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):

David Garrett & Associates

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

Name: Brian S. Boutin, PG Phone: 919-366-3663 (office); 919-995-0363 (cell)

E-mail: bboutinpg@bellsouth.net

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
A-1 Sandrock C&D Landfill	2132 Bishop Road Greensboro, Guilford County	4117-CDLF-2008	.0500	October 27, 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.

Brian S. Boutin, PG — Facility Representative Name (Print)

Consultant for Facility — Title

919-366-3663 (office); 919-995-0363 (cell) — (Area Code) Telephone Number

Signature

December 17, 2009 — Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1208 GEOLOGIST BRIAN S. BOUTIN

11112 Branding Iron Place, Wendell, NC 27591

Facility Representative Address

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

Revised 6/2009

Explanatory Text for Notification Table
A-1 Sanrock C&D Landfill
Greensborough, Guilford County, NC
Permit # 4117
October 27, 2009 Water Quality Monitoring

The results of the October 2009 groundwater and surface water quality monitoring conducted at the A-1 Sandrock C&D Landfill indicate that overall water quality is similar to that reported for the baseline sampling conducted in November 2006. No volatile organic compounds were reported in any of the groundwater or surface water samples at concentrations that exceed the corresponding 15A NCAC 2L .0202 groundwater quality standards or the 15A NCAC 2B surface water quality standards. Cobalt, iron, manganese and vanadium were reported at concentrations exceeding the corresponding 15A NCAC 2L .0202 groundwater quality standards in groundwater samples collected from the site monitoring wells in October 2009. It is noted that the groundwater samples collected from all of the monitoring wells were highly turbid due to the use of bottom-loading disposable bailers for purging and sampling (necessitated at MW-1 due to the depth to groundwater).

Inasmuch as the samples for metals analysis are prepared by Method 3030c without filtration, highly turbid samples tend to return false positives with respect to metals concentrations due to dissolution of metals from suspended sediment into the sample aliquot during preparation for analysis. Consequently, it is concluded that the elevated levels of metals reported for the groundwater samples collected from the site monitoring wells on October 27, 2009 are directly attributable to the high turbidity of the samples and are not representative of the concentration of metals in groundwater under natural conditions.

David Garrett & Associates
Engineering and Geology

December 17, 2009

Ms. Jaclynne Drummond
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
P. O. Box 27687
Raleigh, NC 27611-7687

RE: Report of Results
Semi-Annual Groundwater and Surface Water Monitoring: October 2009
A-1 Sandrock C&D Landfill
Greensboro, Guilford County, NC
Permit # 4117

Dear Ms. Drummond:

This report presents the results of semi-annual groundwater and surface water quality monitoring conducted at the C&D landfill site referenced above (**Figure 1**) in October 2009. The scope of work performed included sampling and laboratory analysis of groundwater samples from five on-site monitoring wells (MW-1 through MW-5) and surface water samples from four on-site locations (SW-1 through SW-4). The groundwater and surface water samples were collected in accordance with the NCDENR, Division of Waste Management (DWM), Solid Waste Section (SWS) Groundwater Monitoring Guidance Document and the facility Water Quality Monitoring Plan. The sampling and data collection methods, as well as the current and historical results of field and laboratory testing of the water samples, are presented in the following sections. It is noted that the A-1 Sandrock C&D facility became operational in April 2009. Consequently, the October 2009 monitoring is the first semi-annual water-quality monitoring conducted at the site since baseline monitoring was conducted in November 2006.

1.0 POTENTIOMETRIC PATTERN AND GROUNDWATER FLOW

Groundwater levels were gauged in the site groundwater monitoring wells on October 27, 2009 as part of the site monitoring. Depths to groundwater were measured using an electronic water-

5105 Harbour Towne Drive • Raleigh • North Carolina • 27604
919-231-1818 (Office and Fax) • 919-418-4375 (Mobile) • E-mail: david@davidgarrettpe.com

level meter that was thoroughly decontaminated between wells with a non-phosphate soap and water wash followed in order by multiple rinses with distilled water, an isopropyl alcohol rinse, and multiple distilled water rinses. Depth-to-water measurements were made after the wells were opened for a sufficient period of time to allow water levels to equilibrate with atmospheric pressure. The locations of the site monitoring wells are depicted in **Figure 1**. Groundwater elevation data collected at the monitoring wells on October 27, 2009 are presented in **Table 1**. The depth to groundwater across the site measured relative to the top of the PVC casing of the Type II groundwater-monitoring wells on October 27, 2009, ranged from 5.92 feet (MW-3) to 29.03 (MW-1) feet below grade, which is consistent with the site surface topography.

A water-table elevation contour map that was developed based on the October 27, 2009 groundwater-gauging data for the Type II monitoring wells is presented in **Figure 1**. The pattern of the water-table contours indicates that the horizontal component of shallow groundwater flow at the site is generally varies from north to west, which is consistent with the surface topography and drainage features at the site. The hydraulic gradient of the water table, based on the data depicted in **Figure 1**, varies from approximately 0.07 to 0.09 ft/ft at the site.

2.0 RESULTS OF GROUNDWATER AND SURFACE WATER SAMPLING AND ANALYSIS

Groundwater samples were collected from the site monitoring wells and surface water samples were collected from four on-site locations on October 27, 2009 for laboratory analysis to monitor the quality of groundwater and surface water at the site. It is noted that monitoring well MW-1 serves as the up gradient, natural background well for the facility, and monitoring wells MW-2 through MW-5 serve as the down gradient monitoring wells. The groundwater and surface water samples were collected and handled in accordance with the sampling protocols included in the site Water Quality Monitoring Plan as well as the SWS Groundwater Monitoring Guidance Document. Purging and sampling of groundwater from the monitoring wells was conducted using disposable, bottom-loading bailers at all wells. Surface water samples were collected directly into sample containers by direct submersion in the streams. All reusable sampling equipment was properly decontaminated between sampling locations with a non-phosphate soap and water wash, followed by multiple rinses with distilled water. New disposable nitrile or latex gloves were worn during all sampling activities. Disposable sampling equipment/material (e.g., disposable bailers, gloves, etc.) was discarded after each use.

Prior to groundwater sampling, the monitoring wells were purged of a minimum of three well volumes of water. During purging, measurements were made in the field of the pH, temperature,

5105 Harbour Towne Drive • Raleigh • North Carolina • 27604
919-231-1818 (Office and Fax) • 919-418-4375 (Mobile) • E-mail: david@davidgarrettpe.com

specific conductance and turbidity of the groundwater collected from the monitoring wells, in accordance with SWS requirements. The results of the field analyses of these parameters are presented in **Table 1**. Copies of Groundwater Sampling Forms containing pertinent information recorded in the field during purging and sampling at each groundwater monitoring well are presented in **Appendix A**. The results of the field-measured water-quality parameters indicate that the values measured in groundwater collected from the site monitoring wells were generally within the applicable stabilization criteria with the exception of turbidity, which was elevated at all monitoring wells (see Groundwater Sampling Forms). Groundwater at the site is generally neutral to slightly acidic based on the pH values measured in the field (6.07 to 7.07). Specific conductance values ranged from 130 (MW-3) to 260 (MW-1 and MW-5) µS/cm. Turbidity values ranged from 378 (MW-4) to greater than 1,000 (MW-1, MW-3 and MW-5) NTUs.

Surface water samples were collected from four locations at the site (SW-1 through SW-4). The sampling locations are depicted in **Figure 1**. SW-1 is located at the northwest boundary of the site where Hickory Creek enters the facility. SW-2 is located along an unnamed tributary to Hickory Creek where it enters the east side of the facility. SW-3 is located along an unnamed tributary to Hickory Creek where it enters the south side of the facility. SW-4 is located downstream where Hickory Creek exits the southwest corner of the facility. All surface water samples were collected directly into sample containers by direct submersion in the stream in accordance with the protocol presented in the SWS Groundwater Monitoring Guidance Document.

All groundwater and surface water samples were analyzed at a North Carolina-certified laboratory for Appendix I volatile organic compounds, Appendix I metals, iron, manganese, mercury, chloride, sulfate, alkalinity and total dissolved solids. Summarized historical results of laboratory analyses for groundwater and surface water samples collected from the site are presented in **Table 2**. Copies of the original laboratory reports are included in **Appendix B**.

The laboratory analytical results for the surface water samples collected from the site on October 27, 2009 indicate that acetone was reported in samples SW-1 and SW-4 at concentrations well below the 15A NCAC 2L groundwater quality standard (no surface water standard currently exists for acetone). No other volatile organic compounds were reported in any of the surface water samples. Concentrations of iron exceed the 15A NCAC 2B surface water quality standard for freshwater aquatic life (1,000 µg/L) at background location SW-1, as well as at locations SW-2 and SW-3. It is noted that iron was also reported in an associated laboratory blank, indicating that a portion of the iron reported in the samples was introduced at the laboratory during sample preparation. Moreover, the iron concentration of iron in the background surface

water sample represents quality of surface water entering the site from upstream. None of the reported concentrations of any other metals or inorganic parameters in the surface water samples exceed applicable water quality standards.

The laboratory analytical results for the groundwater samples collected from the site monitoring wells on October 27, 2009 indicate that a trace level of methylene chloride (0.200 µg/L), substantially below the 15A NCAC 2L standard of 4.6 µg/L was reported in the sample from MW-1. It is noted that methylene chloride was also reported in the associated trip blank sample at a similar concentration. No other volatile organic constituents were reported in any of the groundwater samples.

The results of the metals and inorganic parameter analyses of the groundwater samples indicate that iron and manganese were reported in the groundwater samples collected from monitoring wells MW-2, MW-3 and MW-4 at concentrations that exceed the 15A NCAC 2L groundwater quality standards (300 µg/L and 40 µg/L, respectively) that become effective on January 1, 2010. In addition the reported concentrations of vanadium in the groundwater samples from monitoring wells MW-3 and MW-4 and the concentration of cobalt in the groundwater sample from MW-4 exceed the corresponding 15A NCAC 2L groundwater quality standards. It is noted that the groundwater samples collected from all of the monitoring wells were highly turbid, as discussed above. Inasmuch as the samples for metals analysis are prepared by Method 3030c without filtration, highly turbid samples tend to return false positives with respect to metals concentrations due to dissolution of metals from suspended sediment into the sample aliquot during acid fixation in the field and preparation for analysis in the laboratory. Consequently, it is concluded that the elevated levels of metals reported for the groundwater samples collected from the monitoring wells October 27, 2009 are directly attributable to the high turbidity of the samples. It is noted that none of the reported concentrations of the remaining metals in the groundwater samples exceed the corresponding 15A NCAC 2L .0202 groundwater quality standards.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the October 2009 groundwater and surface water quality monitoring conducted at the A-1 Sandrock C&D Landfill indicate that overall water quality is similar to that reported for the baseline sampling conducted in November 2006. No volatile organic compounds were reported in any of the groundwater or surface water samples at concentrations that exceed the corresponding 15A NCAC 2L .0202 groundwater quality standards or the 15A NCAC 2B surface water quality standards. Cobalt, iron, manganese and vanadium were reported at

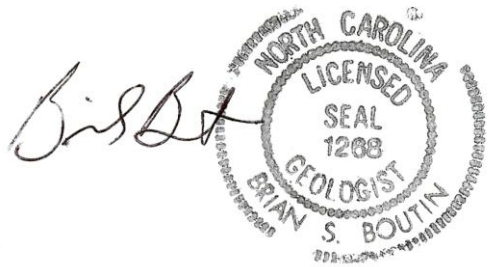
5105 Harbour Towne Drive • Raleigh • North Carolina • 27604
919-231-1818 (Office and Fax) • 919-418-4375 (Mobile) • E-mail: david@davidgarrettpe.com

concentrations exceeding the corresponding 15A NCAC 2L .0202 groundwater quality standards in groundwater samples collected from the site monitoring wells in October 2009. It is noted that the groundwater samples collected from all of the monitoring wells were highly turbid due to the use of bottom-loading disposable bailers for purging and sampling (necessitated at MW-1 due to the depth to groundwater).

Inasmuch as the samples for metals analysis are prepared by Method 3030c without filtration, highly turbid samples tend to return false positives with respect to metals concentrations due to dissolution of metals from suspended sediment into the sample aliquot during preparation for analysis. Consequently, it is concluded that the elevated levels of metals reported for the groundwater samples collected from the site monitoring wells on October 27, 2009 are directly attributable to the high turbidity of the samples and are not representative of the concentration of metals in groundwater under natural conditions.

If you have any questions or require further assistance regarding this report, please call me at 919-995-0363. The next water quality monitoring event for the A-1 Sandrock C&D Landfill is scheduled for April 2010.

Sincerely,



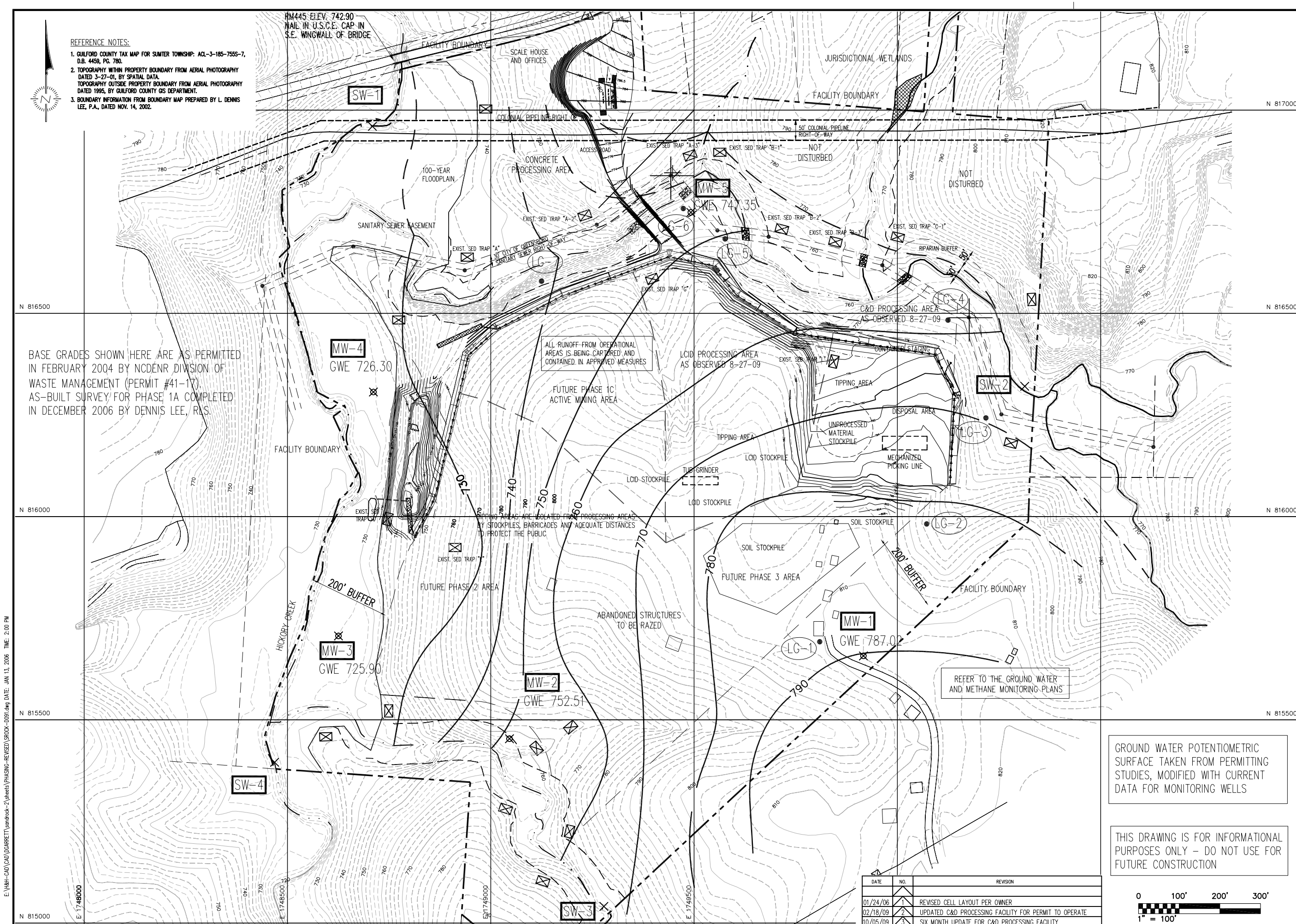
Brian S. Boutin, P.G.
Consulting Geologist

Cc: Ronnie Petty, A-1 Sandrock
David Garrett, PG, PE

5105 Harbour Towne Drive • Raleigh • North Carolina • 27604
919-231-1818 (Office and Fax) • 919-418-4375 (Mobile) • E-mail: david@davidgarrettpe.com

REFERENCE NOTES:

1. GUILFORD COUNTY TAX MAP FOR SUMTER TOWNSHIP: ACL-3-185-755S-7, D.B. 4459, PG. 780.
2. TOPOGRAPHY WITHIN PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 3-27-01, BY SPATIAL DATA. TOPOGRAPHY OUTSIDE PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 1995, BY GUILFORD COUNTY GIS DEPARTMENT.
3. BOUNDARY INFORMATION FROM BOUNDARY MAP PREPARED BY L. DENNIS LEE, P.A., DATED NOV. 14, 2002.



DATE	NO.	REVISION
01/24/06	1	REVISED CELL LAYOUT PER OWNER
02/18/09	2	UPDATED C&D PROCESSING FACILITY FOR PERMIT TO OPERATE
10/05/09	3	SIX MONTH UPDATE FOR C&D PROCESSING FACILITY

David Garrett, PG, PE.
Engineering and Geology
5105 Harbour Towne Drive, Raleigh, North Carolina 27604
Email: david_garrett_pg@thinkspring.com 919-231-1818 (Office and Fax) 919-410-4375 (mobile)

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042 GEOLOGIST DAVID G. GARRETT 12-10-2009

PROJECT TITLE:
A-1 SANDROCK SOUTH MINE
OPERATIONS AND CLOSURE
GUILFORD COUNTY, N.C.
SOLID WASTE PERMIT #41-17

DRAWING TITLE:
GROUND WATER POTENTIOMETRIC SURFACES FOR DETECTION MONITORING EVENT 10/27/09

DESIGNED BY: G.D.G.	DRAWN BY: A.W.H.
CHECKED BY: G.D.G.	PROJECT NO.: SANDROCK-2
SCALE: AS SHOWN	DATE: DEC 2009
FILE NAME: SROCK-D091_SIX-MONTH	
SHEET NO. 1	DRAWING NO. MP1

E:\W&H-CAD\DGARRETT\sandrock-2\sheets\PHASING-REVISED\SROCK-D091.dwg DATE: JAN 13, 2006 TIME: 2:00 PM

Table 1
Monitoring Well Specifications and Groundwater Indicator Parameter Data
October 2009 Sampling Event
October 27, 2009
A-1 Sandrock C&D Landfill
Greensboro, Guilford County, North Carolina
Permit # 4117

Well Identity	Well Depth (Feet BTOC)	Well Diameter (Inches)	Top of Casing Elevation (Feet MSL)	Depth to Groundwater (Feet BTOC)	Groundwater Elevation (Feet MSL)	Field Parameters			
						Temp. C^{o}	pH	S.C. umhos/cm	Turbidity (ntu)
MW-1	44.0	2.0	816.05	29.03	787.02	14.6	7.07	260	1000+
MW-2	33.0	2.0	761.92	9.41	752.51	14.8	7.07	140	972
MW-3	33.0	2.0	731.82	5.92	725.90	14.2	7.06	130	1000+
MW-4	24.0	2.0	733.17	6.87	726.30	16.0	6.11	150	378
MW-5	28.5	2.0	762.88	15.53	747.35	16.0	6.07	260	1000+

Notes: MSL = Mean Sea Level
BTOC = Below Top of Casing
GW = Groundwater
S.C. = Specific Conductance
ntu = Nephelometric Turbidity Units
Monitoring well construction data taken from October-December 2006 Sampling Event Monitoring Report prepared by Withers & Ravenel.

Table 2
Historical Results of Appendix I Detection Monitoring
A-1 Sandrock C&D Landfill
Greensboro, Guilford County, North Carolina
Permit # 4117-CDLF-2008

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date 11/29/2006	10/27/2009
MW-1	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	390	22.9 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	BQL
	Cobalt	2*	**9**	BQL
	Copper	1000	36	3.02 JB
	Iron	300**	NA	158
	Lead	15	11	BQL
	Manganese	50**	NA	13.6
	Mercury	1.05	NA	BQL
	Nickel	100	10	BQL
	Selenium	50	BQL	BQL
	Silver	17.5	12	1.24 JB
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	**200**	12.3
	Zinc	1050	202	2.00 J
	Methylene Chloride (Dichloromethane)	4.6	BQL	0.200 JB
	Chloride	250000	NA	4050
	Sulfate	250000	NA	26700
	Alkalinity	NS	NA	71400
	TDS	500000	NA	84000
MW-2	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	449	50.8 JB

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	BQL
	Cobalt	2*	**9**	BQL
	Copper	1000	45	8.77 JB
	Iron	300**	NA	**2360 B**
	Lead	15	BQL	BQL
	Manganese	50**	NA	**63.4**
	Mercury	1.05	NA	BQL
	Nickel	100	BQL	BQL
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	3.43 JB
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	**200**	8.3
	Zinc	1050	236	4.41 J
	Chloride	250000	NA	3240
	Sulfate	250000	NA	10500
	Alkalinity	NS	NA	47900
	TDS	500000	NA	75000
MW-3	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	860	334 B
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	29	28.7 B
	Cobalt	2*	**30**	**20**
	Copper	1000	60	27.8 B
	Iron	300**	NA	**35200 B**
	Lead	15	BQL	10.4
	Manganese	50**	NA	**481**
	Mercury	1.05	NA	BQL
	Nickel	100	67	31.0 J

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
	Selenium	50	BQL	6.34 J
	Silver	17.5	BQL	BQL
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	**135**	**61.5**
	Zinc	1050	219	65.7
	Chloride	250000	NA	2610
	Sulfate	250000	NA	7430
	Alkalinity	NS	NA	52800
	TDS	500000	NA	84000
MW-4	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	768	163 B
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	11	24.5 B
	Cobalt	2*	**11**	**9.53 J**
	Copper	1000	67	35.0 B
	Iron	300**	NA	**17700 B**
	Lead	15	6	BQL
	Manganese	50**	NA	**767**
	Mercury	1.05	NA	BQL
	Nickel	100	15	20.5 J
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	0.88 JB
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	**106**	**34.8**
	Zinc	1050	354	18.2
	Chloride	250000	NA	2940
	Sulfate	250000	NA	8350
	Alkalinity	NS	NA	46900
	TDS	500000	NA	77000

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
MW-5	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	534	42.4 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	11	BQL
	Cobalt	2*	**14**	1.96 J
	Copper	1000	55	8.49 JB
	Iron	300**	NA	**1250 B**
	Lead	15	BQL	BQL
	Manganese	50**	NA	**418**
	Mercury	1.05	NA	BQL
	Nickel	100	14	3.02 JB
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	1.09 JB
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	**145**	11.2
	Zinc	1050	501	2.68 J
	Toluene	1000	BQL	0.830 J
	Chloride	250000	NA	7000
	Sulfate	250000	NA	16100
	Alkalinity	NS	NA	84100
	TDS	500000	NA	132000
SW-1	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	82	57.7 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	3.33 JB
	Cobalt	2*	BQL	BQL
	Copper	1000	BQL	7.56 JB
	Iron	300*	NA	2530 B

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
	Lead	15	BQL	BQL
	Manganese	50**	NA	97.4
	Mercury	1.05	NA	BQL
	Nickel	100	BQL	4.92 J
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	0.67 JB
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	BQL	9.74
	Zinc	1050	BQL	17.2
	Acetone	700	BQL	2.98 J
	Chloride	250000	NA	22000
	Sulfate	250000	NA	9200
	Alkalinity	NS	NA	89900
	TDS	500000	NA	166000
SW-2	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	47	81.7 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	BQL
	Cobalt	2*	BQL	BQL
	Copper	1000	BQL	2.69 JB
	Iron	300**	NA	1040 B
	Lead	15	BQL	BQL
	Manganese	50**	NA	284
	Mercury	1.05	NA	BQL
	Nickel	100	BQL	BQL
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	BQL
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	BQL	4.43
	Zinc	1050	BQL	1.40 J

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
	Chloride	250000	NA	12200
	Sulfate	250000	NA	11800
	Alkalinity	NS	NA	182000
	TDS	500000	NA	241000
SW-3	Antimony	1.4*	**33**	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	BQL	61.7 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	BQL
	Cobalt	2*	BQL	4.84 J
	Copper	1000	42	11.2 B
	Iron	300**	NA	2050 B
	Lead	15	BQL	BQL
	Manganese	50**	NA	422
	Mercury	1.05	NA	BQL
	Nickel	100	BQL	BQL
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	BQL
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	BQL	3.27
	Zinc	1050	BQL	4.66 J
	Chloride	250000	NA	6270
	Sulfate	250000	NA	8670
	Alkalinity	NS	NA	53800
	TDS	500000	NA	92000
SW-4	Antimony	1.4*	BQL	BQL
	Arsenic	50	BQL	BQL
	Barium	2000	70	62.6 JB
	Beryllium	4*	BQL	BQL
	Cadmium	1.75	BQL	BQL
	Chromium	50	BQL	BQL

Sample ID	Appendix II Constituent	NCAC 2L Standard (µg/L)	Analytical Results (µg/L) Sampling Date	
			11/29/2006	10/27/2009
	Cobalt	2*	BQL	BQL
	Copper	1000	BQL	3.21 JB
	Iron	300**	NA	553 B
	Lead	15	BQL	BQL
	Manganese	50**	NA	447
	Mercury	1.05	NA	BQL
	Nickel	100	BQL	BQL
	Selenium	50	BQL	BQL
	Silver	17.5	BQL	BQL
	Thallium	0.28*	BQL	BQL
	Vanadium	25*	BQL	BQL
	Zinc	1050	BQL	2.20 J
	Acetone	700	BQL	2.57 J
	Chloride	250000	NA	18600
	Sulfate	250000	NA	10200
	Alkalinity	NS	NA	117000
	TDS	500000	NA	181000

Notes: NCAC 2L STD = Groundwater Quality Standard under Title 15A of North Carolina Administrative Code Subchapter 2L

* - Solid Waste Section Groundwater Protection Standard (SWS GWP Standard)

** - NCAC 2L standard becomes effective 1/1/10.

Laboratory results in bold exceed NCAC 2L STD or SWS GWP Standard

BQL - Not Detected above the Laboratory Practical Quantitation Limit

NA = Not analyzed

NE - Not Established

NS = Not sampled

J = Estimated value above laboratory method detection limit and below SWSL or reporting limit.

APPENDIX A

Groundwater Sampling Forms

Well/Piezo ID: MW-1

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: Cloudy, 58°F Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1227 am/pm
Finish 1305 am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length 46.48
b. Water Table Depth 29.03
c. Casing Material PVC
d. Casing Diameter 2"
e. Length of Water Column 17.45 (a-b)
f. Calculated Well Volume (see back) 2.8

WELL PURGING DATA

a. Purge Method HAND BAILED

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) 8.4
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1233	INT	15.0	6.55	310	10.5		Clear	None	
1242	3.0	14.7	6.49	260	1000+		Tan	None	
1248	6.0	14.6	6.46	260	1000+		"	"	
1259	9.0	14.6	7.07	260	1000+		"	"	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☒	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- MW1	VOA	3	HCL	APP.1 VOC'S	1700
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

Well/Piezo ID: MW2

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: Lt Rain; 50°s Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1315 am/pm
Finish 1400 am/pm

WATER LEVEL DATA: (measured from Top of Casing)

Well ☐ Piezometer ☐

a. Total Well Length 33.0
b. Water Table Depth 9.41
c. Casing Material PVC
d. Casing Diameter 2"
e. Length of Water Column 23.59 (a-b)
f. Calculated Well Volume (see back) 3.8

WELL PURGING DATA

a. Purge Method HAND BAILED

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) 11.4
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1320	INS	16.6	6.15	170	4.3		clear	None	
1332	4.0	15.0	7.07	160	34.7		clear	None	
1340	8.0	14.5	7.07	150	669		clear	None	
1355	12.0	14.0	7.07	140	972		clear	None	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117-MW2	VOA	3	HCL	APP.1 VOC'S	1410
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

Well/Piezo ID: MW3

Ground Water Sample Collection Record

Client:	DAVID GARRETT,PE,PG	Date:	10/27/09
Project No:	A-1 SANDROCK C.D LANDFILL	Time: Start	1440 am/pm
Site Location:	GUILFORD COUNTY, NC	Finish	1450 am/pm
Weather Conds:	Rain 50's Collector(s) AARON HILL		

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length 32.78 c. Casing Material PVC e. Length of Water Column 26.86 (a-b)

b. Water Table Depth 5.92 d. Casing Diamete r 2" f. Calculated Well Volume (see back) 4.4

WELL PURGING DATA

a. Purge Method HAND BAILED

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ 3 well volumes) 13.6
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1415	INT	16.3	6.69	160	6.9		Clear	None	
1427	4.5	14.4	7.06	150	1000+		Brown	↓	
1437	9.0	14.3	7.06	130	1000+		↓	↓	
1449	14.5	14.2	7.06	130	1000+				

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- MW3	VOA	3	HCL	APP.1 VOC'S	1720
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

Well/Piezo ID: MW4

Ground Water Sample Collection Record

Client:	DAVID GARRETT,PE,PG	Date:	10/27/09
Project No:	A-1 SANDROCK C.D LANDFILL	Time: Start	1518 am/pm
Site Location:	GUILFORD COUNTY, NC	Finish	1540 am/pm
Weather Conds:	Urban 50's Collector(s) AARON HILL		

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length 25.48 c. Casing Material PVC e. Length of Water Column 18.61 (a-b)

b. Water Table Depth 6.87 d. Casing Diamete r 2" f. Calculated Well Volume (see back) 3.0

WELL PURGING DATA

a. Purge Method HAND BAILED

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) 9.0
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page #_____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1523	INT	16.0	6.11	150	37.8		Orange	None	
1528	3.0						↓	↑	
1533	6.0						brown		
1538	9.0						↓	↓	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- MW4	VOA	3	HCL	APP.1 VOC'S	1730
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

Well/Piezo ID: MW-5

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: overcast; 50's Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1140 am/pm
Finish 1156 am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length 31.33
b. Water Table Depth 15.53
c. Casing Material PVC
d. Casing Diameter 2"
e. Length of Water Column 15.8 (a-b)
f. Calculated Well Volume (see back) 2.6

WELL PURGING DATA

a. Purge Method HAND BAILED

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) 7.8
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1145	INT	17.0	5.89	200	12.4		clear	none	
1150	3.0/dry	16.0	6.07	260	1000+		tan	↓	
~~1156~~	~~60~~				↓		↓	↓	
~~1202~~	~~70~~								

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☒	☐
Has required turbidity been reached	☐	☐	☒
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- MW-5	VOA	3	HCL	APP.1 VOC'S	1140
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	↓
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments Purged dry; allow to recharge & Sample

Signature [signature] Date 10/27/09

Well/Piezo ID: SW-2

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: overcast, 50's Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1205 am/pm
Finish 1220 am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length ___ c. Casing Material PVC e. Length of Water Column ___ (a-b)

b. Water Table Depth ___ d. Casing Diamete r 2" f. Calculated Well Volume (see back) ___

WELL PURGING DATA

a. Purge Method ___ ~~HAND BAILED~~ Stream Sample

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ ___ well volumes) ___
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # ___ Page # ___

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1208	—	13.8	7.04	430	4.5		Clear	None	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- SW2	VOA	3	HCL	APP.1 VOC'S	1210
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

Well/Piezo ID: SW3

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: LT Rain; 50s Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1335 am/pm
Finish 1345 am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length _____ c. Casing Material PVC e. Length of Water Column _____ (a-b)

b. Water Table Depth _____ d. Casing Diameter 2" f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method _____ ~~HAND BAILED~~ Stream Sample

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1338	—	13.10	6.85	200	46		clear	none	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- SW3	VOA	3	HCL	APP.1 VOC'S	1340
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments _____

Signature _____ Date 10/27/09

Well/Piezo ID: SW-4

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: Rain, 50's Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1457 am/pm
Finish 1510 am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length _____ c. Casing Material PVC e. Length of Water Column _____ (a-b)

b. Water Table Depth _____ d. Casing Diameter 2" f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method _____ ~~HAND BAILED~~ Stream Sample

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1500	~	15.0	7.45	380	4.8		clear	None	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☒
Has required turbidity been reached	☐	☐	☒
Have parameters stabilized	☐	☐	☒

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117- SW4	VOA	3	HCL	APP.1 VOC'S	1505
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments _____

Signature Aa Hill Date 10/27/09

Well/Piezo ID: SW-1

Ground Water Sample Collection Record

Client: DAVID GARRETT,PE,PG
Project No: A-1 SANDROCK C.D LANDFILL
Site Location: GUILFORD COUNTY, NC
Weather Conds: Rain, 50's Collector(s) AARON HILL

Date: 10/27/09
Time: Start 1745 am/pm
Finish _____ am/pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☐ Piezometer ☐

a. Total Well Length _____ c. Casing Material PVC e. Length of Water Column _____ (a-b)

b. Water Table Depth _____ d. Casing Diamete r 2" f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method _____ ~~HAND BAILED~~ Stream Sample

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
OAKTON	PH/CON10	
HACH	2100P	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page #_____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	TURBIDITY		Color	Odor	
1748	—	14.5	7.28	300	2.1		Clear	None	

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☒
Has required turbidity been reached	☐	☐	☒
Have parameters stabilized	☐	☐	☒

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: DISPOSABLE BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
4117-SW1	VOA	3	HCL	APP.1 VOC'S	1750
4117-	500 ml PLASTIC	1	HN03	APP.1 -Hg,Mn,Fe	
4117-	125 ml Plastic	1	None	Cl, Sulfate	
4117-	125 ml Plastic	1	None	Alk	
4117-	125 ml Plastic	1	None	TDS	

Comments

Signature [signature] Date 10/27/09

APPENDIX B

Laboratory Reports
And
Chain-of-Custody Records

SGS

Mr. Jeff Leaver
Environmental Field Management
495 Beaumont Lane
Pittsfield NC 27312

Report Number: G1081-3

Client Project: A-1 Sandrock

Dear Mr. Leaver:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.

12 November 2009
Date

Project Manager
Lori Lockamy

Case Narrative
EFM
SGS Project: **G1081-3**
Project Name: **A-1 sandrock**

SGS North America; Inc.

November 12th, 2009

- Ten water samples were accepted into the laboratory on October 29th, 2009 at 1015 for analyses as indicated on the chain of custody. The samples were received in good condition, with a temperature of 3.3°C.
- All extractions and analyses were completed within holding time limits, with the following quality control exceptions.

8260 Analysis

- The **Trip Blank** has a reported concentration for Methylene Chloride of 3.17 ug/L. Methylene Chloride was also detected in samples **4117-EB01** and **4117-MW1**.

Craig R Tronzo Date 11/13/09

Craig R Tronzo
Data Validation/QC

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% soilds = Percent Solids

Special Notes:
1) Metals and mercury samples are digested with a hot block; see the standard operating procedure document for details.
2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.021808.4

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-EB01
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-1A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 11:35
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/7/2009	
Acetonitrile	BQL	55.0	2.58	1	11/7/2009	
Acrylonitrile	BQL	200	2.93	1	11/7/2009	
Benzene	BQL	1.00	0.0650	1	11/7/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/7/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/7/2009	
Bromoform	BQL	3.00	0.120	1	11/7/2009	
Bromomethane	BQL	10.0	0.133	1	11/7/2009	
2-butanone	BQL	100	0.544	1	11/7/2009	
Carbon disulfide	BQL	100	0.0690	1	11/7/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/7/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/7/2009	
Chloroethane	BQL	10.0	0.106	1	11/7/2009	
Chloroform	BQL	5.00	0.0790	1	11/7/2009	
Chloromethane	BQL	1.00	0.146	1	11/7/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/7/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/7/2009	
Dibromomethane	BQL	10.0	0.113	1	11/7/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/7/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/7/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/7/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/7/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/7/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/7/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/7/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/7/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/7/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/7/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/7/2009	
2-hexanone	BQL	50.0	0.720	1	11/7/2009	
Iodomethane	BQL	10.0	0.0420	1	11/7/2009	
Methylene chloride	**1.20**	1.00	0.0980	1	11/7/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/7/2009	
Styrene	BQL	1.00	0.0850	1	11/7/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/7/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/7/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/7/2009	
Toluene	BQL	1.00	0.0760	1	11/7/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/7/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/7/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/7/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-EB01
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-1A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 11:35
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/7/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/7/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/7/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/7/2009	
Total Xylene	BQL	5.00	0.0650	1	11/7/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.3	113
Toluene-d8	10	10	100
4-Bromofluorobenzene	10	9.74	97

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: CL

Reviewed By: CM

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-2A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:00
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/7/2009	
Acetonitrile	BQL	55.0	2.58	1	11/7/2009	
Acrylonitrile	BQL	200	2.93	1	11/7/2009	
Benzene	BQL	1.00	0.0650	1	11/7/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/7/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/7/2009	
Bromoform	BQL	3.00	0.120	1	11/7/2009	
Bromomethane	BQL	10.0	0.133	1	11/7/2009	
2-butanone	BQL	100	0.544	1	11/7/2009	
Carbon disulfide	BQL	100	0.0690	1	11/7/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/7/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/7/2009	
Chloroethane	BQL	10.0	0.106	1	11/7/2009	
Chloroform	BQL	5.00	0.0790	1	11/7/2009	
Chloromethane	BQL	1.00	0.146	1	11/7/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/7/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/7/2009	
Dibromomethane	BQL	10.0	0.113	1	11/7/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/7/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/7/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/7/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/7/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/7/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/7/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/7/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/7/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/7/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/7/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/7/2009	
2-hexanone	BQL	50.0	0.720	1	11/7/2009	
Iodomethane	BQL	10.0	0.0420	1	11/7/2009	
Methylene chloride	**0.200**	1.00	0.0980	1	11/7/2009	J
4-methyl-2-pentanone	BQL	100	0.550	1	11/7/2009	
Styrene	BQL	1.00	0.0850	1	11/7/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/7/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/7/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/7/2009	
Toluene	BQL	1.00	0.0760	1	11/7/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/7/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/7/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/7/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-2A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:00
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/7/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/7/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/7/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/7/2009	
Total Xylene	BQL	5.00	0.0650	1	11/7/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.1	111
Toluene-d8	10	9.9	99
4-Bromofluorobenzene	10	9.61	96

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-3A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:10
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/7/2009	
Acetonitrile	BQL	55.0	2.58	1	11/7/2009	
Acrylonitrile	BQL	200	2.93	1	11/7/2009	
Benzene	BQL	1.00	0.0650	1	11/7/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/7/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/7/2009	
Bromoform	BQL	3.00	0.120	1	11/7/2009	
Bromomethane	BQL	10.0	0.133	1	11/7/2009	
2-butanone	BQL	100	0.544	1	11/7/2009	
Carbon disulfide	BQL	100	0.0690	1	11/7/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/7/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/7/2009	
Chloroethane	BQL	10.0	0.106	1	11/7/2009	
Chloroform	BQL	5.00	0.0790	1	11/7/2009	
Chloromethane	BQL	1.00	0.146	1	11/7/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/7/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/7/2009	
Dibromomethane	BQL	10.0	0.113	1	11/7/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/7/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/7/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/7/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/7/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/7/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/7/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/7/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/7/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/7/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/7/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/7/2009	
2-hexanone	BQL	50.0	0.720	1	11/7/2009	
Iodomethane	BQL	10.0	0.0420	1	11/7/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/7/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/7/2009	
Styrene	BQL	1.00	0.0850	1	11/7/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/7/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/7/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/7/2009	
Toluene	BQL	1.00	0.0760	1	11/7/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/7/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/7/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/7/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-3A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:10
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/7/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/7/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/7/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/7/2009	
Total Xylene	BQL	5.00	0.0650	1	11/7/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	10.7	107
Toluene-d8	10	9.94	99
4-Bromofluorobenzene	10	9.46	95

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-4A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:20
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/7/2009	
Acetonitrile	BQL	55.0	2.58	1	11/7/2009	
Acrylonitrile	BQL	200	2.93	1	11/7/2009	
Benzene	BQL	1.00	0.0650	1	11/7/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/7/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/7/2009	
Bromoform	BQL	3.00	0.120	1	11/7/2009	
Bromomethane	BQL	10.0	0.133	1	11/7/2009	
2-butanone	BQL	100	0.544	1	11/7/2009	
Carbon disulfide	BQL	100	0.0690	1	11/7/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/7/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/7/2009	
Chloroethane	BQL	10.0	0.106	1	11/7/2009	
Chloroform	BQL	5.00	0.0790	1	11/7/2009	
Chloromethane	BQL	1.00	0.146	1	11/7/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/7/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/7/2009	
Dibromomethane	BQL	10.0	0.113	1	11/7/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/7/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/7/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/7/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/7/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/7/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/7/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/7/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/7/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/7/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/7/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/7/2009	
2-hexanone	BQL	50.0	0.720	1	11/7/2009	
Iodomethane	BQL	10.0	0.0420	1	11/7/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/7/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/7/2009	
Styrene	BQL	1.00	0.0850	1	11/7/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/7/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/7/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/7/2009	
Toluene	BQL	1.00	0.0760	1	11/7/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/7/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/7/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/7/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-4A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:20
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/7/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/7/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/7/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/7/2009	
Total Xylene	BQL	5.00	0.0650	1	11/7/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.3	113
Toluene-d8	10	9.87	99
4-Bromofluorobenzene	10	9.52	95

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-5A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:30
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/7/2009	
Acetonitrile	BQL	55.0	2.58	1	11/7/2009	
Acrylonitrile	BQL	200	2.93	1	11/7/2009	
Benzene	BQL	1.00	0.0650	1	11/7/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/7/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/7/2009	
Bromoform	BQL	3.00	0.120	1	11/7/2009	
Bromomethane	BQL	10.0	0.133	1	11/7/2009	
2-butanone	BQL	100	0.544	1	11/7/2009	
Carbon disulfide	BQL	100	0.0690	1	11/7/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/7/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/7/2009	
Chloroethane	BQL	10.0	0.106	1	11/7/2009	
Chloroform	BQL	5.00	0.0790	1	11/7/2009	
Chloromethane	BQL	1.00	0.146	1	11/7/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/7/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/7/2009	
Dibromomethane	BQL	10.0	0.113	1	11/7/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/7/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/7/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/7/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/7/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/7/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/7/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/7/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/7/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/7/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/7/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/7/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/7/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/7/2009	
2-hexanone	BQL	50.0	0.720	1	11/7/2009	
Iodomethane	BQL	10.0	0.0420	1	11/7/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/7/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/7/2009	
Styrene	BQL	1.00	0.0850	1	11/7/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/7/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/7/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/7/2009	
Toluene	BQL	1.00	0.0760	1	11/7/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/7/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/7/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/7/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-5A
Lab Project ID: G1081-3

Analyzed By: CLP
Date Collected: 10/27/2009 17:30
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/7/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/7/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/7/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/7/2009	
Total Xylene	BQL	5.00	0.0650	1	11/7/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.5	115
Toluene-d8	10	9.87	99
4-Bromofluorobenzene	10	9.49	95

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: CP

Reviewed By: [illegible]

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW5
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-6A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 17:40
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/8/2009	
Acetonitrile	BQL	55.0	2.58	1	11/8/2009	
Acrylonitrile	BQL	200	2.93	1	11/8/2009	
Benzene	BQL	1.00	0.0650	1	11/8/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/8/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/8/2009	
Bromoform	BQL	3.00	0.120	1	11/8/2009	
Bromomethane	BQL	10.0	0.133	1	11/8/2009	
2-butanone	BQL	100	0.544	1	11/8/2009	
Carbon disulfide	BQL	100	0.0690	1	11/8/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/8/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/8/2009	
Chloroethane	BQL	10.0	0.106	1	11/8/2009	
Chloroform	BQL	5.00	0.0790	1	11/8/2009	
Chloromethane	BQL	1.00	0.146	1	11/8/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/8/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/8/2009	
Dibromomethane	BQL	10.0	0.113	1	11/8/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/8/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/8/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/8/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/8/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/8/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/8/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/8/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/8/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/8/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/8/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/8/2009	
2-hexanone	BQL	50.0	0.720	1	11/8/2009	
Iodomethane	BQL	10.0	0.0420	1	11/8/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/8/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/8/2009	
Styrene	BQL	1.00	0.0850	1	11/8/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/8/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/8/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/8/2009	
Toluene	**0.830**	1.00	0.0760	1	11/8/2009	J
Trichloroethene	BQL	1.00	0.0540	1	11/8/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/8/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/8/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-MW5
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-6A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 17:40
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/8/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/8/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/8/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/8/2009	
Total Xylene	BQL	5.00	0.0650	1	11/8/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11	110
Toluene-d8	10	10.1	101
4-Bromofluorobenzene	10	9.59	96

Comments:

Flags:
BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Analyst: CL

Reviewed By: [illegible]

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-7A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 12:10
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/8/2009	
Acetonitrile	BQL	55.0	2.58	1	11/8/2009	
Acrylonitrile	BQL	200	2.93	1	11/8/2009	
Benzene	BQL	1.00	0.0650	1	11/8/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/8/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/8/2009	
Bromoform	BQL	3.00	0.120	1	11/8/2009	
Bromomethane	BQL	10.0	0.133	1	11/8/2009	
2-butanone	BQL	100	0.544	1	11/8/2009	
Carbon disulfide	BQL	100	0.0690	1	11/8/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/8/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/8/2009	
Chloroethane	BQL	10.0	0.106	1	11/8/2009	
Chloroform	BQL	5.00	0.0790	1	11/8/2009	
Chloromethane	BQL	1.00	0.146	1	11/8/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/8/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/8/2009	
Dibromomethane	BQL	10.0	0.113	1	11/8/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/8/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/8/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/8/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/8/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/8/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/8/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/8/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/8/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/8/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/8/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/8/2009	
2-hexanone	BQL	50.0	0.720	1	11/8/2009	
Iodomethane	BQL	10.0	0.0420	1	11/8/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/8/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/8/2009	
Styrene	BQL	1.00	0.0850	1	11/8/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/8/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/8/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/8/2009	
Toluene	BQL	1.00	0.0760	1	11/8/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/8/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/8/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/8/2009	

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-7A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 12:10
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/8/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/8/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/8/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/8/2009	
Total Xylene	BQL	5.00	0.0650	1	11/8/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.4	114
Toluene-d8	10	10.1	101
4-Bromofluorobenzene	10	9.55	96

Comments:

Flags:
BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Analyst: CL

Reviewed By: CM

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-8A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 13:40
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	100	2.18	1	11/8/2009	
Acetonitrile	BQL	55.0	2.58	1	11/8/2009	
Acrylonitrile	BQL	200	2.93	1	11/8/2009	
Benzene	BQL	1.00	0.0650	1	11/8/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/8/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/8/2009	
Bromoform	BQL	3.00	0.120	1	11/8/2009	
Bromomethane	BQL	10.0	0.133	1	11/8/2009	
2-butanone	BQL	100	0.544	1	11/8/2009	
Carbon disulfide	BQL	100	0.0690	1	11/8/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/8/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/8/2009	
Chloroethane	BQL	10.0	0.106	1	11/8/2009	
Chloroform	BQL	5.00	0.0790	1	11/8/2009	
Chloromethane	BQL	1.00	0.146	1	11/8/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/8/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/8/2009	
Dibromomethane	BQL	10.0	0.113	1	11/8/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/8/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/8/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/8/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/8/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/8/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/8/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/8/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/8/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/8/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/8/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/8/2009	
2-hexanone	BQL	50.0	0.720	1	11/8/2009	
Iodomethane	BQL	10.0	0.0420	1	11/8/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/8/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/8/2009	
Styrene	BQL	1.00	0.0850	1	11/8/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/8/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/8/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/8/2009	
Toluene	BQL	1.00	0.0760	1	11/8/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/8/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/8/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/8/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-8A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 13:40
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/8/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/8/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/8/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/8/2009	
Total Xylene	BQL	5.00	0.0650	1	11/8/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.3	113
Toluene-d8	10	10	100
4-Bromofluorobenzene	10	9.56	96

Comments:

Flags:
BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Analyst: CL

Reviewed By: MA

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-9A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 15:05
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	**2.57**	100	2.18	1	11/8/2009	J
Acetonitrile	BQL	55.0	2.58	1	11/8/2009	
Acrylonitrile	BQL	200	2.93	1	11/8/2009	
Benzene	BQL	1.00	0.0650	1	11/8/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/8/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/8/2009	
Bromoform	BQL	3.00	0.120	1	11/8/2009	
Bromomethane	BQL	10.0	0.133	1	11/8/2009	
2-butanone	BQL	100	0.544	1	11/8/2009	
Carbon disulfide	BQL	100	0.0690	1	11/8/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/8/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/8/2009	
Chloroethane	BQL	10.0	0.106	1	11/8/2009	
Chloroform	BQL	5.00	0.0790	1	11/8/2009	
Chloromethane	BQL	1.00	0.146	1	11/8/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/8/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/8/2009	
Dibromomethane	BQL	10.0	0.113	1	11/8/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/8/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/8/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/8/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/8/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/8/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/8/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/8/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/8/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/8/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/8/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/8/2009	
2-hexanone	BQL	50.0	0.720	1	11/8/2009	
Iodomethane	BQL	10.0	0.0420	1	11/8/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/8/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/8/2009	
Styrene	BQL	1.00	0.0850	1	11/8/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/8/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/8/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/8/2009	
Toluene	BQL	1.00	0.0760	1	11/8/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/8/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/8/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/8/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-9A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 15:05
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/8/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/8/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/8/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/8/2009	
Total Xylene	BQL	5.00	0.0650	1	11/8/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.5	115
Toluene-d8	10	9.82	98
4-Bromofluorobenzene	10	9.43	94

Comments:

Flags:
BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Analyst: CL

Reviewed By: CM

SGS North America, Inc.

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-10A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 17:50
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	**2.98**	100	2.18	1	11/8/2009	J
Acetonitrile	BQL	55.0	2.58	1	11/8/2009	
Acrylonitrile	BQL	200	2.93	1	11/8/2009	
Benzene	BQL	1.00	0.0650	1	11/8/2009	
Bromochloromethane	BQL	3.00	0.101	1	11/8/2009	
Bromodichloromethane	BQL	1.00	0.0760	1	11/8/2009	
Bromoform	BQL	3.00	0.120	1	11/8/2009	
Bromomethane	BQL	10.0	0.133	1	11/8/2009	
2-butanone	BQL	100	0.544	1	11/8/2009	
Carbon disulfide	BQL	100	0.0690	1	11/8/2009	
Carbon tetrachloride	BQL	1.00	0.0870	1	11/8/2009	
Chlorobenzene	BQL	3.00	0.0820	1	11/8/2009	
Chloroethane	BQL	10.0	0.106	1	11/8/2009	
Chloroform	BQL	5.00	0.0790	1	11/8/2009	
Chloromethane	BQL	1.00	0.146	1	11/8/2009	
Dibromochloromethane	BQL	3.00	0.0900	1	11/8/2009	
1,2-Dibromo-3-chloropropane	BQL	13.0	1.21	1	11/8/2009	
Dibromomethane	BQL	10.0	0.113	1	11/8/2009	
1,2-Dibromoethane	BQL	1.00	0.124	1	11/8/2009	
1,2-Dichlorobenzene	BQL	5.00	0.127	1	11/8/2009	
1,3-Dichlorobenzene	BQL	5.00	0.0810	1	11/8/2009	
1,4-Dichlorobenzene	BQL	5.00	0.0790	1	11/8/2009	
t-1,4-Dichloro-2-butene	BQL	50.5	0.630	1	11/8/2009	
1,1-Dichloroethane	BQL	5.00	0.0740	1	11/8/2009	
1,1-Dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloroethane	BQL	1.00	0.0790	1	11/8/2009	
cis-1,2-Dichloroethene	BQL	5.00	0.0650	1	11/8/2009	
t-1,2-dichloroethene	BQL	5.00	0.0890	1	11/8/2009	
1,2-Dichloropropane	BQL	1.00	0.0940	1	11/8/2009	
1,1-Dichloropropene	BQL	5.00	0.0720	1	11/8/2009	
cis-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
t-1,3-Dichloropropene	BQL	1.00	0.0760	1	11/8/2009	
Ethylbenzene	BQL	1.00	0.0770	1	11/8/2009	
2-hexanone	BQL	50.0	0.720	1	11/8/2009	
Iodomethane	BQL	10.0	0.0420	1	11/8/2009	
Methylene chloride	BQL	1.00	0.0980	1	11/8/2009	
4-methyl-2-pentanone	BQL	100	0.550	1	11/8/2009	
Styrene	BQL	1.00	0.0850	1	11/8/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	0.0900	1	11/8/2009	
1,1,2,2-Tetrachloroethane	BQL	3.00	0.115	1	11/8/2009	
Tetrachloroethene	BQL	1.00	0.0690	1	11/8/2009	
Toluene	BQL	1.00	0.0760	1	11/8/2009	
Trichloroethene	BQL	1.00	0.0540	1	11/8/2009	
1,1,1-Trichloroethane	BQL	1.00	0.0540	1	11/8/2009	
1,1,2-Trichloroethane	BQL	1.00	0.182	1	11/8/2009	

GCMS.xls
NCAP1

Results for Volatiles
by GCMS 8260 Appendix I

Client Sample ID: 4117-SW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-10A
Lab Project ID: G1081-3

Analyzed By: DVO
Date Collected: 10/27/2009 17:50
Date Received: 10/29/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	SWSL Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Trichlorofluoromethane	BQL	1.00	0.111	1	11/8/2009	
1,2,3-Trichloropropane	BQL	1.00	0.120	1	11/8/2009	
Vinyl acetate	BQL	50.0	0.100	1	11/8/2009	
Vinyl chloride	BQL	1.00	0.149	1	11/8/2009	
Total Xylene	BQL	5.00	0.0650	1	11/8/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	11.5	115
Toluene-d8	10	9.93	99
4-Bromofluorobenzene	10	9.31	93

Comments:

Flags:
BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Analyst: _____

Reviewed By: _____

Results for Metals

Client Sample ID:	4117-EB01	Analyzed By:	CRN PSW
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 11:35
Lab Sample ID:	G1081-3-1	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	10/30/2009	
Barium	**0.0188**	0.100	0.00206	1	MG/L	6010B	10/30/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	**0.00433**	0.0100	0.00146	1	MG/L	6010B	10/30/2009	JB
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00182**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	BQL	0.100	0.0200	1	MG/L	6010B	10/30/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	10/30/2009	
Manganese	BQL	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	10/30/2009	
Silver	**0.00288**	0.0100	0.000656	1	MG/L	6010B	10/30/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.00196**	0.00250	0.000586	10	MG/L	6020	11/5/2009	J
Zinc	BQL	0.0100	0.00129	1	MG/L	6010B	11/2/2009	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-MW1	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:00
Lab Sample ID:	G1081-3-2	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0229**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00302**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**0.158**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.0136**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	**0.00124**	0.0100	0.000656	1	MG/L	6010B	11/2/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.0123**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00200**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-MW2	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:10
Lab Sample ID:	G1081-3-3	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0508**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00877**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**2.36**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.0634**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	**0.00343**	0.0100	0.000656	1	MG/L	6010B	11/2/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.00830**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00441**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-MW3	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:20
Lab Sample ID:	G1081-3-4	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.334**	0.100	0.00206	1	MG/L	6010B	11/2/2009	B
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	**0.0287**	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	**0.0200**	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.0278**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	B
Iron	**35.2**	1.00	0.200	10	MG/L	6010B	11/3/2009	B
Lead	**0.0104**	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.481**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	**0.0310**	0.0500	0.00236	1	MG/L	6010B	11/2/2009	J
Selenium	**0.00634**	0.0100	0.00278	1	MG/L	6010B	11/2/2009	J
Silver	BQL	0.0100	0.000656	1	MG/L	6010B	11/2/2009	B
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.0615**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.0657**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS.XLS

Results for Metals

Client Sample ID:	4117-MW4	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:30
Lab Sample ID:	G1081-3-5	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.163**	0.100	0.00206	1	MG/L	6010B	11/2/2009	B
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	**0.0245**	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	**0.00953**	0.0100	0.00172	1	MG/L	6010B	11/2/2009	J
Copper	**0.0350**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	B
Iron	**17.7**	1.00	0.200	10	MG/L	6010B	11/3/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.767**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	**0.0205**	0.0500	0.00236	1	MG/L	6010B	11/2/2009	J
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	**0.000880**	0.0100	0.000656	1	MG/L	6010B	11/2/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.0348**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.0182**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: CA
METALS.XLS

Results for Metals

Client Sample ID:	4117-MW5	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:40
Lab Sample ID:	G1081-3-6	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0424**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	**0.00196**	0.0100	0.00172	1	MG/L	6010B	11/2/2009	J
Copper	**0.00849**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**1.25**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.418**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	**0.00302**	0.0500	0.00236	1	MG/L	6010B	11/2/2009	J
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	**0.00109**	0.0100	0.000656	1	MG/L	6010B	11/2/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.0112**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00268**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-SW2	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 12:10
Lab Sample ID:	G1081-3-7	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0817**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00269**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**1.04**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.284**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	BQL	0.0100	0.000656	1	MG/L	6010B	11/2/2009	B
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.00443**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00140**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-SW3	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 13:40
Lab Sample ID:	G1081-3-8	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0617**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	**0.00484**	0.0100	0.00172	1	MG/L	6010B	11/2/2009	J
Copper	**0.0112**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	B
Iron	**2.05**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.422**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	BQL	0.0100	0.000656	1	MG/L	6010B	11/2/2009	B
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.00327**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00466**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-SW4	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 15:05
Lab Sample ID:	G1081-3-9	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0626**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	BQL	0.0100	0.00146	1	MG/L	6010B	11/2/2009	B
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00321**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**0.553**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.447**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	BQL	0.0500	0.00236	1	MG/L	6010B	11/2/2009	
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	BQL	0.0100	0.000656	1	MG/L	6010B	11/2/2009	B
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	BQL	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.00220**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	J

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	4117-SW1	Analyzed By:	PSW CRN
Client Project ID:	A-1 Sandrock	Date Collected:	10/27/2009 17:50
Lab Sample ID:	G1081-3-10	Date Received:	10/29/2009
Lab Project ID:	G1081-3	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	15426 15454		

Metals	Result	SWSL	MDL	DF	Units	Method	Date Analyzed	Flags
Antimony	BQL	0.00600	0.00295	1	MG/L	6010B	11/2/2009	
Arsenic	BQL	0.0100	0.00491	1	MG/L	6010B	11/2/2009	
Barium	**0.0577**	0.100	0.00206	1	MG/L	6010B	11/2/2009	JB
Beryllium	BQL	0.00100	0.000442	10	MG/L	6020	11/5/2009	
Cadmium	BQL	0.00100	0.000158	10	MG/L	6020	11/5/2009	
Chromium	**0.00333**	0.0100	0.00146	1	MG/L	6010B	11/2/2009	JB
Cobalt	BQL	0.0100	0.00172	1	MG/L	6010B	11/2/2009	
Copper	**0.00756**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	JB
Iron	**2.53**	0.100	0.0200	1	MG/L	6010B	11/2/2009	B
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	11/2/2009	
Manganese	**0.0974**	0.0100	0.000640	1	MG/L	6010B	11/2/2009	
Mercury	BQL	0.000285	0.000024	1	MG/L	7470	11/4/2009	
Nickel	**0.00492**	0.0500	0.00236	1	MG/L	6010B	11/2/2009	J
Selenium	BQL	0.0100	0.00278	1	MG/L	6010B	11/2/2009	
Silver	**0.000670**	0.0100	0.000656	1	MG/L	6010B	11/2/2009	JB
Thallium	BQL	0.00550	0.000198	10	MG/L	6020	11/5/2009	
Vanadium	**0.00974**	0.00250	0.000586	10	MG/L	6020	11/5/2009	
Zinc	**0.0172**	0.0100	0.00129	1	MG/L	6010B	11/2/2009	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-EB01
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-1E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 11:35
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	BQL	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-MW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-2E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:00
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**4.05**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-MW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-3E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:10
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**3.24**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-MW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-4E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:20
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**2.61**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-MW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-5E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:30
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**2.94**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-MW5
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-6E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:40
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**7.00**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-SW2
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-7E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 12:10
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**12.2**	3.00	0.107	10	11/9/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-SW3
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-8E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 13:40
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**6.27**	0.300	0.0107	1	11/5/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-SW4
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-9E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 15:05
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**18.6**	3.00	0.107	10	11/9/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

Results for Anions
by IC 300.0

Client Sample ID: 4117-SW1
Client Project ID: A-1 Sandrock
Lab Sample ID: G1081-3-10E
Lab Project ID: G1081-3

Analyzed By: CRN
Date Collected: 10/27/2009 17:50
Date Received: 10/29/2009
Matrix: Water

Analyte	Result mg/L	RL mg/L	MDL mg/L	Dilution Factor	Date Analyzed	Flags
Chloride	**22.0**	3.00	0.107	10	11/9/2009	

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____
IC_WA.XLS

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-EB01	Date Collected:	2009-10-27 11:35:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-1	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	BQL	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	BQL	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	BQL	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: _____
subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-MW1	Date Collected:	2009-10-27 17:00:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-2	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**26.7**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**71.4**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**84.0**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: _____
subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-MW2	Date Collected:	2009-10-27 17:10:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-3	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**10.5**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**47.9**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**75.0**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-MW3	Date Collected:	2009-10-27 17:20:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-4	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**7.43**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**52.8**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**84.0**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-MW4	Date Collected:	2009-10-27 17:30:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-5	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**8.35**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**46.9**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**77.0**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-MW5	Date Collected:	2009-10-27 17:40:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-6	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**16.1**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**84.1**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**132**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-SW2	Date Collected:	2009-10-27 12:10:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-7	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**11.8**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**182**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**241**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: _____
subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-SW3	Date Collected:	2009-10-27 13:40:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-8	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**8.67**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**53.8**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**92.0**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: _____
subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-SW4	Date Collected:	2009-10-27 15:05:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-9	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**10.2**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**117**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**181**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS North America, Inc.

Analytical Results

Client Sample ID:	4117-SW1	Date Collected:	2009-10-27 17:50:00
Client Project ID:	A-1 Sandrock	Date Received:	2009-10-29 10:15:00
Lab Sample ID:	G1081-3-10	Matrix:	Water
Lab Project ID:	G1081-3		

Analyte	Result	RL	Units	Method	Date Analyzed	Analyst
Sulfate	**9.20**	0.1	mg/L	EPA300.0	11/09/09	Element One
Alkalinity	**89.9**	1.0	mg/L	SM2320B	11/02/09	Element One
TDS	**166**	10	mg/L	SM2540C	11/02/09	Element One

RL = Report Limit

Reviewed By: subout

SGS

CHAIN OF CUSTODY RECORD
SGS North America Inc.

Locations Nationwide
- Alaska
- New Jersey
- North Carolina
- Maryland
- New York
- Ohio

www.us.sgs.com

G1081-3

097710

(1)

CLIENT: FFM

CONTACT: Jeff Leaver PHONE NO: 919 524-6129

PROJECT: A-1 Sandrock SITE/PWSID#: 4117

REPORTS TO: Jeff Leaver
495 Beaumont Lane
Pittsboro, NC 27312 FAX NO.:( )

INVOICE TO: Same QUOTE #:

P.O. NUMBER:

SGS Reference:

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	App VOCs	App metals + Hg, Mn, Fe	Cl, SO4	Alk	TDS					REMARKS
	Preservatives Used						HCl	HNO3	None	None	None					
1	4117-~~MW~~ EB01	10/27/09	1135	DI	7	G	3	1	1	1	1					
2	4117-MW1		1700	GW												
3	4117-MW2		1710													
4	4117-MW3		1720													
5	4117-MW4		1730													
6	4117-MW5		1740													
7	4117-SW2		1210	SW												
8	4117-SW3		1340													
9	4117-SW4		1505													
10	4117-SW1		1750													

(3) Analysis Required

(5)

Collected/Relinquished By: (1)	Date	Time	Received By:
[illegible]	10/28/09	0800	Nathan Beauchamp
Relinquished By: (2)	Date	Time	Received By:
Nathan Beauchamp	10/28/09	1400	
Relinquished By: (3)	Date	Time	Received By:
	10/29/09	1015	Nathan Muriel
Relinquished By: (4)	Date	Time	Received By:

(4)

Shipping Carrier:

Shipping Ticket No:

Samples Received Cold? (Circle) YES NO

Temperature°C: 3.3, 3.5

Special Deliverable Requirements:

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Special Instructions:

Requested Turnaround Time:
☐ RUSH _____ Date Needed ☐ STD

❑ 200 W. Potter Drive **Anchorage, AK 99518** Tel: (907) 562-2343 Fax: (907) 561-5301
❑ 5500 Business Drive **Wilmington, NC 28405** Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client

SGS North America, Inc.