Semi-Annual Monitoring Report

Hercules Incorporated
Hattiesburg, Mississippi

Prepared for:

Hercules Incorporated

November 2008

Eco·Systems, Inc.
Consultants, Engineers, and Scientists

ESI

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1.0 INTRODUCTION

Hercules Incorporated (Hercules) commissioned Eco-Systems, Inc. (Eco-Systems) to conduct groundwater and surface water monitoring at the Hattiesburg, Mississippi facility. The site location is shown in Figure 1. The work is being conducted in accordance with the Corrective Action Plan Revision 01 (CAP) prepared by Groundwater & Environmental Services, Inc. (GES) dated January 20, 2005, which was approved by the Mississippi Department of Environmental Quality (MDEQ) in a letter dated January 25, 2005 and modified in a letter from MDEQ to Hercules dated August 18, 2006. The eight quarterly monitoring events specified in the CAP were completed in May 2007 and discussed in the second Annual Monitoring Report (Eco-Systems, August 2007). In accordance with the recommendation of the 2007 Annual Monitoring report, surface water and groundwater monitoring is being continued on a semi-annual basis.

This report describes sampling activities and analytical results for the 3rd semi-annual monitoring event. During this event, water levels were measured at 18 wells and 15 piezometers, surface water samples were collected from six locations in Green's Creek, and groundwater samples were collected from 18 monitoring wells. As required by the CAP, as approved and modified, surface water and groundwater samples collected during monitoring events are being analyzed for Appendix IX volatile organic compounds (VOCs).

2.0 FIELD ACTIVITIES

Field activities conducted during this semi-annual sampling event include sample collection from 18 monitoring wells and 6 surface water monitoring locations. Groundwater and surface water samples were analyzed for Appendix IX VOC's.

2.1 GROUNDWATER SAMPLE COLLECTION

On November 18, 2008 Eco-Systems personnel collected groundwater levels from the 18 monitoring wells to be sampled during the monitoring event and from the 15 piezometers at the site. A summary of the water level measurements obtained on November 18, 2008 is included as Table 1. A potentiometric surface map has been prepared from the November 18, 2008 groundwater elevations and is included as Figure 3.

Groundwater sample collection was conducted November 18 through 20, 2008. Prior to collecting groundwater samples, the monitoring wells were purged using traditional volume based methods. Purging was conducted until temperature, pH, specific conductance, and turbidity had stabilized. The water quality field parameters were measured with calibrated instruments and recorded in the field book along with the cumulative amount of water evacuated and time of batch parameter testing. Groundwater collection logs are attached as Appendix A.

Once field parameters stabilized, groundwater collected for analysis was sampled by collecting water directly into new sample containers supplied by the analytical laboratories. During the collection of field replicates that were collected for quality assurance and quality control (QA/QC), alternating aliquots were placed in each replicate bottle until each bottle was filled.

In general, the order of sampling was from least impacted to most impacted, based on historical data. Tubing used during purging and sampling was either dedicated to each well or disposed of after use. Subsequent to sampling, sample containers were labeled, placed and sealed on ice and shipped to the designated offsite laboratory for analysis. Chain-of-custody documentation accompanied the sample cooler. Personnel involved in sampling used clean, disposable gloves, which were changed between each sample collection. All non-disposable sampling equipment was decontaminated as outlined in Section 2.4.

During this event, groundwater samples were collected from permanent monitoring wells MW-2 through MW-19. Groundwater samples were collected in new sample containers supplied by the analytical laboratories. Filled sample containers were placed on ice in coolers. Groundwater samples for VOC analyses were shipped via overnight courier to Test America Laboratories in Savannah, Georgia for analysis.

2.2 Surface Water Sample Collection

On November 18, 2008, six surface water samples were collected from the previously established sampling points along Green's Creek, CM-0 through CM-5. Samples were collected beginning with the most downstream location, CM-5, and proceeding upstream to each successive sampling location. Surface water samples were collected directly into new sample containers that were supplied by the analytical laboratories. The filled sample containers were labeled, packed and shipped/delivered in the same manner as groundwater samples discussed in Section 2.1.

2.3 Quality Assurance/Quality Control

For quality assurance/quality control (QA/QC) purposes, two duplicate groundwater samples, three rinsate samples, two trip blank samples, and three matrix spike and matrix spike duplicate (MS/MSD) were collected during field sampling activities. The duplicate groundwater samples were collected in alternating aliquots that were placed in each replicate bottle until each bottle was filled. The rinsate samples were prepared by pouring deionized water over groundwater sampling tubing and collecting the rinsate into new disposable sample containers supplied by the analytical laboratory. QA/QC samples were labeled, stored and shipped in the same manner as groundwater and surface water samples. QA/QC samples were analyzed for the same constituents as groundwater and surface water samples.

2.4 Decontamination

In general, groundwater sampling equipment that would contact the groundwater sample was single-use, disposable equipment. For any re-usable groundwater sampling equipment decontamination was accomplished by the following procedure:

1) Phosphate-free detergent wash.
2) Potable water rinse.
3) Deionized water rinse.
4) Isopropanol rinse.
5) Organic-free water rinse or air dry.

If it was necessary to store or transport decontaminated equipment, the decontaminated equipment was placed in either a new, disposable plastic bag or wrapped in aluminum foil.

2.5 OTHER PROCEDURES

Procedures for sample collection, sample containerization and packing, sample shipment, cross-contamination control, drummed material disposal, field documentation, chain-of-custody, data review, and other work items not specifically covered in this document were conducted in accordance with the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EPA Region IV, May, 2001), (EISOPQAM)

3.0 RESULTS

Groundwater and surface water samples collected from the Hercules site were analyzed for Appendix IX VOC's according to U.S. EPA Method 8260B. Laboratory analytical reports for the samples collected during this monitoring event are included in Appendix B and summarized in Table 2 and Table 3.

3.1 GROUNDWATER ANALYTICAL RESULTS

Discussion presented in this section summarizes the analytical results for groundwater samples collected from monitoring wells MW-2 through MW-19 on November 18th , 19th , and 20th , 2008.

3.1.1 Volatile Organic Compounds

VOC's were not detected in groundwater samples collected from wells MW-02, MW-03, MW-04, MW-07, MW-10, MW-11, and MW-16.

Analysis of the groundwater sample collected from monitoring well MW-05 detected acetone at a concentration below the TRG.

Analysis of the groundwater sample collected from monitoring well MW-06 detected acetone at a concentration below the TRG.

Analysis of the groundwater sample collected from monitoring well MW-08 detected benzene, chlorobenzene, carbon tetrachloride, chloroform, and methylene chloride at concentrations above their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-09 detected acetone and benzene at concentrations below their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-12 detected acetone at a concentration below the TRG.

Analysis of the groundwater sample collected from monitoring well MW-13 detected benzene, dichlorobromomethane, carbon tetrachloride, chloroform, and 1,2-dichloroethane at concentrations above their respective TRG's. Dichlorobromomethane and 1,2-dichloroethane have not been previously detected in samples collected from MW-13.

Analysis of the groundwater sample collected from monitoring well MW-14 detected acetone at a concentration below the TRG.

Analysis of the groundwater sample collected from monitoring well MW-15 detected acetone at a concentration above the TRG.

Analysis of the groundwater sample collected from monitoring well MW-17 detected benzene, carbon tetrachloride, chloroform, and chlorobenzene at concentrations above their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-18 detected chlorobenzene and 1,1-dichloroethene at concentrations below their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-19 detected benzene and chloroform at concentrations above their respective TRG's.

3.2 Surface Water Analytical Results

Discussion presented in this section summarizes the analytical results for surface water samples collected from sampling locations CM-00 through CM-05 on November 18, 2008.

3.2.1 Volatile Organic Compounds

VOC's were not detected in surface water samples collected from locations CM-00, CM-01, CM-02, CM-03, CM-04, and CM-05.

3.3 QA/QC Sample Analytical Results

Analytical reports for the QA/QC samples are included in Appendix B and summarized in Table 3.

Duplicate groundwater samples were collected from MW-04, and MW-18. Analysis of the duplicate groundwater sample collected from MW-04 and the original MW-04 indicated all constituents were below MDL.

Analysis of the duplicate groundwater sample collected from monitoring well MW-18 detected the similar concentrations of 1,1-dichloroethene and chlorobenzene. Benzene and 1,2-dichloropropane were detected in the duplicate groundwater samples collected from MW-18 only.

VOC's were not detected in the rinsate samples (RS-1, RS-2, and RS-3)

VOC's were not detected in either of the trip blanks.

Review of the analytical reports for VOC's that were submitted by Test America indicates that spike sample recoveries for the spiked volatile organic constituents in the MS and MSD samples were within the acceptable recovery ranges reported by the laboratory for each of the spiked constituents.

Test America reported that the sample vials containing the groundwater samples collected from MW-14 and MW-5 arrived with air in the headspace of the sample containers. However, since analytical data for both samples were consistent with historical results, the presence of air in the headspace does not appear to have had a material effect on the analytical data.

As reported by Test America, all method blanks were non-detect for VOC's. The laboratory QC spike sample recoveries for VOC's detected in site samples were within the limits reported by the laboratory. Analyses were conducted within the 14 day holding time. Based on the information received and reviewed, the VOC analyses were conducted under controlled conditions and the data package is acceptable for use as reported, without qualification.

4.0 FINDINGS AND CONCLUSIONS

The findings and conclusions in this section are based on data obtained during the November 2008 monitoring event.

4.1 SLUDGE PITS

Groundwater monitoring in the sludge pit area is conducted using five monitoring wells. Monitoring wells MW-2 and MW-3 are located north of the sludge pits in historically up gradient positions. Monitoring wells MW-4, MW-10, and MW-11 are located south of the sludge pits in historically down gradient positions.

VOCs were not detected in samples collected from monitoring wells MW-2, MW-3, MW-4, MW-10, and MW-11. Based on current and historical analytical results, VOCs are not migrating from the sludge pits at concentrations above TRGs.

4.2 GREEN'S CREEK

VOCs were not detected in samples collected from surface water monitoring locations CM-00, CM-01, CM-02, CM-03, CM-04, and CM-05 during this monitoring event. Based on the current and historical analytical results, VOCs are not migrating from the site via Green's Creek.

4.3 FORMER LANDFILL

Groundwater monitoring of the former landfill area is conducted using five monitoring wells. Monitoring wells MW-8 and MW-13 are located south and east of the former landfill in historically up gradient positions. Monitoring wells MW-5, MW-6, and MW-12 are located north of the former landfill in historically down gradient positions.

In samples collected from the up gradient wells MW-8 and MW-13, concentrations of benzene, chlorobenzene (MW-8 only), carbon tetrachloride, and chloroform persist at concentrations above TRGs. Methylene chloride was detected in the November 2008 sample collected from MW-8 at concentrations above the TRG's but has not detected in the samples collected from MW-8 since August 2006. Dichlorobromomethane and 1,2-dichloroethane were detected in the November 2008 sample collected from monitoring well MW-13 at concentrations above TRGs.

Acetone was detected in the samples collected from MW-5, MW-6, and MW-12 during the November 2008 sampling event at a concentration less than the TRG. The lack of VOCs in groundwater samples at concentrations above the TRG in down gradient wells indicates that VOCs are not migrating from the landfill at concentrations above TRGs.

4.4 GROUNDWATER

Concentrations of benzene, chlorobenzene, carbon tetrachloride, chloroform and toluene above the TRG persist in samples collected from monitoring well MW-17, which is located in a suspected source area. Concentrations of these constituents have fluctuated, but have not shown overall increase or decrease.

Discussion of monitoring wells MW-8 and MW-13, which are near the suspected source area, is included in Section 4.3.

Concentrations of benzene above the TRG have been detected in samples collected from monitoring well MW-9 for all sampling events prior to May 2008. Benzene was detected at a concentration less than the TRG in the sample collected from monitoring well MW-9 during the November 2008 sampling event.

VOCs were not detected in the November 2008 groundwater sample collected from MW-16 and have not occurred in samples collected from MW-16 since November 2005. Concentrations of acetone were detected in the November 2008 groundwater samples collected from monitoring well MW-15 (above the TRG) and MW-14 (less than the TRG). Sporadic concentrations of acetone have been detected at concentrations both above and below the TRG in the groundwater samples collected from monitoring wells MW-14 and MW-15.

4.5 EASTERN PLANT AREA

Monitoring wells MW-18 and MW-19, which are located east of plant buildings, were installed as part of the CAP, but potentiometric information has not indicated that these wells are part of the previously defined area of groundwater containing volatile organic constituents. Therefore, monitoring wells MW-18 and MW-19 are discussed separately.

Concentrations of benzene above the TRG persist in samples collected from monitoring well MW-19. Chloroform, which has not been previously detected in groundwater samples collected from MW-19, was detected in the November 2008 sample collected from MW-19 at a concentration above the TRG. Chlorobenzene, ethylbenzene, and toluene were detected in samples collected from monitoring well MW-19 at concentrations below the TRG during the November 2008 monitoring event.

Chlorobenzene and 1,1-dichloroethene were detected at concentrations below the TRGs in sample collected from monitoring well MW-18 during the November 2008 sampling event.

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA
November, 2008
Hercules, Incorporated
Hattiesburg, Mississippi

WELL NO.	TOC ELEVATION (ft.)[1]	WATER DEPTH (ft)[2]	GROUNDWATER ELEVATION (ft.)
PERMANENT MONITOR WELLS			
MW-1	174.12	NA[3]	NA
MW-2	160.07	7.79	152.28
MW-3	160.03	8.33	151.70
MW-4	159.75	11.52	148.23
MW-5	160.99	8.81	152.18
MW-6	174.05	9.89	164.16
MW-7	183.96	15.46	168.50
MW-8	179.99	15.49	164.50
MW-9	181.97	14.42	167.55
MW-10	159.88	11.79	148.09
MW-11	157.18	8.64	148.54
MW-12	162.17	9.03	153.14
MW-13	175.23	9.81	165.42
MW-14	169.23	15.18	154.05
MW-15	172.21	19.11	153.10
MW-16	175.62	16.24	159.38
MW-17	186.13	18.78	167.35
MW-18	165.31	6.90	158.41
MW-19	172.25	11.92	160.33
STAFF GAUGES			
SG-1	NA	NA	NA
SG-2	NA	NA	NA
SG-3	NA	NA	NA
SG-4	NA	NA	NA
PIEZOMETERS			
TP-1	172.18	NA	NA
TP-2	171.72	12.22	159.50
TP-3	169.74	10.27	159.47
TP-4	163.64	10.22	153.42
TP-5	160.54	10.46	150.08
TP-6	158.63	9.49	149.14
TP-7	167.17	10.35	156.82
TP-8	183.79	15.54	168.25
TP-9	163.44	6.97	156.47
TP-10	179.69	15.34	164.35
TP-11	162.26	11.04	151.22
TP-12	159.95	12.02	147.93
TP-13	156.99	8.47	148.52
TP-14	162.59	6.38	156.21
TP-16	179.72	14.11	165.61
TP-17	182.71	17.37	165.34

NOTES:

1- Elevations are in feet relative to mean sea level.

2 - Depth to water is in feet below top of casing. Staff gauge readings are in feet above the base of the staff.

3 - Data not available.

TABLE 2
SUMMARY OF VOC ANALYTICAL RESULTS
November 2008
Hercules Incorporated, Hattiesburg, Mississippi

Location	Date	Concentrations in µg/L																																							
		Acetone	Benzene	Chlorobenzene	Carbon Tetrachloride	Chloroform	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	Ethylbenzene	Tetrachloroethene	Toluene	Vinyl Chloride	Total Xylenes	Bromobenzene	2-Chlorotoluene	4-Chlorotoluene	n-Butylbenzene	sec-Butylbenzene	1,3-Dichlorobenzene	1,2-Dichlorobenzene	Naphthalene	Styrene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Bromoform	p-Isopropyltoluene	Trichloroethene	Bromodichloromethane	Bromomethane	Chloroethane	Chloromethane	Dibromochloromethane	cis-1,2-dichloroethene	Isopropylbenzene	methylene chloride	methyl ethyl ketone	methyl isobutyl ketone
CM-01	Nov-03	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.14	[illegible]	[illegible]	[illegible]	[illegible]	3.19	3.2	3.61	3.81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Aug-05	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nov-05	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Feb-06	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	May-06	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Aug-06	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nov-06	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Feb-07	42	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	May-07	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nov-07	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	May-08	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nov-08	25	1.0	1.0	1.0	[illegible]	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CM-02	Feb-03	NA	NA	[illegible]	[illegible]	2.34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25.7	[illegible]	32.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Aug-03	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nov-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA
	Feb-06	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	2.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-06	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	2.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aug-06	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-06	62	8.4	240	1.0	1.0	1.0	1.0	1.0	57.0	1.0	2.7	1.0	96.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	4.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Feb-07	40	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	4.0	1.0	NA	NA	NA	NA	NA	NA	NA
	May-07	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA
	Nov-07	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
CM-03	Feb-03	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Aug-03	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-03	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Feb-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aug-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Feb-07	63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-07	25	4.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-07	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	1.0	NA	NA	NA	NA	NA	NA	NA
	May-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	1.0	NA	NA	NA	NA	NA	NA	NA
	Nov-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	1.0	NA	NA	NA	NA	NA	NA	NA
CM-04	Feb-03	NA	2.25	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	15.0	10.0	10.0	10.0	10.0	10.0	10.0	33.0	10.0	12.7	1.25	10.0	10.0	10.0	10.0	10.0	5.43	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NA	NA	NA
	Aug-03	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-03	25	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Feb-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aug-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-05	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Feb-07	63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-07	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-07	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	May-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-08	25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	NA	NA	NA	1.0	NA	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
SUMMARY OF VOC ANALYTICAL RESULTS
November 2008
Hercules Incorporated, Hattiesburg, Mississippi

| Location | Date | Concentrations in ug/L | | |

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SUMMARY OF VOC ANALYTICAL RESULTS
November 2008
Hercules Incorporated, Hattiesburg, Mississippi

| Location | Date | Concentrations in µg/L | | |

TABLE 2
SUMMARY OF VOC ANALYTICAL RESULTS
November 2008
Hercules Incorporated, Hattiesburg, Mississippi

| Location | Date | Concentrations in µg/L | | |

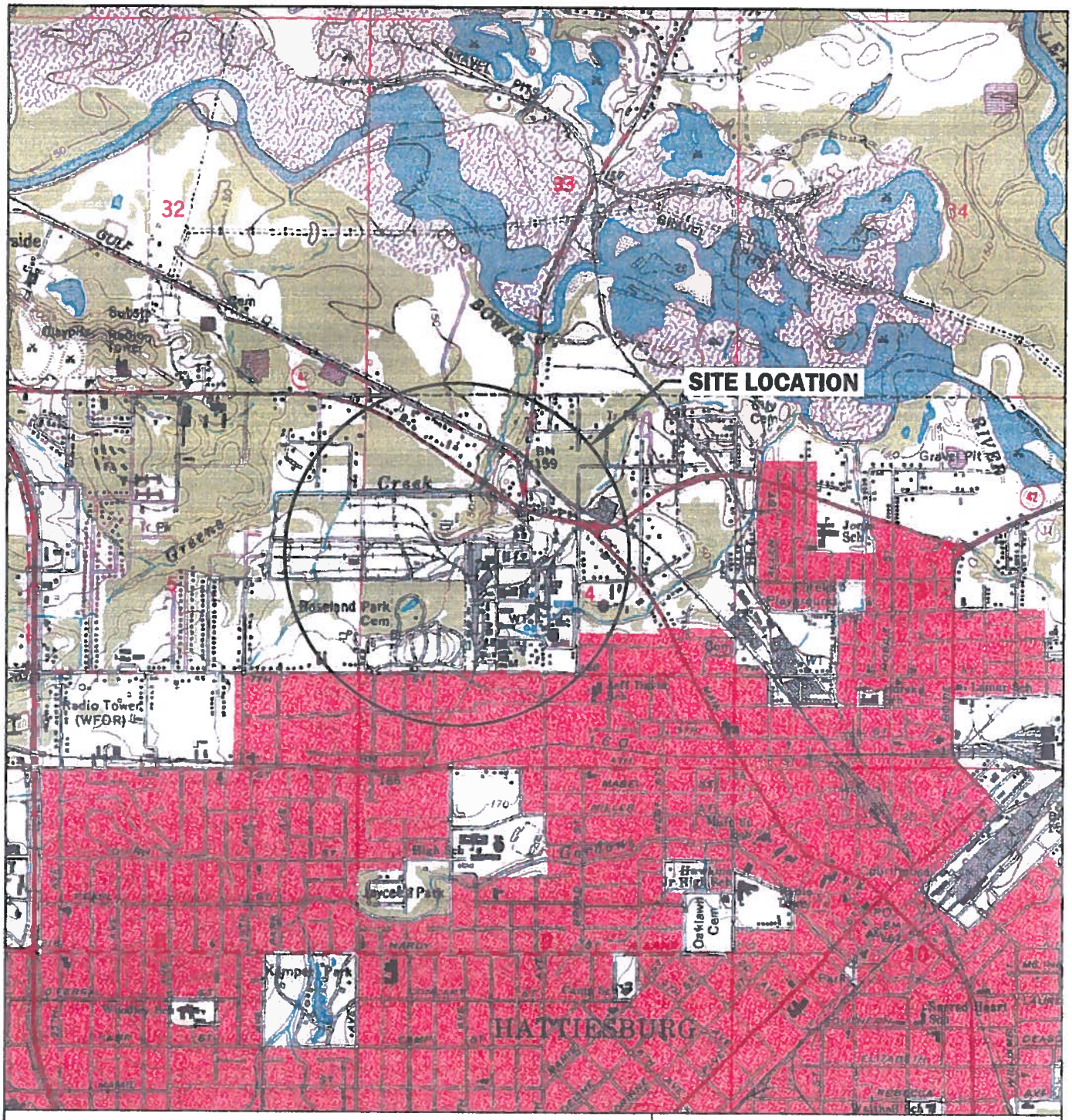
TABLE 3
SUMMARY OF QA/QC SAMPLE ANALYTICAL RESULTS
Hercules Incorporated
Hattiesburg, Mississippi
November 2008

Location	*Concentrations in µg/L*												
	Acetone	Benzene	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	1,1-Dichloroethene	Ethylbenzene	Methylene Chloride	Toluene	Tetrachloroethene	Chloromethane	cis-1,2-Dichloropropane
MW-04	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-04 DUP	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
% variation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MW-18	< 25	< 1.0	< 1.0	< 1.0	**23**	< 1.0	1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-18 DUP	< 25	**1.1**	< 1.0	< 1.0	**28**	< 1.0	1.2	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	1.1
% variation	0%	10%	0%	0%	22%	0%	20%	0%	0%	0%	0%	0%	10%
RS-01	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
RS-02	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
RS-03	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
TB-01	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
TB-02	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0

1 - "<" indicates that the concentration of the analyte is less than the concentrations shown.

2 - ND indicates that the data was not detected

FIGURES



QUADRANGLE LOCATION

SOURCE: DeLORME 3D TopoQuads – HATTIESBURG, MISSISSIPPI

HERCULES INCORPORATED
HATTIESBURG, MISSISSIPPI

Eco·Systems, Inc.
Consultants, Engineers and Scientists

SCALE: 1"=2000'	DRAWN BY: MTW	DATE: 11/26/07
	CHKD. BY:	DATE:
PROJECT NO. HER25080	CAD FILE HER25080-TOPO.dwg	
SITE LOCATION MAP		FIGURE 1

APPENDIX A
GROUNDWATER COLLECTION LOGS

Depth-To-Water Measurements

Project Name Hercules
Location Hattiesburg
Project Number
Collector(s) C. Terrell & M. Woehle

Date	Time	Well ID	DTW (ft-btoc)	TD - Previously (ft-btoc)	TD - Now (ft-btoc)	Comments
11-18-08	0907	MW-3	8.33			
11-18-08	0912	MW-2	7.79			
11-18-08	0918	TP - 6	9.49			Piez.
11-18-08	0927	MW- 10	11.79			
11-18-08	0928	TP - 12	12.02			
11-18-08	0937	MW-4	11.52			
11-18-08	0942	MW-11	8.64			
11-18-08	0944	TP-13	8.47			
11-18-08	0956	TP-11	11.04			
11-18-08	1002	TP-7	10.35			
11-18-08	1009	TP-3	10.27			
11-18-08	1014	TP-4	10.22			
11-18-08	1023	TP-5	10.46			
11-18-08	1042	MW-5	8.81			
11-18-08	1046	MW-12	9.03			
11-18-08	1050	MW-6	9.89			
11-18-08	1054	TP-9	6.97			
11-18-08	1100	TP-14	6.38			
11-18-08	1100	MW-18	6.90			
11-18-08	1105	MW-19	11.92			
11-18-08	1110	TP-2	12.22			
11-18-08	1120	TP-8	15.54			
11-18-08	1120	MW-7	15.46			
11-18-08	1126	MW-16	16.24			

Notes:
DTW = Depth to Water
ft-btoc=feet below top of casing
TD=Total depth

Depth-To-Water Measurements

Project Name Hercules
Location Hattiesburg
Project Number
Collector(s) C. Terrell & M. Woehl

Date	Time	Well ID	DTW (ft-btoc)	TD - Previously (ft-btoc)	TD - Now (ft-btoc)	Comments
11-18-08	1132	MW-15	19.11			Interference?
11-18-08	1140	MW-14	15.18			
11-18-08	1146	MW-13	9.81			
11-18-08	1153	TP-16	14.11			
11-18-08	1158	MW-8	15.49			
11-18-08	1159	TP-10	15.34			
11-18-08	1204	TP-17	17.37			
11-18-08	1208	MW-17	18.78			
11-18-08	1213	MW-9	14.42			

Notes:
DTW = Depth to Water
ft-btoc=feet below top of casing
TD=Total depth

Eco-Systems, Inc.
Environmental Engineers and Scientists

Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS

Boring ID: MW-3
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-19-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS, Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	0907	8.33
11-19-08	0851	8.59
11-19-08	0903	8.56

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08/ 0844	0.0	5.17	79.9	20.0	11.0	—	—	
0849	0.5	5.14	75.0	20.3	0.45	—	—	
0900	1.0	5.11	75.1	20.2	0.40	—	—	
0912	1.5	5.11	73.6	20.1	0.00	—	—	
0923	2.0	4.99	73.6	20.3	0.00			

Sample Identification: HER-MW03-111908

Weather Conditions During Sampling: Clear, Calm, 40°

Comments:

Sample Technician: C. Terrell Date: 11-19-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	0927	3- VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

Eco-Systems, Inc. *Environmental Engineers and Scientists*

Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-2
Site Location: Hattiesburg, MS

Start Date: 11-18-08 Finish Date: 11-19-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	0912	7.79
11-19-08	0949	7.97
11-19-08	1009	8.01

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08 0936	0.0	6.05	82.0	20.0	22	—	—	
0947	0.5	5.91	82.9	20.3	4.3	—	—	
1000	1.0	5.80	86.3	20.9	3.1	—	—	
1010	1.5	5.77	87.6	20.9	1.6	—	—	
1022	2.0	5.79	90.1	21.0	0.20	—	—	
1031	2.5	5.75	91.4	21.0	0.00	—	—	

Sample Identification: HER-MW02-111908, HER-MW02-11908-MS
HER-MW02-111908MSD
Weather Conditions During Sampling: Clear, WNE 5, 40°
Comments: Sample, matrix spike, matrix spike Dup.

Sample Technician: C. Terrell Date: 11-19-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	1034	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

Eco-Systems, Inc. *Environmental Engineers and Scientists*

Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-10
Site Location: Hattiesburg, MS

Start Date: 11-18-08 Finish Date: 11-19-08
Sample Technician: C. Terrell & M. Woehlp
Purge/Sample Method: LF/LS, Peristaltic Pump → well volumes
Well Diameter (d): 2"
Total Depth (TD): 17.17
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]): 17.17 - 11.79 = 5.38
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft): 6(5.38)0.028 = 0.90 gal / well vol.

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11.18.08	0927	11.79
11.19.08	1102	11.99
11.19.08	1129	12.06

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08/1053	0.0	5.76	33.3	21.9	25	—	—	
1100	0.5	5.64	33.2	22.3	21	—	—	
1114	1.0	5.64	33.4	22.1	18	—	—	
1124	1.5	5.63	33.3	22.3	19	—	—	
~~1129~~ MW	~~2.0~~				~~12.06~~ MW	—	—	
1135	2.0	5.67	33.3	22.1	19	—	—	
1152	2.5	5.62	33.7	22.1	19	—	—	3 W.V.
1202	3.0	5.64	33.5	22.7	20	—	—	
1216	4.0	5.59	33.5	23.0	21			
1220	4.5							5 WVs

Sample Identification: HER-MW10-111908

Weather Conditions During Sampling: clear, calm, 50°

Comments: Turbidity >10 @ 3 well volumes
sampled at 5 WVs.

Sample Technician: C. Terrell Date: 11.19.08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	1221	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

Eco-Systems, Inc.
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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS

Boring ID: MW-11
Site Location: Hattiesburg

Start Date: 11-18-08 Finish Date: 11-19-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	0942	8.64
11-19-08	1357	8.73
11-19-08	1414	8.78

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08 1347	0.0	5.98	180.0	22.2	20	—	—	
1355	0.5	5.97	192	22.3	14	~	~	
1403	1.0	5.95	180	22.0	9.4	~	~	
1412	1.5	5.93	180	22.1	6.6	~	~	
1427	2.0	5.90	184	22.1	3.9			

Sample Identification: HER-MW11-111908

Weather Conditions During Sampling: clear, wind calm, 60°

Comments:

Sample Technician: C. Terrell Date: 11-19-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	1428	VOAs 3	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
µS/cm = microSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-4
Site Location:

Start Date: 11.18.08 Finish Date: 11-19-08
Sample Technician: C. Terrell, M. Woehle
Purge/Sample Method: LF/LS, peristaltic pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	0937	11.52
11-19-08	1448	11.60

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08 1432	0.0	6.19	235	23.0	34	—	—	
1442	0.5	6.18	199.9	23.4	1.5	—	—	
1452	1.0	6.18	231	23.5	0.15	—	—	
1504	1.5	6.16	234	23.6	0.00	—	—	
1513	2.0	6.14	231	23.5	0.00	—	—	

Sample Identification: HER-MW04-111908
HER-FD01-111908
Weather Conditions During Sampling: Clear, calm, 65°
Comments: Sample + Field duplicate

Sample Technician: C. Terrell Date: 11-19-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	1515	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-5
Site Location:

Start Date: 11-18-08 Finish Date: 11-19-08
Sample Technician: C. Terrell, M. Woehl
Purge/Sample Method: LS/LF, Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1042	8.81
11-19-08		

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (~~m~~µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-19-08 1358	0.0	6.66	889	22.3	20	—	—	
1608	0.5	6.63	918	22.2	13	—	—	
1628	1.5	6.54	897	22.1	8.9	—	—	
1636	2.0	6.59	909	21.9	3.4	—	—	

Sample Identification: HER-MW05-111908

Weather Conditions During Sampling: Clear, calm, 65°

Comments:

Sample Technician: C. Terrell Date: 11-19-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-19-08	1639	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER - 25080 - CC - MS
Boring ID: MW - 12
Site Location: Hattiesburg

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehl
Purge/Sample Method: LF/LS, Peristaltic pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1046	9.03
11-20-08	0823	9.32
11-20	0834	9.66
11-20	0845	9.85
11-20	0857	10.11

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (~~m~~µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 0820	0.0	6.03	98.0	20.7	450	-	-	
0831	0.5	5.83	84.9	21.5	45	-	-	
0845	1.0	5.82	85.4	21.0	15	-	-	
0902	1.5	5.79	82.2	21.2	6.6	-	-	

Sample Identification: HER - MW12 - 112008
Weather Conditions During Sampling: Clear, Calm, 55°
Comments:

Sample Technician: C. Terrell Date: 11-20-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	0906	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-6
Site Location:

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell, M. Woehl
Purge/Sample Method: LF/LS Peristaltic pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1050	9.89
11-20-08	0928	10.29

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 0918	0.0	5.90	154.1	23.6	0.00	—	—	
0925	0.5	5.83	154.4	24.0	0.60	—	—	
0938	1.0	5.80	159.8	24.2	0.00	—	—	
0949	1.5	5.76	161.4	24.2	0.00	—	—	

Sample Identification: HER-MW06-112008

Weather Conditions During Sampling: Clear, calm, 65°

Comments: Sample + Rinsate/EQUIPMENT Blank

Sample Technician: C. Terrell Date: 11-20-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	0953	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-18
Site Location: Hattiesburg

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1100	6.90
11-20-08	1014	6.92
11-20-08	1026	6.95

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1005	0.0	6.34	699	25.4	4.1	—	—	
1013	0.5	6.37	700	25.7	0.000	—	—	
1023	1.0	6.30	689	25.5	0.000	—	—	
1034	1.5	6.32	698	25.8	0.000			

Sample Identification: HER-MW18-112008
HER-FD02-112008
Weather Conditions During Sampling: Clear, W WNW 10, 70°
Comments: Sample + Field duplicate
Sample Technician: C. Terrell Date: 11-20-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	1137	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
~~µ~~S/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-19
Site Location: Hattiesburg

Start Date: 11.18.08 Finish Date: 11.20.08
Sample Technician: C. Terrell & M. Woehly
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11.18.08	1105	11.92
11.20.08	1112	11.65

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1056	0.0	6.40	400	25.9	4.5	-	-	
1110	0.5	6.38	391	26.2	0.00	-	-	
1125	1.0	6.36	395	26.1	0.00	-	-	

Sample Identification: HER-MW19-112008
Weather Conditions During Sampling: Clear, W WNW 10, 70°
Comments:
Sample Technician: C. Terrell Date: 11.20.08

GROUNDWATER SAMPLE CONTAINERS

Date	Time	Sample Container	Preservative
11.20.08	1129	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS

Boring ID: MW-7
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1120	15.46
11-20-08	1310	15.54

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1248	0.0	4.74	91.9	26.0	6.1	—	—	
1303	0.5	4.76	91.3	26.0	14	—	—	
1318	1.0	4.70	93.0	26.1	4.5	—	—	

Sample Identification: HER-MW07-112008
HER-MW07-112008MS, HER-MW07-112008MSD
Weather Conditions During Sampling: Clear, Wind NW 10, 75°

Comments: Sample, matrix spike, matrix spike dup.

Sample Technician: C. Terrell Date: 11.20.08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11.20.08	1323	VOAs	Hcl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-16
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Tessell, M. Woehl
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1126	16.24
11-20-08	1402	16.20

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (~~m~~µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1347	0.0	6.40	806	25.4	33	—	—	
1358	0.5	6.29	788	25.5	0.00	—	—	
1412	1.0	6.22	789	25.6	0.80	—	—	

Sample Identification: HER-MW16-112008
Weather Conditions During Sampling: PC, W WNW 10, 75°
Comments:

Sample Technician: C. Tessell Date: 11-20-08

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	1415	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-15
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1132	19.91
11-20-08	1440	20.42

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~mS~~ µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1427	0.0	6.36	802	25.8	8.8	—	—	
1438	0.5	6.37	809	25.7	1.1	—	—	
1452	1.5	6.38	818	25.6	2.6	—	—	

Sample Identification: HER-MW15-112008
Weather Conditions During Sampling: Clear, W WNW 10, 75°
Comments:

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	1455	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
~~m~~µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS

Boring ID: MW-14
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehl
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1140	15.78
11-20-08	1514	14.97
11-20-08	1527	13.92

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (~~mS~~ µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1505	0.0	6.44	691	24.8	21	—	—	
1513 ~~1508~~ MW	0.5	6.42	695	24.7	12	—	—	
1525	1.0	6.44	694	24.5	4.0	—	—	

Sample Identification: HER-MW14-112008

Weather Conditions During Sampling: clear, wind WNW 10, 70°

Comments:

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	1529	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25050-CC-MS
Boring ID: MW-13
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-20-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1146	9.81
11-20-08	1552	9.84
11-20-08	1604	9.82

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-20-08 1541	0.0	5.68	216	25.6	0.00	—	—	
1550	0.5	5.96	294	25.6	7.5	—	—	
1601	1.0	6.10	345	25.5	3.5	—	—	
1616	1.5	6.08	362	25.4	1.5	—	—	
1626	2.0	6.12	383	25.4	0.85	—	—	

Sample Identification: HER-MW13-112008

Weather Conditions During Sampling: clear, wind WNW 10, 70°

Comments:

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-20-08	1629	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
~~mS~~ µS/cm = ~~milli~~micro Siemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS

Boring ID: MW-9
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-21-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1213	14.42
11-21-08	0838	13.60
11-21-08	0849	13.59

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-21-08 0824	0.0	6.26	532	21.4	90	—	—	
0835	0.5	6.18	535	21.5	1.00	—	—	
0847	1.0	6.04	416	22.5	0.75	—	—	
0857	1.5	5.99	380	22.7	2.0	—	—	
0907	2.0	5.94	383	22.7	1.5	—	—	

Sample Identification: HER-MW09-112108

Weather Conditions During Sampling: clear, Wind N. 10-20, 40°

Comments:

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-21-08	0908	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
µS/cm = microSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

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Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HER-25080-CC-MS
Boring ID: MW-8
Site Location: Hattiesburg MS

Start Date: 11-18-08 Finish Date: 11-21-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: 2" LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1158	15.49
11-21-08	0931	15.78
11-21-08	0949	15.78

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-21-08 0920	0.0	6.37	707	22.5	55	—	—	
0930	0.5	6.31	701	21.7	45	-	-	
0945	1.0	6.24	665	23.2	11	-	-	
0955	1.5	6.21	685	23.1	7.5	-	-	

Sample Identification: HER-MW08-112108

Weather Conditions During Sampling: Clear, Wind N 15, 40°

Comments:

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-21-08	0957	VOAs	HCl

Notes: ft-btoc = feet below top of casing.
gal = gallons.
µS/cm = microSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.

Eco-Systems, Inc.
Environmental Engineers and Scientists

Groundwater Sample Collection Log

Project Name: Hercules
Project Number: HGR-25080-CC-MS

Boring ID: MW-17
Site Location:

Start Date: 11-18-08 Finish Date: 11-21-08
Sample Technician: C. Terrell & M. Woehle
Purge/Sample Method: LF/LS Peristaltic Pump
Well Diameter (d): 2"
Total Depth (TD):
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]):
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft):

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
11-18-08	1208	18.78
11-21-08	1021	18.86

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
11-21-08 1012	0.0	6.29	817	23.5	over range	—	—	Very turbid.
1019	0.5	6.25	820	23.6	13	—	—	Clearing
1029	1.0	6.22	830	23.8	10	—	—	
1039	1.5	6.21	835	23.8	8.25	—	—	

Sample Identification: HER-MW17-112108

Weather Conditions During Sampling: Clear, Wind NNE 15, 45°

Comments: Well has strong pesticide odor

Sample Technician: _____ Date: _____

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
11-21-08	1040	VOAs	HCl

Notes:
ft-btoc = feet below top of casing.
gal = gallons.
mS/cm = milliSiemens per centimeter.
°C = degrees Celsius.
NTU = Nephelometric Turbidity Units.
mg/L = milligrams per liter.
mV = millivolts.