Quarterly Monitoring Report

Hercules Incorporated
Hattiesburg, Mississippi

Prepared for:

Hercules Incorporated

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Eco-Systems, Inc.
Consultants, Engineers and Scientists

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1.0 INTRODUCTION

Hercules Incorporated (Hercules) commissioned Eco-Systems, Inc. (Eco-Systems) to conduct quarterly 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.

As discussed in the CAP, groundwater monitoring wells MW-2 through MW-19 and the sampling locations established in Green's Creek are being monitored quarterly to provide groundwater and surface water information

This report describes sampling activities and analytical results for the 3rd quarterly monitoring event. During this event, water levels were measured at 18 wells and 15 piezometers, surface water samples were collected from six locations, and groundwater samples were collected from 18 monitoring wells.

2.0 FIELD ACTIVITIES

Field activities conducted during this quarterly sampling event include sample collection from 18 monitoring wells and 6 surface water monitoring locations. Per the CAP, groundwater and surface water samples were analyzed for Appendix IX VOC's and for Dioxathion.

2.1 GROUNDWATER SAMPLE COLLECTION

On February 2, 2006, Eco-Systems personnel collected groundwater levels from the 18 monitoring wells to be sampled during the quarterly monitoring event and from the 15 piezometers at the site. Piezometer TP-1 was damaged by recent site activities and the groundwater level could not be measured at this location. A summary of the water level measurements obtained on February 2, 2006 is included as Table 1.

Groundwater sample collection was conducted on February 1-3, 2006. Prior to collecting a groundwater sample, the monitoring wells were purged using either *low-flow/low-stress* technique. The *low flow/low stress* technique consisted of slowly lowering dedicated tubing connected to a peristaltic pump into a region of adequate permeability within the water-bearing zone. If possible, the suction end of the tubing was placed at the midpoint of the well screen for sampling. Purging was established with withdrawal of water at a rate that created an equilibrium with recharge (e.g., stabilized water table). Equilibrium is dependent upon the stabilization of at least temperature, pH, specific conductance, and turbidity. 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 simply by collecting water directly into new sample containers supplied by the analytical laboratories. During the collection of field replicates that were collected for QA/QC concerns, alternating aliquots were placed in each replicate bottle until each bottle is 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 investigation, groundwater samples were collected from permanent monitoring wells MW-2 through MW-19. Filled sample vials were immediately placed in a cooler containing sufficient ice to lower the temperature of the filled sample vials below 4°C. Groundwater samples for VOC analysis were shipped via overnight courier to Severn Trent Laboratories in Savannah, Georgia for analysis. Groundwater samples for Dioxathion were delivered to Bonner Analytical and Testing Company (BATCO) for analysis.

2.2 Surface Water Sample Collection

On February 1, 2006, six surface water samples were collected from the previously established sampling points along Green's Creek, CM-0 to CM-5. Samples were collected beginning with the most downstream location and proceeding upstream to each successive sampling location. Surface water samples were collected directly into new glass sample containers that were supplied by the analytical laboratory. The filled sample containers were labeled, packed and shipped/delivered in the same manner as groundwater samples discussed in Section 2.2.

2.3 Quality Assurance/Quality Control

For quality assurance/quality control (QA/QC) purposes, three 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 LABORATORY ANALYTICAL 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 and for Dioxathion according to the Sampling and Analysis Protocol for the Determination of Dioxathion in Water (Hercules, 2002). Laboratory analytical reports for the samples collected during this investigation are included in Appendix B and summarized in Table 2, Table 3 and Table 4.

3.1 GROUNDWATER

Discussion presented in this section summarizes the analytical results for groundwater samples collected from monitoring wells MW-2 through MW-19 on February 1-3, 2006.

3.1.1 Volatile Organic Compounds

VOC's were not detected in groundwater samples collected from wells MW-02, MW-03, MW-04, MW-05, MW-06, MW-07, MW-10, MW-11, MW-12, MW-15, and MW-16.

Analysis of the groundwater sample collected from monitoring well MW-08 detected benzene, chlorobenzene, carbon tetrachloride, chloroform, and toluene at concentrations above their respective TRG's. Concentrations of ethylbenzene and total xylenes were detected in the sample collected from MW-8 at concentrations less than their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-09 detected benzene at a concentration above its TRG of 5µg/L. Concentrations of 1,1-dichloroethene and ethylbenzene were detected in the sample collected from MW-09 at concentrations less than their respective TRG's.

Analysis of the groundwater sample collected from monitoring well MW-13 detected benzene, carbon tetrachloride, chloroform, and vinyl chloride at concentrations greater than their respective TRG's. Concentrations of chlorobenzene and bromomethane were detected in the sample collected from MW-13 at concentrations less than their respective TRG's.

Acetone was detected in the groundwater sample collected from MW-14. The concentration of acetone detected in the sample collected from MW-14 was less than the TRG for acetone.

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

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

Analysis of the groundwater sample collected from monitoring well MW-19 detected benzene at a concentration above the TRG. Chlorobenzene and ethylbenzene were detected in the sample collected from MW-19 at concentrations less than their respective TRG's.

3.1.2 Dioxathion

Analysis for dioxathion includes analysis for both the cis- and trans- isomers and for dioxenethion. Cis-dioxathion and trans-dioxathion were not detected in the groundwater samples collected during the February 2006 monitoring event.

Dioxenethion was not detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-5, MW-7, MW-9, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, and MW-19.

Dioxenethion was detected in the groundwater samples collected from monitoring wells, MW-4, MW-6, MW-8, MW-13, MW-17, and MW-18 at concentrations of 19.7 µg/L, 2.48 µg/L, 1,669 µg/L, 60.5 µg/L, 1,436 µg/L, and 7.25 µg/L respectively. A TRG has not been established for dioxenethion.

3.2 SURFACE WATER

Discussion presented in this section summarizes the analytical results for surface water samples collected from sampling locations CM-0 through CM-5 on February 1, 2006.

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-04, and CM-05. The surface water sample collected from location CM-03 contained benzene at a concentration above the MDL but less than the TRG.

3.2.2 Dioxathion

Dioxenethion, cis-dioxathion and trans-dioxathion were not detected in the surface water samples collected during the February 2006 monitoring event.

3.3 QA/QC

Analytical reports for the QA/QC samples are included in Appendix B and summarized in Table 4.

Duplicate groundwater samples were collected from CM-03, MW-04, and MW-09. Analysis of the duplicate groundwater sample collected from CM-03 detected similar concentrations of benzene as was detected in the regular sample. All other constituents in the duplicate CM-03 sample and the regular CM-03 sample were both below the MDL. Dioxathion constituents were not detected in the regular or duplicate samples collected from CM-03.

Analysis of the duplicate groundwater sample collected from monitoring well MW-04 detected the same concentration of chlorobenzene. All other constituents in both the duplicate MW-04 sample and the regular MW-04 sample were less than the MDL. Analysis of the duplicate MW-04 sample detected a similar concentration of dioxenethion as was detected in the regular MW-04 sample. Dioxathion constituents were not detected in the regular or duplicate samples collected from MW-04.

Analysis of the duplicate groundwater sample collected from monitoring well MW-09 detected similar concentrations of benzene, bromomethane, carbon tetrachloride, 1,1-dichloroethene, and ethylbenzene as the regular sample. Dioxenethion and dioxathion constituents were not detected in the regular or duplicate samples collected from MW-09. Analysis of the rinsate samples collected on February 1, 2006 (RS-01) and February 2, 2006 (RS-02) detected the same concentrations of chloroform. Analysis of the rinsate sample collected on February 3, 2006 (RS-3) detected acetone and chloroform. Dioxathion constituents were not detected in any of the three rinsate samples. However, acetone and chloroform were not detected in the groundwater samples associated with the rinsed equipment except from locations where acetone and chloroform have been primarily detected in groundwater. Therefore, the acetone and chloroform detected in the rinsate samples may have been present in the deionized water used for decontamination procedures and rinsate samples.

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

Review of the analytical reports for VOC's that were submitted by STL 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.

As reported by STL, 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.

As reported by BATCO, all method blanks, were non-detect for dioxathion constituents. The laboratory QC spike sample recoveries were reported to be within acceptable limits for all samples except for the samples collected from MW-8 and MW-17. The narrative reported submitted by BATCO with the analytical reports indicated that the samples collected from MW-8 and MW-17 contained a matrix interference with the same retention time as naphthalene, which was used as a spike surrogate for dioxathion analyses. Due to the matrix interference, surrogate recoveries for the MW-8 and MW-17 samples were 1,312% and 880% of the spiked amount, respectively. Since the sample collected from MW-8 in February 2003 detected naphthalene, it is reasonable to assume that the matrix interference reported by the laboratory is caused by the presence of naphthalene in the groundwater samples, and the dioxathion analysis for these samples is, therefore, acceptable. Surrogate spike recoveries for other samples ranged from 50.2% to 101%. Based on the information received, the samples were extracted and analyzed within the proscribed time limits for organophosphorous compounds.

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA
February 2, 2006
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	4.25	155.82
MW-3	160.03	7.42	152.61
MW-4	159.75	11.28	148.47
MW-5	160.99	8.75	152.24
MW-6	174.05	8.84	165.21
MW-7	NA	14.15	NA
MW-8	179.99	NA	NA
MW-9	NA	12.57	NA
MW-10	159.88	11.27	148.61
MW-11	157.18	8.23	148.95
MW-12	162.17	8.10	154.07
MW-13	175.23	9.53	165.70
MW-14	169.23	15.32	153.91
MW-15	172.21	20.62	151.59
MW-16	175.62	17.48	158.14
MW-17	186.13	18.60	167.53
MW-18	165.31	5.22	160.09
MW-19	172.25	10.90	161.35
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	10.91	160.81
TP-3	169.74	9.85	159.89
TP-4	163.64	3.99	159.65
TP-5	160.54	8.95	151.59
TP-6	158.63	8.45	150.18
TP-7	167.17	8.21	158.96
TP-8	183.79	14.22	169.57
TP-9	163.44	4.49	158.95
TP-10	179.69	14.96	164.73
TP-11	162.26	10.43	151.83
TP-12	159.95	11.44	148.51
TP-13	156.99	7.99	149.00
TP-14	162.59	4.82	157.77
TP-16	179.72	13.33	166.39
TP-17	182.71	17.51	165.20

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 3
SUMMARY OF DIOXATHION ANALYTICAL RESULTS

Hercules Incorporated

Hattiesburg, MS

February 2006

Location	Date	*Concentrations in µg/L*			
		Dioxenethion	Dioxathion (cis)	Dioxathion (trans)	Total Dioxathion[1]
CM-00	Sep-03	< 0.400	< 0.400	< 0.400	< 0.800
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
CM-01	Feb-03	< 2.19	< 4.75	< 3.04	< 7.79
	Sep-03	< 0.400	< 0.400	< 0.400	< 0.800
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
CM-02	Feb-03	< 2.19	8.72	< 3.04	8.72
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
CM-03	Feb-03	3.16	< 4.75	< 3.04	< 7.79
	Aug-05	1.05	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
CM-04	Feb-03	< 2.19	< 4.75	< 3.04	< 7.79
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
CM-05	Feb-03	3.07	< 4.75	< 3.04	< 7.79
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-02	Dec-02	< 0.220	< 0.480	< 0.300	< 0.780
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-03	Dec-02	< 0.220	< 0.480	< 0.300	< 0.780
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-04	Dec-02	12.9	3.34	< 0.300	3.34
	Aug-03	6.34	1.82	< 0.400	1.82
	Aug-05	5.57	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	19.7	< 0.400	< 0.400	< 0.800
MW-05	Dec-02	< 0.220	< 0.480	< 0.300	< 0.780
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-06	Dec-02	1.12	< 0.480	< 0.300	< 0.780
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	2.48	< 0.400	< 0.400	< 0.800
MW-07	Dec-02	9.57	< 0.480	< 0.300	< 0.780
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-08	Dec-02	94.3	< 0.480	53.9	53.900
	Aug-05	539.00	< 0.400	< 0.400	< 0.800
	Nov-05	2,492.00	< 0.400	< 0.400	< 0.800
	Feb-06	1,669	< 0.400	< 0.400	< 0.800
MW-09	Dec-02	5.9	12.8	< 0.300	12.800
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-10	Dec-02	< 0.220	< 0.480	< 0.300	< 0.780
	Aug-03	< 0.400	< 0.400	< 0.400	< 0.800
	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800

Location	Date	Acetone	Benzene	Chlorobenzene	Carbon Tetrachloride	Chloroform	Trichloroethene	Bromodichloromethane	Bromomethane	Chloroethane	Chloromethane	Dibromochloromethane	cis-1,2-dichloroethene	isopropylbenzene	methylene chloride
CM-00	Sep-03	NA[1]	< 1.0	< 1.0	< 1.0	< 1.0	.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
CM-01	Feb-03	NA	2.8	< 10.0	3.03	**2.34**	0.0	< 10.0	< 10.0	**20.5**	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Sep-03	NA	< 1.0	6.6	< 1.0	< 1.0	.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
CM-02	Feb-03	NA	1.17	< 10.0	1.5	< 10.0	0.0	< 10.0	< 10.0	**15.6**	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
CM-03	Feb-03	NA	3.7	< 10.0	< 10.0	< 10.0	0.0	< 10.0	< 10.0	**8.42**	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-05	< 25	1.1	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	1.4	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	1.1	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
CM-04	Feb-03	NA	2.25	< 10.0	< 10.0	< 10.0	0.0	< 10.0	< 10.0	3.43	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
CM-05	Feb-03	NA	4.04	< 10.0	< 10.0	< 10.0	0.0	< 10.0	< 10.0	< 12.0	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-02	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	32	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-03	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-04	Dec-02	ND[3]	**14.0**	1.81	**10.0**	ND	ND	ND	ND	**63.0**	**1.72**	ND	ND	1.26	ND
	Feb-03	NA	< 10.0	< 10.0	< 10.0	< 10.0	0.0	< 10.0	< 10.0	< 12.0	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-03	NA	< 1.0	< 1.0	< 1.0	< 1.0	.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-05	Aug-05	< 25	< 1.0	1.3	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-06	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-07	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-08	Dec-02	ND	**6,900**	**290**	**16,000**	**1,800**	.8	**6.84**	4.07	**66.0**	**39.2**	**4.45**	19	4.6	**26.1**
	Feb-03	NA	< **500.0**	**230**	**12,000**	**1,300**	.2	**4.72**	< 10.0	**85.5**	**3.34**	< 10.0	17.5	4.35	< 13.0
	Aug-05	< 6300	**18,000**	< **250**	**3,500**	**510**	50	NA	< 250	< 250	< 250	NA	NA	NA	< 1,300
	Nov-05	< 2,500	**17,000**	**160**	**1,000**	**260**	00	NA	< 100	< 100	< 100	NA	NA	NA	< 500
	Feb-06	< 2,500	**11,000**	**160**	**480**	**130**	00	NA	< 100	< 100	< 100	NA	NA	NA	< 500

Location	Date	Acetone	Benzene	Chlorobenzene	Carbon Tetrachloride	Chloroform	Trichloroethene	Bromodichloromethane	Bromomethane	Chloroethane	Chloromethane	Dibromochloromethane	cis-1,2-dichloroethene	Isopropylbenzene	methylene chloride
MW-09	Dec-02	ND	**9.15**	ND	ND	ND	D	ND	ND	ND	ND	ND	ND	ND	2.48
	Feb-03	NA	**64.3**	J 5.85	**20.7**	J **9.83**	0.0	< 10.0	< 10.0	**19.7**	< 10.0	< 10.0	< 10.0	J 1.92	< 13.0
	Aug-05	< 25	**12**	1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	**16.0**	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	**18.0**	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-10	Aug-03	NA	< 1.0	< 1.0	< 1.0	< 1.0	.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-11	Dec-02	ND	**114**	ND	ND	ND	D	ND	ND	ND	ND	ND	ND	ND	ND
	Feb-03	NA	J **6.39**	< 10.0	< 10.0	< 10.0	0.0	< 10.0	< 10.0	< 12.0	< 10.0	< 10.0	< 10.0	< 10.0	< 13.0
	Aug-03	NA	< 1.0	< 1.0	< 1.0	< 1.0	.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-12	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-13	Aug-05	< 25	**120**	10	**260**	**96**	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	29	**78**	9.3	**53**	**56**	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	**110**	22	**77**	**63**	.0	NA	1.6	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-14	Aug-05	34	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	35	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	180	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-15	Aug-05	84	1.7	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-16	Aug-05	< 25	2.3	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	1.2	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-17	Aug-05	< 6300	**6,200**	**340**	**1,500**	**1,200**	50	NA	< 250	< 250	< 250	NA	NA	NA	< 1,300
	Nov-05	< 13,000	**1,500**	< 500	**17,000**	**1,600**	00	NA	< 500	< 500	< 500	NA	NA	NA	< 2,500
	Feb-06	< 13,000	**1,300**	**600**	**37,000**	**2,600**	00	NA	< 500	< 500	< 500	NA	NA	NA	< 2,500
MW-18	Aug-05	< 25	**10**	45	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	3.9	26	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	4.2	31	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
MW-19	Aug-05	< 25	**20**	7.5	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Nov-05	< 25	**19**	6.4	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
	Feb-06	< 25	**22**	**9.8**	< 1.0	< 1.0	.0	NA	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0
TRG[4]		608	5.0	100	5.0	0.155	00	0.168	8.52	3.64	1.43	0.126	70	679	5

1 - NA indicates that the analyte was not analyzed.

2 - "<" indicates that the concentration of the analyte is less than the concentration

3 - ND = Non Detect / No detection limit available.

4 - Target Remediation Goals are taken from the Tier 1 Target Remedial Goal Ta!

5 - TRG not yet established for this analyte

TABLE 3
SUMMARY OF DIOXATHION ANALYTICAL RESULTS

Hercules Incorporated
Hattiesburg, MS
February 2006

Location	Date	*Concentrations in µg/L*			
		Dioxenethion	Dioxathion (cis)	Dioxathion (trans)	Total Dioxathion[1]
MW-11	Dec-02	50.3	5.00	< 0.300	5.00
	Aug-03	6.24	< 0.400	< 0.400	< 0.800
	Aug-05	1.26	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-12	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-13	Aug-05	8.11	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	60.5	< 0.400	< 0.400	< 0.800
MW-14	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-15	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-16	Aug-05	1.01	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
MW-17	Aug-05	2,210	< 0.400	< 0.400	< 0.800
	Nov-05	2,802	< 0.400	< 0.400	< 0.800
	Feb-06	1,436	< 0.400	< 0.400	< 0.800
MW-18	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	7.25	< 0.400	< 0.400	< 0.800
MW-19	Aug-05	< 0.400	< 0.400	< 0.400	< 0.800
	Nov-05	< 0.400	< 0.400	< 0.400	< 0.800
	Feb-06	< 0.400	< 0.400	< 0.400	< 0.800
TRG[3] -		N/E[4]			54.8

1 - Total Dioxathion is the sum of the cis- and trans- isomers.
2 - "<" indicates that the concentration of the analyte is less than the concentrations shown.
3 - Target Remediation Goals are taken from the Tier 1 Target Remedial Goal Table of the Final Regulations Governing Brownfields Voluntary Cleanup and Redevelopment in Mississippi, MDEQ, March 2002.
Concentrations shown in **bold** are above TRGs
4 - No established Target Remediation Goal.

TABLE 4
SUMMARY OF QA/QC SAMPLE ANALYTICAL RESULTS
Hercules Incorporated
Hatiiesburg, Mississippi
February 2006

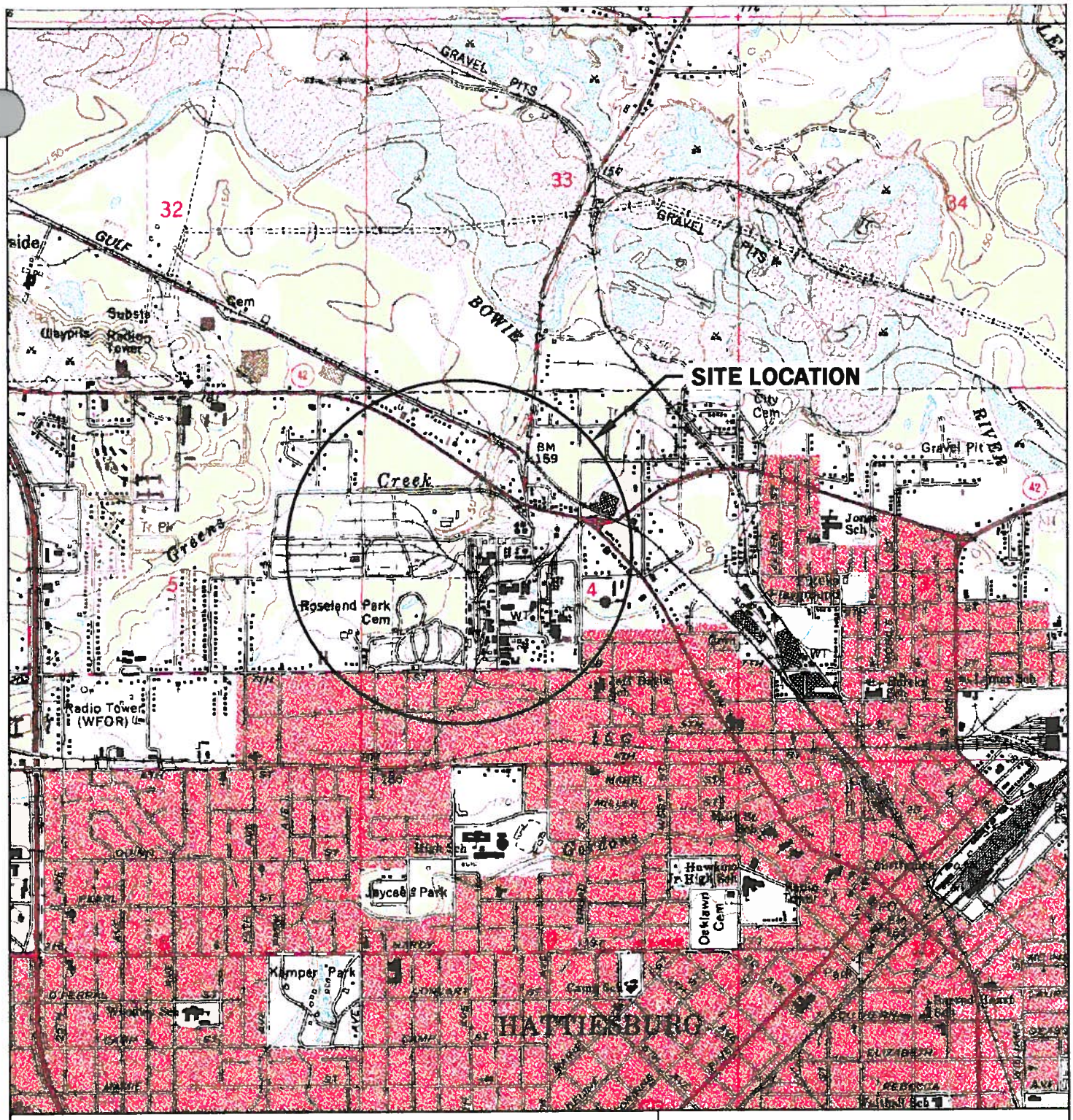
Location	Acetone	Concentrations in µg/L											
		Benzene	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	1,1-Dichloroethene	Ethylbenzene	Methylene Chloride	Toluene	Dioxenethion	Dioxathion (cis)	Dioxathion (trans)
CM-03	< 25	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	<[1] 0.400	< 0.400	< 0.400
CM-03 DUP	< 25	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
% variation	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MW-04	< 25	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	19.7	< 0.400	< 0.400
MW-04 DUP	< 25	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	20.7	< 0.400	< 0.400
% variation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%
MW-09	< 25	18	< 1.0	< 1.0	< 1.0	< 1.0	4.1	3.8	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
MW-09 DUP	< 25	16	1.1	1.2	< 1.0	< 1.0	3.9	3.7	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
% variation		11%	10%	20%	0%	0%	5%	3%	0%	0%	0%	0%	0%
RS-01	< 25	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
RS-02	< 25	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
RS-03	47	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 5.0	< 1.0	< 0.400	< 0.400	< 0.400
TB-01	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	N/A[2]	N/A	N/A
TB-02	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	N/A	N/A	N/A

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

2 - Trip blanks were not analyzed for dioxathion constituents.

ESI

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: N. SISSON	DATE:
	CHKD. BY:	DATE:
PROJECT NO. HER25080	CAD FILE HER25080-TOPO.dwg	

SITE LOCATION MAP

FIGURE 1

ESI

APPENDIX A
GROUNDWATER COLLECTION LOGS

Eco-Systems, Inc.
Environmental Engineers and Scientists

Groundwater Sample Collection Log

Name: Hercules Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-17
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Terrell / Brent Eaves
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	1005	18.60
2-3-206	1250	18.72

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
2-3-2006/1249	0.0	5.99	665	21.3	7.42			sheen &
/1251	0.25	6.08	662	21.4	4.65			odor
/1255	0.50	6.08	665	21.3	4.88			
1300	0.75	6.08	663	21.3	4.38			

Sample Identification: HER-MW17-0206
Weather Conditions During Sampling: cloudy 100°F
Comments: chemical sheen & odor
MW17

Sample Technician: CT Date: 2-3-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-3-2006	1305	3-40ml VOA	HC
"	1305	1-1LAG	—

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 Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-09
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Terrell / Brent Eaves
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): ~~0.00~~ 20.50
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]): 7.43
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft): 1.26

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
2-2-2006	0957	12.57
2-3-2006	1218	12.58

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
2-3-2006 / 1210	0.0	5.94	495.1	20.4	2.39			odor
/ 1214	0.25	5.96	511.0	20.5	0.67			
/ 1218	0.50	6.00	553.0	20.5	0.63			
/ 1222	0.75	5.98	661.0	20.5	0.69			
/ 1226	1.00	5.98	668.0	20.4	0.65			

Sample Identification: HER-MW09-0206
HER-FD3-0206
Weather Conditions During Sampling: cloudy 60°F
Comments: chemical odor

Sample Technician: CT Date: 2-3-2006

GROUNDWATER SAMPLE CONTAINERS

	Date	Time	Sample Container	Preservative
MW9	2-3-2006	1230	3-40ml VOA	HCl
	"		1-1LAG	—
FD3	"		3-40ml VOA	HCl
	"	↓	1-1LAG	—

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 Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-02
Site Location: Hattiesburg, Mississippi

Start Date: 2-2-2006 Finish Date: 2-2-2006
Sample Technician: Chris Terrell / Brent Eaves
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	9:38	4.25
"	13:11	4.51
"	13:15	4.51
"	13:24	4.51

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm)~~ µS	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-2-2006/1310	0.0	5.26	94.6	18.9	7.86			
1315	0.25	5.40	88.8	18.3	13.8			
1320	0.50	5.48	92.6	18.5	18.3			
1324	0.75	5.51	95.9	18.5				
1331	1.00	5.56	95.8	18.2				

Sample Identification: HER-MW02-0206

Weather Conditions During Sampling: Cloudy 60°F

Comments:

Sample Technician: CT Date: 2-2-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-2-2006	1335	3-40ml VOA	HCl
"	1335	1-1LAG	—

MW02

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 Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-03
Site Location: Hattiesburg, Mississippi

Start Date: Finish Date:
Sample Technician: Chris Terrell / Brent Eames
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	04:35	7.42
"	12:30	6.62
	12:36	6.61

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm)~~ µS	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-2-06 / 1225	0.0	5.30	84.8	20.5	4.36			
/ 1229	0.25	5.00	82.7	18.5	3.40			
1235	0.50	5.06	81.0	18.0	2.74			
1240	0.75	5.00	82.2	18.0	2.61			

Sample Identification: HER-MW03-0206 (MS/MSD)
MW-03(MS/MSD)
Weather Conditions During Sampling: cloudy 55°F
Comments:

Sample Technician: CT Date: 02-02-2006

GROUNDWATER SAMPLE CONTAINERS

Date	Time	Sample Container	Preservative
2-2-2006	1245	9-40mL VOA	HCl
		3-1LAG	—

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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Environmental Engineers and Scientists

Groundwater Sample Collection Log

Project Name: Hercules Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-04
Site Location: Hattiesburg, Mississippi

Start Date: 2-2-2006 Finish Date: 2-2-2006
Sample Technician: Chris Terrell / Brent Eaves
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	0955	11.28
"	1453	11.31
	1502	11.32

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm)~~ µS/cm	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-2-2006 1450	0.0	5.69	260.1	21.5	1.23			odor
1454	0.25	5.82	261.0	21.5	2.01			↓
1457	0.50	5.86	257.9	21.7	2.56			
1501	0.75	5.89	256.9	21.7	2.67			
1505	1.00	5.88	264.8	21.7	1.84			

Sample Identification: HER-MW04-0206
HER-FD2-0206
Weather Conditions During Sampling: cloudy 60°F
Comments: chemical odor

MW04
FD2

Sample Technician: CT Date: 2-2-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-2-2006	1510	3-40ml VOA	HCl
↓	1510	1-1LAG	—
	1510	3-40ml VOA	HCl
↓	1510	1-1LAG	

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 Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-05
Site Location: Hattiesburg, Mississippi

Start Date: 2-2-2006 Finish Date: 2-2-2006
Sample Technician: Chris Terrell | Brent Eanes
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	0840	8.75
"	1559	8.81
"	1604	8.84

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
2-2-2006 1553	0.0	6.17	470.5	19.3	135			Particulate in sample
1557	0.25	6.33	469.6	19.0	1089			
1601	0.50	6.33	468.8	19.0	91.3			
1605	0.75	6.41	475.0	19.0	604.0			
1609	1.00	6.47	485.0	18.7	18.2			
1615	1.25	6.48	482.6	18.7	17.5			

Sample Identification: HER-MW05-0206
MW5
Weather Conditions During Sampling: Sunny 65°F
Comments: Potential algal or bacterial growth observed in H₂O samples - effervescence
Sample Technician: CT Date: 2-2-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-2-2006	1620	3-40ml VOA	HCl
"	1620	1-1LAG	—

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. **Groundwater Sample Collection Log**

Environmental Engineers and Scientists

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Name: Hercules Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-06
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Terrell / Brent Eanes
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	0858	8.84
2-3-2006	0815	9.27
"	0824	9.11

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
2-3-2006/0810	0.0	5.92	175.7	17.5	3.63			
0813	0.25	5.76	181.3	18.1	2.29			
0818	0.50	5.84	178.0	17.8	1.31			
0822	0.75	5.82	178.3	17.7	3.68			
0827	1.00	5.84	178.1	17.9	1.51			

Sample Identification: HER-MW06-0206

Weather Conditions During Sampling: cloudy 55°F

Comments:

Sample Technician: CT Date: 2-3-2006

MW06

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
02-03-2006	0830	3-40ml VOA	HCl
	0830	1-1LAG	—

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

Name: Hercules Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW07
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Terrell / Brent Eaves
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	1009	14.15
2-3-2006	0846	14.03
"	0851	14.03

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm)~~ µS	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-3-2006/0845	0.0	5.49	122.8	19.9	7.28			
0850	0.25	5.28	123.8	20.4	14.6			
0854	0.50	5.15	127.0	20.2	13.3			
0858	0.75	5.10	124.6	20.2	10.35			
0900	1.00	5.18	124.1	20.3	8.16			

Sample Identification: HER-MW07-0206(MS/MSD)
Weather Conditions During Sampling: Partly cloudy 60°F
Comments:

Sample Technician: CT Date: 2-3-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-3-2006	0905	9-40ml VOA	HCl
"	0905	3-1LAG	—

MW07 (MS/MSD)

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. **Groundwater Sample Collection Log**

Environmental Engineers and Scientists

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t Name: Hercules Quarterly GW Monitoring
Project Number: HER25080-CC-MS
Boring ID: MW-10
Site Location: Hattiesburg, Mississippi

Start Date: Finish Date:
Sample Technician: Chris Terrell / Brent Eames
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	09:46	11.27
	14:16	11.48
	14:24	11.56

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
2-2-2006 14:15	0.0	5.65	39.2	19.3	84.4			
" 14:18	0.25	5.50	38.1	19.0	64.5			
" 14:22	0.50	5.33	38.8	18.9	45.9			
" 14:26	0.75	5.16	38.8	19.0	46.1			
" 14:30	1.00	5.18	38.7	18.9	40.1			

Sample Identification: HER-MW10-0206

Weather Conditions During Sampling: cloudy 60°F

Comments:

Sample Technician: CT Date: 2-2-2006

MW10

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
2-2-2006	1435	3-40ml VOA	HCl
2-2-2006	1435	1-1LAG	—

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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Environmental Engineers and Scientists

Groundwater Sample Collection Log

t Name: Hercules Quarterly GW Monitoring
ct Number: HER25080-CC-MS

Boring ID: MW11
Site Location: Hattiesburg, Mississippi

Start Date: 2-2-2006 Finish Date: 2-2-2006
Sample Technician: Chris Terrell / Brent Barnes
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	1000	8.23
"	1527	8.44

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
2-2-2006/1521	0.0	5.89	174.3	18.5	28.9			
15:25	0.25	5.90	173.6	18.2	24.5			
15:28	0.50	5.86	174.8	18.1	22.0			
15:32	0.75	5.82	174.0	18.0	19.4			

Sample Identification: HER-MW11-0206

Weather Conditions During Sampling: Sunny 65°F

Comments:

Sample Technician: CT Date: 2-2-2006

MW11

GROUNDWATER SAMPLE CONTAINERS

Date	Time	Sample Container	Preservative
2-2-2006	1540	3-40ml VOA	HCl
"	1540	1-1LAG	—

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

Name: Hercules Quarterly GW Monitoring
Number: HER25080-CC-MS
Boring ID: MW-12
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Tennell / Brent Eames
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): 0.00
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)
2-2-2006	0830	8.10
2-3-2006	0737	8.47
2-3-2006	0742	8.60
2-3-2006	0750	8.82

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm)~~ µS	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-3-2006 0735	0.0	5.65	80.4	15.5	141			
0739	0.25	5.69	77.2	15.7	91.7			
0743	0.50	5.62	76.8	15.8	64.7			
0747	0.75	5.68	76.4	15.7	46.6			
0751	1.00	5.67	76.7	15.7	31.5			
0755	1.25	5.68	76.6	15.8	29.1			

Sample Identification: HER-MW12-0206
HER-RS3-0206
Weather Conditions During Sampling Cloudy 50°F
Comments:

Sample Technician: CT Date: 2-3-2006

GROUNDWATER SAMPLE CONTAINERS

	Date	Time	Sample Container	Preservative
MW12	2-3-2006	0800	3-40ml VOA	HCl
"	"	0800	1-1LAG	—
RS3	"	0745	3-40ml VOA	HCl
"	"	0745	1-1LAG	—

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. **Groundwater Sample Collection Log**

Environmental Engineers and Scientists

ct Name: Hercules Quarterly GW Monitoring
ct Number: HER25080-CC-MS
Boring ID: MW-13
Site Location: Hattiesburg, Mississippi

Start Date: 2-3-2006 Finish Date: 2-3-2006
Sample Technician: Chris Terrell / Brent Eanes
Purge/Sample Method: peristaltic pump
Well Diameter (d): 2"
Total Depth (TD): ~~0.00~~ 18.50
Approximate Depth of Water Column (h)
(h= TD - DTW [ft-btoc]): 8.97
Calculated Well Volume (V=6hd²)
(V = vol in gal; d = well diam. in ft): 1.52

Depth-to-Water (DTW) Measurements		
Date	Time	DTW (ft-btoc)
2-2-2006	0955	9.53
2-3-2006	1132	9.33
2-3-2006	1141	9.32

WELL DEVELOPMENT/PURGING DATA

Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity ~~(mS/cm) µS~~	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Oxidation/Reduction Potential (mV)	Comments
2-3-2006 / 1130	0.0	5.45	201.3	22.1	2.11			
/ 1134	0.25	5.43	199.2	22.3	0.80			
/ 1138	0.50	5.42	198.5	22.2	1.12			
/ 1142	0.75	5.60	207.8	22.4	0.91			
/ 1146	1.00	5.50	217.0	22.3	1.12			
/ 1150	1.25	5.57	230.4	22.4	1.31			
/ 1154	1.50	5.61	239.1	22.4	1.47			
/ 1158	1.75	5.70	260.8	22.2	1.19			

Sample Identification: HER-MW13-0206

Weather Conditions During Sampling: cloudy 45° F

Comments:

Sample Technician: CT Date: 2-3-2006

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
MW13 2-3-2006	1205	3 - 40ml VOA	HCl
"	1203	1 - 1LAG	—

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.