amount Purged/Bailed : 2.0 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 12.14 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	13:05	20.3	6.31	1451	100	DG
0.64	13:07	19.4	6.33	1457	>1000	DG
1.28	13:09	19.2	6.29	1455	>1000	DG
1.92	13:11	19.2	6.20	1408	>1000	DG
	10/08/09					
Before Sampling	11:50	19.3	6.36	1439	103	DG

Comments (weather conditions, odor, color, silt, etc.):

10/7-Sunny, 70's

10/8-Sunny, 70's

Signature: Daniel D. Girdner **Date:** 10/8/09

QA/QC Sign Off: _____ **Date:** 12-1-09

DATE: 10/08/09

ENGINEERING, INC.

SURFACE WATER MONITORING LOG

Project Name: COBLE'S SANDROCK LF **Project/Task No.:** 419.00.34

Surface Point ID: 0105-SW1 **Sampler(s):** A. Everhart/ D. Girdner

Location: Stream near MW4

Field Parameters:

Time of Sampling: _____ - _____

pH: _____ - _____

Temperature : _____ - _____ **(°C)**

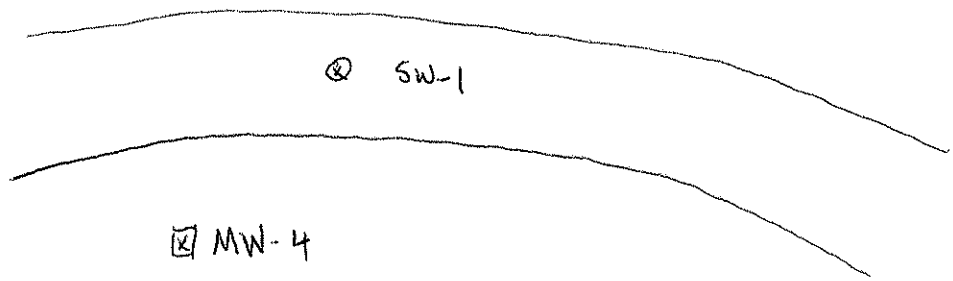
Conductivity : _____ - _____ **(µS)**

Turbidity : _____ - _____ **(ntu)**

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

DRY No Sample

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: [signature] **Date:** 10/08/09

QA/QC Sign Off: [signature] **Date:** 12-1-09

DATE: 10/08/09

JOYCE ENGINEERING, INC.

SURFACE WATER MONITORING LOG

Project Name: COBLE'S SANDROCK LF **Project/Task No.:** 419.00.34

Surface Point ID: 0105-SW2 **Sampler(s):** A. Everhart/ D. Girdner

Location: off bridge in woods

Field Parameters:

Time of Sampling: _____ - _____

pH: _____ - _____

Temperature : _____ - _____ **(°C)**

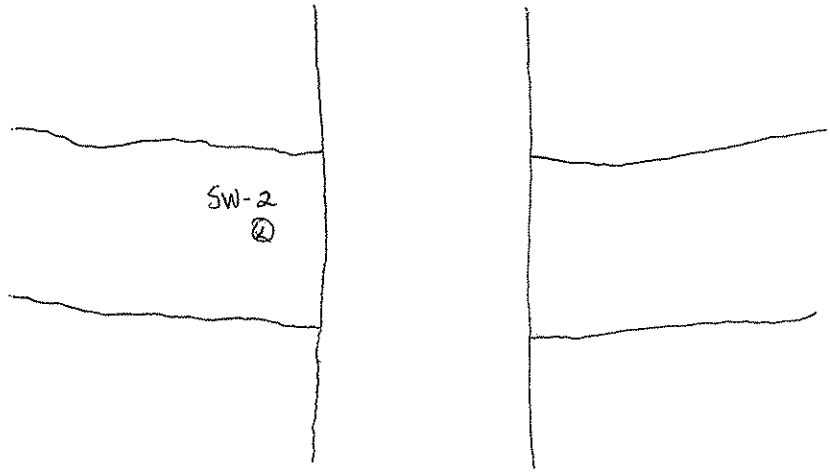
Conductivity : _____ - _____ **(µS)**

Turbidity : _____ - _____ **(ntu)**

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

DRY No Sample

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: [signature] **Date:** 10/08/09

QA/QC Sign Off: [signature] **Date:** 12-1-09