



August 13, 2009

Mr. William McKercher  
Environmental Engineer  
Office of Pollution Control  
Mississippi Department of Environmental Quality (MDEQ)  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

**Re: *1<sup>st</sup> Semi-Annual 2009 Monitoring Report  
Hercules Incorporated  
Hattiesburg, Mississippi  
ESI Project No. HER12029128***

**RECEIVED**  
AUG 31 2009  
Dept of Environmental Quality  
Office of Pollution Control

Dear Mr. McKercher:

Eco-Systems, Inc. (Eco-Systems) is pleased to submit the enclosed two copies of the 1<sup>st</sup> Semi-Annual 2009 Monitoring Report prepared on behalf of Hercules, Incorporated. The report includes discussion of the May 2009 surface water and groundwater monitoring event.

If you have any questions or require additional information, please do not hesitate to call Mr. Timothy Hassett at (302) 995-3456 or Chris Waters (Eco-Systems) at (251) 342-0700.

Sincerely,

A. Chris Waters, RPG  
Senior Scientist

cc: Timothy Hassett – Hercules Inc. w/ enclosure  
C. S. Jordan – Hercules, Hattiesburg w/ enclosure

*Semi-Annual Monitoring Report  
 May 2009 Sampling Event  
 Hercules Incorporated  
 Hattiesburg, Mississippi*

**TABLE OF CONTENTS**

---

**1.0 INTRODUCTION..... 2**

**2.0 FIELD ACTIVITIES..... 3**

    2.1 GROUNDWATER SAMPLE COLLECTION ..... 3

    2.2 SURFACE WATER SAMPLE COLLECTION ..... 4

    2.3 QUALITY ASSURANCE/QUALITY CONTROL..... 4

    2.4 DECONTAMINATION ..... 4

    2.5 OTHER PROCEDURES..... 5

**3.0 RESULTS ..... 6**

    3.1 GROUNDWATER ANALYTICAL RESULTS ..... 6

    3.2 SURFACE WATER ANALYTICAL RESULTS ..... 7

        3.2.1 *Volatile Organic Compounds* ..... 7

    3.3 QA/QC SAMPLE ANALYTICAL RESULTS..... 7

**4.0 FINDINGS AND CONCLUSIONS..... 9**

    4.1 SLUDGE PITS ..... 9

    4.2 GREEN’S CREEK..... 9

    4.3 FORMER LANDFILL ..... 9

    4.4 GROUNDWATER ..... 10

    4.5 EASTERN PLANT AREA..... 10

**TABLES**

TABLE 1      SUMMARY OF GROUNDWATER ELEVATION DATA

TABLE 2      SUMMARY OF VOC ANALYTICAL RESULTS

TABLE 3      SUMMARY OF QA/QC SAMPLE ANALYTICAL RESULTS

**FIGURES**

FIGURE 1      SITE LOCATION MAP

FIGURE 2      SITE PLAN

FIGURE 3      POTENTIOMETRIC SURFACE MAP – MAY 24, 2009

**APPENDICES**

APPENDIX A      GROUNDWATER COLLECTION LOGS

APPENDIX B      LABORATORY ANALYTICAL RESULTS

*Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi*

## **1.0 INTRODUCTION**

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Hercules Incorporated (Hercules) commissioned Eco-Systems, Inc. (Eco-Systems) in May 2009 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 1st semi-annual 2009 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**

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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 May 12, 2009 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 May 12, 2009 is included as Table 1. A potentiometric surface map has been prepared from the May 12, 2009 groundwater elevations and is included as Figure 3.

Groundwater sample collection was conducted May 12 through 15, 2009. 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, laboratory-supplied, sample containers. 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. Personnel involved in sampling used clean, disposable, nitrile 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. Filled sample containers were labeled and immediately placed on ice in coolers. Groundwater samples for VOC analyses were shipped via overnight courier along with chain-of-custody documentation to Test America Laboratories in Savannah, Georgia for analysis.

## **2.2 SURFACE WATER SAMPLE COLLECTION**

On May 12, 2009, 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, laboratory-supplied sample containers. The filled sample containers were labeled, packed and shipped along with chain-of-custody documentation 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, one trip blank sample, 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; and,
- 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.

***Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi***

**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**

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Groundwater and surface water samples collected from the Hercules site were analyzed for Appendix IX VOC's according to U.S. EPA Test 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 May 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup>, 2009.

##### **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, and MW-16.

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

Analysis of the groundwater sample collected from monitoring well MW-09 detected benzene at concentrations below the TRG.

Analysis of the groundwater sample collected from monitoring well MW-11 detected acetone at a concentration below the TRG.

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, carbon tetrachloride, and chloroform, at concentrations above their respective TRG's.

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.



*Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi*

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, carbon tetrachloride, and chloroform at concentrations above their respective TRG's. Chlorobenzene, 1,1-dichloroethene, ethylbenzene, and toluene were detected at concentrations below 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 May 12, 2009.

#### **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 with the exception of benzene. Benzene was detected at concentrations of 4.1 µg/L and 4.0 µg/L in samples CM-04 and CM-05, respectively.

### **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-13. 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-13 detected similar concentrations of benzene, carbon tetrachloride, chlorobenzene, and chloroform.

Toluene was detected in the rinsate samples (RB-2, RB-3, and RB-4) at levels near the MDL. No environmental samples were positive for toluene.

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



***Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi***

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-15 and MW-16 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**

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The findings and conclusions in this section are based on data obtained during the May 2009 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, and MW-10. Acetone was detected at concentrations well below the TRG in samples collected from 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**

With the exception of benzene, 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. The detections of benzene in two samples (CM-04 and CM-05) were well below the MDEQ TRG.

##### **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. During the November 2008 sampling event, Methylene chloride was detected at concentrations above the TRG's; however, they were below the method detection limit for this event. Likewise, dichlorobromomethane and 1,2-dichloroethane were detected in the November 2008 sample collected from monitoring well MW-13 at concentrations above TRGs and below the method detection limit for this event. Due to laboratory dilutions for samples collected from MW-8 and MW-13, the detection limits for several parameters were elevated above the TRG; therefore, exceedances for methylene chloride, dichlorobromomethane, and 1,2-dichloroethane are undetermined for this event.

*Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi*

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. During this event, acetone was detected in concentrations below the TRG in samples collected from MW-12 only. 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 concentrations have been detected at a concentration less than the TRG in samples collected from monitoring well MW-9 since the May 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 and May 2009 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, has been detected in concentrations above the TRG in samples collected from MW-19 since November 2008. Carbon tetrachloride has been detected in concentrations above the TRG in samples collected from MW-19 in May 2008 and 2009. Chlorobenzene, carbon tetrachloride, 1,1-dichloroethene, ethylbenzene, and toluene were detected in samples collected from monitoring well MW-19 at concentrations below the TRG.

***Semi-Annual Monitoring Report  
May 2009 Sampling Event  
Hercules Incorporated  
Hattiesburg, Mississippi***

Chlorobenzene and 1,1-Dichloroethene was detected at concentrations below the TRGs in the sample collected from monitoring well MW-18 during the May 2009 sampling event.

**TABLES**

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
*May 2009*  
*Hercules, Incorporated*  
*Hattiesburg, Mississippi*

WELL NO.	TOC ELEVATION (ft.) <sup>1</sup>	WATER DEPTH (ft) <sup>2</sup>	GROUNDWATER ELEVATION (ft.)
<b>PERMANENT MONITOR WELLS</b>			
MW-1	174.12	NA <sup>3</sup>	NA
MW-2	160.07	4.86	155.21
MW-3	160.03	5.45	154.58
MW-4	159.75	9.23	150.52
MW-5	160.99	6.88	154.11
MW-6	174.05	6.78	167.27
MW-7	183.96	13.46	170.50
MW-8	179.99	13.67	166.32
MW-9	181.97	11.18	170.79
MW-10	159.88	8.96	150.92
MW-11	157.18	6.52	150.66
MW-12	162.17	7.11	155.06
MW-13	175.23	6.24	168.99
MW-14	169.23	11.25	157.98
MW-15	172.21	16.61	155.60
MW-16	175.62	16.13	159.49
MW-17	186.13	17.26	168.87
MW-18	165.31	4.41	160.90
MW-19	172.25	10.58	161.67
<b>STAFF GAUGES</b>			
SG-1	NA	NA	NA
SG-2	NA	NA	NA
SG-3	NA	NA	NA
SG-4	NA	NA	NA
<b>PIEZOMETERS</b>			
TP-1	172.18	NA	NA
TP-2	171.72	10.59	161.13
TP-3	169.74	5.90	163.84
TP-4	163.64	3.39	160.25
TP-5	160.54	6.92	153.62
TP-6	158.63	5.21	153.42
TP-7	167.17	7.67	159.50
TP-8	183.79	13.55	170.24
TP-9	163.44	4.75	158.69
TP-10	179.69	13.41	166.28
TP-11	162.26	6.80	155.46
TP-12	159.95	9.14	150.81
TP-13	156.99	6.33	150.66
TP-14	162.59	3.92	158.67
TP-16	179.72	11.60	168.12
TP-17	182.71	16.08	166.63

**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.







Location	Date	Chloride					Chloroethane							
		Acetone	Benzene	Chloroethane	Carbon Tetrachloride	Chloroform	Chloroethane	Dichloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,2-Dichloroethane	Trichloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane
MW-07	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-06	< 25	93.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
	May-08	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	NA	< 5.0	< 10.0	< 10.0
MW-08	Dec-02	ND	6,900	290	16,000	1,800	39.2	4.45	19	4.6	26.1	NA	NA	NA
	Feb-03	NA	< 500.0	230	12,000	1,300	3.34	< 10.0	17.5	4.35	< 13.0	NA	NA	NA
	Aug-05	< 6300	18,000	< 250	3,500	510	< 250	NA	NA	NA	< 1,300	< 10.0	< 10.0	< 10.0
	Nov-05	< 2,500	17,000	160	1,000	260	< 100	NA	NA	NA	< 500	< 10.0	< 10.0	< 10.0
	Feb-06	< 2,500	11,000	160	480	130	< 100	NA	NA	NA	< 500	< 10.0	< 10.0	< 10.0
	May-06	< 630	11,000	170	2,200	280	< 25	NA	29	NA	380	< 10.0	< 10.0	< 10.0
	Aug-06	750	15,000	220	640	450	< 1.0	NA	34	NA	510	< 10.0	< 10.0	< 10.0
	Nov-06	< 2,500	13,000	< 100	330	< 100	< 100	NA	< 100	NA	< 500	< 1,000	< 1,000	< 1,000
	Feb-07	< 250	990	24	840	100	< 10	NA	< 10	NA	< 50	< 100	< 100	< 100
	May-07	< 2,500	9,600	220	6,100	890	< 50	NA	< 50	NA	< 250	< 500	< 500	< 500
MW-09	Dec-02	ND	9.15	ND	ND	ND	ND	ND	ND	ND	2.48	NA	NA	NA
	Feb-03	NA	64.3	J 5.85	20.7	J 9.83	< 10.0	< 10.0	< 10.0	J 1.92	< 13.0	NA	NA	NA
	Aug-05	< 25	12	1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-05	< 25	16.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-06	< 25	18.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-06	< 25	8.1	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Aug-06	< 25	10	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-06	34.0	18.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	6.8	< 10.0	48.0	< 10.0
	Feb-07	< 25.0	7.6	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-07	< 25.0	8.4	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
MW-10	Aug-03	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	NA	NA	NA
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
MW-11	Dec-02	ND	114	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
	Feb-03	NA	J 6.39	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 1.0	< 1.0	< 5.0	NA	NA	NA
	Aug-03	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	NA	NA	NA
	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
MW-12	Aug-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-06	91	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	Nov-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0
	May-08	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0	< 10.0

1 - NA indicates that the analyte was not analyzed.  
2 - "<" indicates that the concentration of the analyte is less than the concentration shown.  
3 - ND = Non Detect / No detection limit available.  
4 - Target Remediation Goals are taken from the Tier 1 Target Remedial Goal Table of the EIS  
5 - TRG not yet established for this analyte.

Location	Date	Chloroethane					Chlorobenzene						
		Acetone	Benzene	Chloroethane	Carbon Tetrachloride	Chloroform	Chloroethane	Dibromochloroethane	o,1,2-Dichlorobenzene	Imperylene Benzene	Imperylene Chloride	Imperylene Isomers	Imperylene Isomers
MW-13	Aug-05	< 25	120	10	260	96	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	29	78	9.3	53	56	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	110	22	77	63	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	< 25	48	5.4	110	33	< 1.0	NA	1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	72	17	45	35	< 1.0	NA	3.1	NA	< 5.0	< 10.0	< 10.0
	Nov-06	< 25	94	19	27	30	< 1.0	NA	4.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	160	14	680	120	< 1.0	NA	2.5	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	320	13	1400	130	< 1.0	NA	1.3	NA	< 5.0	< 10.0	< 10.0
	Nov-07	< 25	180	9.0	560	140	< 1.0	NA	1.2	NA	< 5.0	< 10.0	< 10.0
	May-08	< 250	780	23	3,200	260	< 20	NA	< 20	NA	< 100	< 200	< 200
	Nov-08	< 250	250	14	880	180	< 20	NA	1.8	NA	< 100	< 200	< 200
	May-09	< 620	1,200	< 25	3,500	340	< 25	NA	< 25	NA	< 125	< 250	< 250
MW-14	Aug-05	34	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	35	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	180	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-06	440	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-07	72	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-08	650	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-08	590	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-09	260	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NA	< 2.0	NA	< 10	< 20	< 20
MW-15	Aug-05	84	1.7	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-06	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	350	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-07	62	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-08	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-08	2,300	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-09	1,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 25	< 50	< 50
MW-16	Aug-05	< 25	2.3	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	< 25	1.2	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-06	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-07	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-08	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-08	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-09	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
MW-17	Aug-05	< 6300	6,200	340	1,500	1,200	< 250	NA	NA	NA	< 1,300	NA	NA
	Nov-05	< 13,000	1,500	< 500	17,000	1,600	< 500	NA	NA	NA	< 2,500	NA	NA
	Feb-06	< 13,000	1,300	600	37,000	2,600	< 500	NA	NA	NA	< 2,500	NA	NA
	May-06	< 6,300	4,200	530	30,000	< 250	< 250	NA	< 250	NA	< 1,300	NA	NA
	Aug-06	570	1,000	610	33,000	3,000	< 1.0	NA	26	NA	10	< 10.0	< 10.0
	Nov-06	< 5,000	2,100	470	26,000	< 200	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
	Feb-07	< 5,000	3,300	810	48,000	3,400	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
	May-07	740	5,300	770	32,000	2,800	< 20	NA	< 20	NA	< 100	< 200	< 200
	Nov-07	< 5,000	3,000	890	45,000	4,600	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
	May-08	< 5,000	4,800	930	47,000	3,600	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
	Nov-08	< 5,000	1,800	720	34,000	3,500	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
	May-09	< 5,000	8,100	640	39,000	2,900	< 200	NA	< 200	NA	< 1,000	< 2,000	< 2,000
MW-18	Aug-05	< 25	10	45	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	< 25	3.9	26	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	4.2	31	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	< 25	6.5	35	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	4.8	34	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-06	61	2.9	23	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	4.1	28	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	4.0	33	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-07	< 25	1.2	26	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-08	< 25	1.7	31	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-08	< 25	< 1.0	23	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-09	< 25	< 1.0	24.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
MW-19	Aug-05	< 25	20	7.5	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Nov-05	< 25	19	6.4	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	Feb-06	< 25	22	9.8	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 5.0	< 10.0	< 10.0
	May-06	28	21	7.2	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Aug-06	< 25	18	6.3	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-06	< 25	20	6.2	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Feb-07	< 25	32	8.5	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-07	< 25	36	9.5	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-07	< 25	44	10	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	May-08	< 25	66	13	6.7	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0
	Nov-08	< 25	58	9.7	< 1.0	< 1.0	< 1.0	NA	< 1.0	NA	< 5.0	< 10.0	< 10.0

**TABLE 3**  
**SUMMARY OF QA/QC SAMPLE ANALYTICAL RESULTS**  
*Hercules Incorporated*  
*Hattiesburg, Mississippi*  
**May 2009**

Location	Concentrations in $\mu\text{g/L}$				
	Benzene	Carbon Tetrachloride	Chlorobenzene	Toluene	Chloroform
MW-04	< 1.0	< 1.0	< 1.0	< 1	1.0
MW-04 FD01	< 1.0	< 1.0	< 1.0	< 1	1.0
RPD	0%	0%	0%	0%	0%
MW-13	<b>1,200</b>	<b>3,500</b>	< 25	< 1	<b>340</b>
MW-13 FD02	<b>1,200</b>	<b>3,500</b>	26	< 1	<b>320</b>
RPD	0%	0%	3.92%	0%	6.06%
RS-01	< 1.0	< 1.0	< 1.0	< 1.0	1.0
RS-02	< 1.0	< 1.0	< 1.0	< 3.9	1.0
RS-03	< 1.0	< 1.0	< 1.0	< 2.3	1.0
RS-04	< 1.0	< 1.0	< 1.0	< 1.4	1.0
TB-01	< 1.0	< 1.0	< 1.0	< 1	1.0
TB-02	< 1.0	< 1.0	< 1.0	< 1	1.0

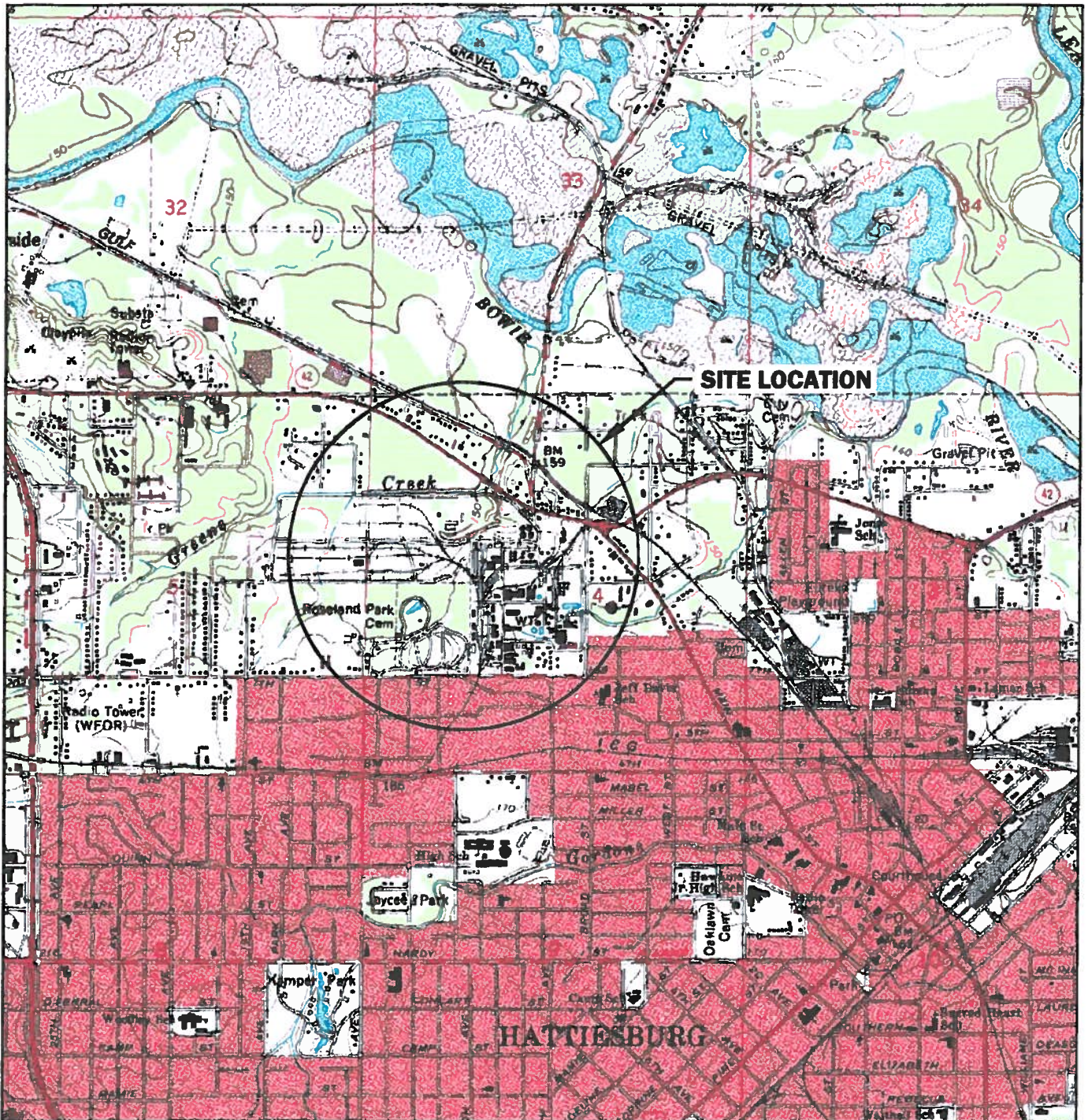
1 - "<" indicates that the concentration of the analyte is less than the concentrations shown.

2 - ND indicates that the data was not detected

2 - RPD = relative percent difference

**FIGURES**





**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**

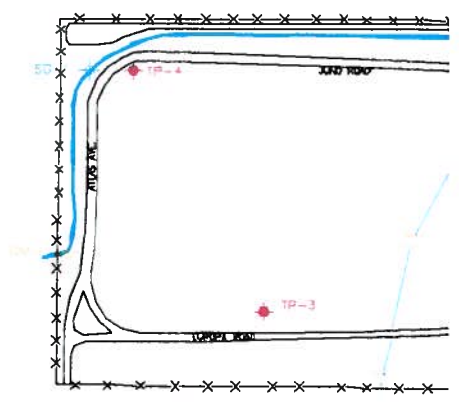
SOURCE: DeLORME 3D TopoQuads - HATTIESBURG, MISSISSIPPI





RESIDENTIAL/COMMERCIAL

GREEN



RESIDENTIAL/COMMERCIAL

ZEON CHEMICAL CORPORATION

**LEGEND**

- SC-1 STAFF GAUGE LOCATION
  - MW-4 GROUNDWATER MONI LOCATION AND IDENT
  - TP-12 PIEZOMETER LOCATION
  - CREEK MEDIA SAMPLING AND IDENTIFICATION
  - APPROXIMATE PROPERTY LINE
  - INTERMITTENT DRAIN
  - APPROXIMATE BOUNDARY OF LANDFILL AREA
- TO RIVER

**NOTES**

1. BASE MAP PROVIDED BY HERCULES



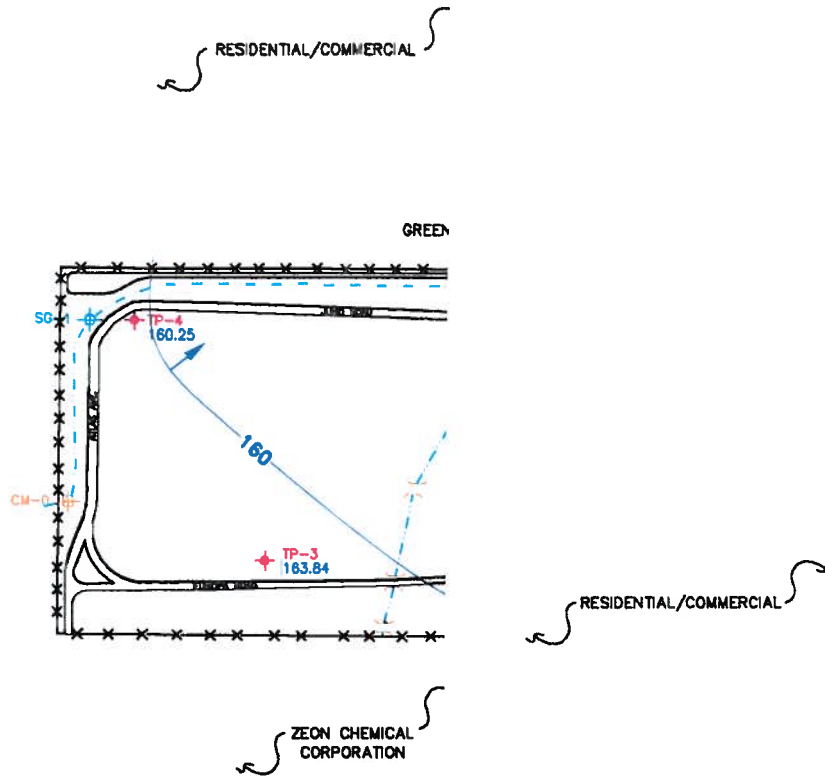
**Geo-Systems, Inc.**  
 Atlanta, Engineers and Scientists  
 Houston, TX • Meridian, MS • Mobile, AL  
 Fort Worth, TX • Jackson, TN • Atlanta, GA

**HERCULES INCORPORATED**  
**BATTLESBURG, MISSISSIPPI**

**SITE PLAN**

PROJECT No. HER25080	
CAD FILE NAME HER25080-WLLMAP.dwg	
FIGURE 2	REVISION 0





- LEGEND**
- SG-1 STAFF GAUGE LOC
  - MW-4 GROUNDWATER MON
  - TP-12 PIEZOMETER LOCAT
  - CM-1 CREEK MEDIA SAMPL AND IDENTIFICATION
  - 160 POTENTIOMETRIC SI
  - APPROXIMATE PROF
  - INTERMITTENT DRAIN
  - APPROXIMATE BOU/LANDFILL AREA

**NOTES**

1. BASE MAP PROVIDED BY HER



**co-Systems, Inc.**  
*solutions, Engineers and Scientists*  
 Houston, MS • Meridian, MS • Mobile, AL  
 Houston, TX • Nashville, TN • Atlanta, GA  
 Hattiesburg, MS • Gulfport, MS

**HERCULES INCORPORATED**  
**HATTIESBURG, MISSISSIPPI**

**POTENTIOMETRIC**  
**SURFACE MAP**  
**MAY 12, 2009**

PROJECT No. 16R20080	
CAD FILE NAME 16R20080-FIGURE3.dwg	
FIGURE <b>3</b>	REVISION <b>0</b>



**APPENDIX A**  
**GROUNDWATER COLLECTION LOGS**



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-3  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL: 160.03  
Total Depth of Well (ft): 18.00  
Approximate Depth of Water Column  
(h = TD of well - water level [TOC]): 12.55  
Calculated Well Volume (V = 6bd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 2.05  
Groundwater Elevation AMSL: 154.58

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	5.45
5/13/2009	8:37	5.51
5/13/2009	8:47	5.75
5/13/2009	8:57	5.82

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 08:40	0.25	5.02	0.128	20.36	15.1	NA	NA	Slightly turbid
5/13/2009 / 08:49	0.50	4.92	0.119	20.06	6.76	0.34	122.4	Clear
5/13/2009 / 08:55	0.75	4.83	0.116	20.17	3.14	0.22	148.5	Clear
5/13/2009 / 09:00	1.00	4.78	0.115	20.12	3.23	0.22	162.8	Clear

Sample Identification: HER-MW03-051309

Weather Conditions During Sampling Clear, 73°F

Comments: Turbidity meter 1.00 cal reads 1.02, 10.0 cal reads 9.99  
Analysis for Appendix IX VOC's 8260b

Signature:  Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	9:02	3-40ml VOAs	HCL



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-2  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL: 160.07  
Total Depth of Well (ft): 20.50  
Approximate Depth of Water Column  
(h = TD of well - water level [TOC]): 15.64  
Calculated Well Volume (V = 6hd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 2.55  
Groundwater Elevation AMSL: 155.21

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	4.86
5/13/2009	9:13	4.88
5/13/2009	9:20	5.18
5/13/2009	9:31	5.12
5/13/2009	9:39	5.17

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 09:22	0.10	5.42	0.086	20.07	16.6	1.51	165.5	Slightly Turbid
5/13/2009 / 09:26	0.25	5.42	0.085	20.22	14.6	1.01	177.9	Clear
5/13/2009 / 09:31	0.50	5.37	0.084	20.21	13.0	0.66	173.2	Clear
5/13/2009 / 09:35	0.75	5.35	0.089	20.04	8.29	0.47	137.9	Clear
5/13/2009 / 09:39	1.00	5.35	0.092	20.09	5.28	0.38	130.5	Clear
5/13/2009 / 09:46	1.50	5.35	0.093	20.07	4.68	0.03	127.9	Clear

Sample Identification: HER-MW02-051309, HER-MW02-051309-MS, HER-MW02-051309-MSD

Weather Conditions During Sampling Clear, 80°F

Comments: Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	9:48	3-40ml VOAs	HCL
MS	9:48	3-40ml VOAs	HCL
MSD	9:48	3-40ml VOAs	HCL



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-10  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 159.88  
Total Depth of Well (ft) 18.50  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 9.54  
Calculated Well Volume (V=6hd<sup>3</sup>)  
(V = vol in gal; D = well diam. in ft): 1.56  
Groundwater Elevation AMSL 150.92

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	8.96
5/13/2009	10:17	9.07
5/13/2009	10:27	9.10
5/13/2009	10:31	9.11
5/13/2009	10:45	9.09
5/13/2009	11:00	9.10

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 10:20	0.10	5.57	0.006	22.96	13.80	8.79	165.9	Clear
5/13/2009 / 10:25	0.25	5.58	0.006	22.77	13.20	8.89	199.2	Clear
5/13/2009 / 10:30	0.50	5.54	0.006	22.60	12.10	8.86	218.4	Clear
5/13/2009 / 10:35	0.75	5.51	0.006	22.51	11.00	8.76	223.5	Clear
5/13/2009 / 10:40	1.00	5.49	0.006	22.44	10.89	8.70	226.1	Clear
5/13/2009 / 10:45	1.25	5.42	0.036	21.08	10.30	1.59	180.5	Clear
5/13/2009 / 10:50	1.50	5.36	0.035	20.93	10.48	0.45	193.4	Clear
5/13/2009 / 10:55	1.75	5.34	0.036	21.09	12.50	0.35	198.7	Clear
5/13/2009 / 11:00	2.00	5.32	0.035	21.28	15.70	0.35	205.5	Clear
5/13/2009 / 11:05	2.25	5.32	0.035	21.15	17.10	0.44	206.8	Clear
5/13/2009 / 11:15	3.00	5.30	0.036	21.22	22.10	1.14	215.7	Clear
5/13/2009 / 11:17	3.50	5.28	0.036	20.29	26.60	1.20	231.8	Clear
5/13/2009 / 11:21	4.00	5.29	0.036	20.31	22.30	1.30	230.6	Clear
5/13/2009 / 11:26	4.50	5.25	0.036	20.39	17.70	1.18	231.7	Clear
5/13/2009 / 11:36	5.00	5.24	0.036	20.32	15.70	1.24	234.2	Clear
5/13/2009 / 11:43	6.00	5.24	0.036	20.29	15.50	1.28	236.1	Clear
5/13/2009 / 11:49	7.00	5.23	0.036	20.36	15.30	1.29	237.9	Clear

Sample Identification: HER-MW10-051309

Weather Conditions During Sampling Clear, 84°F

Comments:

Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	11:51	3-40ml VOAs	HCL



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-4  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 159.75  
Total Depth of Well (ft) 18.74  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 9.51  
Calculated Well Volume (V=6hd<sup>3</sup>)  
(V = vol in gal; D = well diam. in ft): 1.55  
Groundwater Elevation AMSL 150.52

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	9.23
5/13/2009	12:10	9.31
5/13/2009	12:30	9.35

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 12:13	0.10	6.06	0.230	22.80	23.4	3.09	-32.4	Slightly turbid
5/13/2009 / 12:17	0.25	6.16	0.245	22.87	7.03	1.64	-40.9	Clear
5/13/2009 / 12:21	0.50	6.20	0.247	22.96	4.45	0.85	-49.8	Clear
5/13/2009 / 12:25	0.75	6.23	0.244	23.14	4.07	0.46	-54.7	Clear
5/13/2009 / 12:30	1.00	6.25	0.243	23.21	3.93	0.23	-58.6	Clear
5/13/2009 / 12:35	1.25	6.24	0.243	22.88	3.72	0.19	-60.2	Clear

Sample Identification: HER-MW04-051309, HER-FD01-051309

Weather Conditions During Sampling Clear, 85°F

Comments: \_\_\_\_\_

Analysis for Appendix IX VOC's 8260b

Signature:  Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	12:36	3-40ml VOAs	HCL



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-11  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 157.18  
Total Depth of Well (ft) 17.00  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 10.48  
Calculated Well Volume (V=6hd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 1.71  
Groundwater Elevation AMSL 150.66

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	6.52
5/13/2009	12:53	6.55
5/13/2009	12:58	6.64
5/13/2009	13:08	6.65
5/13/2009	13:18	6.64
5/13/2009	13:30	6.65

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 12:54	0.10	5.61	0.176	21.37	17.3	2.83	46.1	Slightly turbid
5/13/2009 / 12:58	0.25	5.59	0.174	21.12	5.68	1.59	46.9	Clear
5/13/2009 / 13:02	0.50	5.62	0.171	20.77	2.65	0.77	42.4	Clear
5/13/2009 / 13:07	0.75	5.65	0.170	20.84	2.29	0.55	39.9	Clear
5/13/2009 / 13:12	1.00	5.68	0.169	21.34	2.87	0.66	39.6	Clear
5/13/2009 / 13:17	1.25	5.74	0.169	21.24	2.28	0.50	41.4	Clear
5/13/2009 / 13:22	1.50	5.67	0.169	21.96	2.62	0.15	44.5	Clear
5/13/2009 / 13:27	1.75	5.63	0.168	20.74	2.67	0.13	43.9	Clear
5/13/2009 / 13:31	2.00	5.67	0.167	20.65	2.63	0.11	42.3	Clear

Sample Identification: HER-MW11-051309

Weather Conditions During Sampling Clear, 86°F

Comments:

Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	13:32	3-40ml VOAs	HCL





# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-5  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 160.99  
Total Depth of Well (ft) 18.50  
Approximate Depth of Water Column  
(hr= TD of well - water level [TOC]): 11.62  
Calculated Well Volume (V=6hd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 1.90  
Groundwater Elevation AMSL 154.11

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	6.88
5/13/2009	15:23	6.98
5/13/2009	15:29	7.53
5/13/2009	15:07	7.78
5/13/2009	15:48	7.84
5/13/2009	15:51	7.84
5/13/2009	15:58	7.83

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 15:25	0.10	6.71	0.617	24.10	28.1	0.97	-84.6	Slightly Turbid
5/13/2009 / 15:30	0.25	6.78	0.611	23.05	13.9	0.31	-85.8	Clear
5/13/2009 / 15:35	0.50	6.75	0.615	23.95	8.14	0.22	-85.3	Clear
5/13/2009 / 15:40	0.75	6.75	0.617	24.58	10.06	0.24	-85.4	Clear
5/13/2009 / 15:45	1.00	6.78	0.615	24.97	11.4	0.16	-84.4	Clear
5/13/2009 / 15:50	1.25	6.77	0.615	24.60	6.48	0.15	-81.5	Clear
5/13/2009 / 15:55	1.50	6.74	0.617	24.80	5.01	0.14	-81.3	Clear
5/13/2009 / 16:00	1.75	6.76	0.626	24.88	3.33	0.13	-81.2	Clear
5/13/2009 / 16:05	2.00	6.79	0.630	24.82	Not Obtained	0.11	-81.3	Clear

Sample Identification: HER-MW05-051309

Weather Conditions During Sampling Clear, 88°F

Comments: Seen in bucket

Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	16:06	3-40ml VOAs	HCL



# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER12029103

Boring ID: MW-12  
Site Location: Hattiesburg, MS

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 162.17  
Total Depth of Well (ft) 12.00  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 4.89  
Calculated Well Volume (V=6hd<sup>3</sup>)  
(V = vol in gal; D = well diam. in ft): 0.80  
Groundwater Elevation AMSL 155.06

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	7.11
5/13/2009	16:32	7.31
5/13/2009	16:38	7.32
5/13/2009	16:44	7.33
5/13/2009	16:55	7.33

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (ms/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/13/2009 / 16:36	0.10	5.64	0.080	21.95	23.8	0.42	115.2	Slightly Turbid
5/13/2009 / 16:41	0.25	5.49	0.076	21.72	Not Taken	0.30	114.1	Clear
5/13/2009 / 16:46	0.50	5.30	0.073	21.40	17.8	0.21	115.7	Slightly Turbid
5/13/2009 / 16:51	0.75	5.28	0.072	21.22	13.4	0.21	116.7	Clear
5/13/2009 / 16:56	1.25	5.30	0.072	21.17	9.67	0.22	116.4	Clear
5/13/2009 / 17:02	1.50	5.23	0.073	21.33	10.91	0.21	114.4	Clear
5/13/2009 / 17:07	1.75	5.31	0.071	21.62	9.26	0.18	109	Clear
5/13/2009 / 17:12	2.00	5.29	0.077	21.60	7.66	0.18	107.4	Clear

Sample Identification: HER-MW12-051309 , HER-RB02-051309

Weather Conditions During Sampling Clear, 86°F

Comments: Rinsate (RB02)

Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/13/2009	17:13	3-40ml VOAs	HCL
RB02	16:47	3-40ml VOAs	HCL









# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER 12029103

Boring ID: MW-7  
Site Location: Hattiesburg, MS.

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 183.96  
Total Depth of Well (ft) 22.50  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 9.04  
Calculated Well Volume (V=6hd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 1.48  
Groundwater Elevation AMSL 170.50

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	13.46
5/14/2009	9:01	13.71
5/14/2009	9:10	13.67
5/14/2009	9:20	13.68
5/14/2009	9:30	13.67

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/14/09 9:00	0.10	5.36	0.119	21.14	114	5.61	NA	Turbid
9:05	0.25	5.12	0.117	21.05	89.5	5.30	NA	Turbid
9:15	0.75	4.89	0.116	20.98	39.5	5.04	NA	Turbid
9:25	1.25	4.82	0.115	21.22	16.5	4.98	NA	Slightly Turbid
9:30	1.50	4.80	0.116	21.35	7.79	4.36	NA	Clear
9:35	1.75	4.75	0.116	21.21	4.37	4.33	NA	Clear
9:40	2.00	4.73	0.116	21.24	4.21	4.23	NA	Clear

Sample Identification: HER-MW07-051409, HER-MW07-051409-MS  
HER-MW07-051409-MSD, HER-RB03-051409  
Weather Conditions During Sampling Foggy, 75°F  
Comments: MS / MSD / Rinsate RB03  
Laboratory Analysis for Appendix IX VOC's 8260b  
Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/14/2009	9:41	3-40ml VOAs	HCL
MS	9:41	3-40ml VOAs	HCL
MSD	9:41	3-40ml VOAs	HCL
RB03	9:01	3-40ml VOAs	HCL





# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER 12029103

Boring ID: MW-16  
Site Location: Hattiesburg, MS.

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 175.62  
Total Depth of Well (ft) 28.50  
Approximate Depth of Water Column  
(ft = TD of well - water level [TOC]): 12.37  
Calculated Well Volume ( $V=6hd^2$ )  
(V = vol in gal; D = well diam. in ft): 2.02  
Groundwater Elevation AMSL 159.49

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	16.13
5/14/2009	10:08	16.45
5/14/2009	10:18	16.47

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/14/09 10:09	0.10	6.06	0.883	23.41	9.23	2.93	NA	Clear
10:14	0.25	6.12	0.887	22.79	3.39	2.46	NA	Clear
10:19	0.50	6.15	0.885	22.57	2.30	1.85	NA	Clear
10:25	0.75	6.13	0.885	22.52	2.60	1.58	NA	Clear
10:31	1.00	6.14	0.886	22.60	1.92	1.28	NA	Clear
10:36	1.25	6.12	0.884	22.59	2.56	1.15	NA	Clear

Sample Identification: HER-MW16-051409  
Weather Conditions During Sampling Clear, 86°F  
Comments: Effervescence in VOAs as usual. Sheen in purge water.  
Laboratory Analysis for Appendix IX VOC's 8260b  
Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/14/2009	10:37	3-40ml VOAs	HCL







# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER 12029103

Boring ID: MW-14  
Site Location: Hattiesburg, MS.

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump & Volume-Based  
Well Diameter: 2"  
T.O.C. Elev. AMSL 169.23  
Total Depth of Well (ft) 24.30  
Approximate Depth of Water Column  
(h= TD of well - water level [TOC]): 13.05  
Calculated Well Volume (V=6hd<sup>2</sup>)  
(V = vol in gal; D = well diam. in ft): 2.13  
Groundwater Elevation AMSL 157.98

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	11.25
5/14/2009	12:20	13.48

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/14/09 12:20	0.10	6.17	0.750	25.64	23.3	0.50	NA	Slightly Turbid
12:27	0.25	6.08	0.734	25.65	21.4	0.22	NA	Slightly Turbid
12:38	0.75	6.21	0.722	24.54	11.5	0.21	NA	Clear
12:45	1.00	6.30	0.714	23.31	8.32	0.28	NA	Clear
12:53	1.25	6.34	0.705	22.41	12.3	1.41	NA	Clear
13:17	NA	NA	NA	NA	22.2	NA	NA	Slightly Turbid
Stopped pump due to extreme effervescence and thunderstorm then increased purging speed.								
13:34	3.00	6.36	0.693	21.85	20.2	1.86	NA	Slightly Turbid
13:40	3.25	6.42	0.693	22.21	13.3	4.20	NA	Clear
13:46	3.50	6.45	0.698	23.07	13.1	4.88	NA	Clear
13:54	3.75	6.44	0.699	23.12	11.8	4.93	NA	Clear
14:01	4.00	6.45	0.699	23.20	12.5	5.00	NA	Clear
MDEQ OK with Turbidity level.								

Sample Identification: HER-MW14-051409

Weather Conditions During Sampling Thunderstorm, 85°F

Comments: \*Sample unpreserved / extreme effervescent reaction to HCL

Laboratory Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/14/2009	14:03	3-40ml VOAs	*NONE







# Groundwater Sample Collection Log

Project Name: Hercules Chemical  
Project Number: HER 12029103

Boring ID: MW-8  
Site Location: Hattiesburg, MS.

Start Date: 5/12/09 Finish Date: 5/15/09  
Sample Technician: Chris Terrell / Brent Eanes  
Purge/Sample Method: Low Flow/Low Stress with Peristaltic Pump  
Well Diameter: 2"  
T.O.C. Elev. AMSL 179.99  
Total Depth of Well (ft) 18.50  
Approximate Depth of Water Column  
(h = TD of well - water level [TOC]): 4.83  
Calculated Well Volume (V=6hd<sup>3</sup>)  
(V = vol in gal; D = well diam. in ft): 0.79  
Groundwater Elevation AMSL 166.32

Water Level Measurements		
Date	Time	B.T.O.C.
5/12/2009	NA	13.67
5/15/2009	7:47	13.97
5/15/2009	7:52	13.96
5/15/2009	7:57	13.93
5/15/2009	8:03	13.94
5/15/2009	8:08	13.95
5/15/2009	8:13	13.94
5/15/2009	8:18	13.94

WELL DEVELOPMENT/PURGING DATA								
Date/Time	Cumulative Volume (gal)	pH	Specific Conductivity (mS/cm)	Temperature (Celsius)	Turbidity (NTU)	D.O. (mg/l)	ORP (mv)	Comments
5/15/09 7:48	0.10	5.98	0.435	22.70	48.3	3.74	-45.7	Turbid
7:53	0.25	5.99	0.431	22.68	41.4	3.02	-48.5	Turbid
7:58	0.50	6.00	0.422	22.64	35.1	2.15	-51.3	Turbid
8:04	0.75	6.03	0.414	22.63	22.9	1.60	-58.6	Slightly Turbid
8:09	1.00	6.01	0.398	22.62	21.1	1.66	-55.6	Clear
8:14	1.25	6.00	0.391	22.97	11.7	1.75	-54.9	Clear
8:19	1.50	6.00	0.394	22.84	14.0	1.75	-54.8	Clear
8:25	1.75	6.00	0.391	22.92	14.8	1.64	-54.9	Clear
8:30	2.00	6.00	0.393	22.96	13.6	1.59	-56.3	Clear
8:35	2.25	6.01	3.940	22.97	13.3	1.58	-57.5	Clear
8:40	2.50	6.00	0.393	23.07	12.4	1.52	-58.6	Clear
8:45	2.75	6.00	0.393	23.12	10.08	1.50	-59.2	Clear

Sample Identification: HER-MW08-051509, HER-RB04-051509

Weather Conditions During Sampling Clear, 78°F

Comments: Rinsate (RB04) Strong Odor. Contents Drummed

Laboratory Analysis for Appendix IX VOC's 8260b

Signature: [Signature] Date: 7/8/2009

GROUNDWATER SAMPLE CONTAINERS			
Date	Time	Sample Container	Preservative
5/15/2009	8:46	3-40ml VOAs	HCL
RB04	7:54	3-40ml VOAs	HCL



**APPENDIX B**  
**LABORATORY ANALYTICAL RESULTS**



## ANALYTICAL REPORT

Job Number: 680-47361-1

Job Description: Hercules Hattiesburg GW 2Q09

For:  
Hercules Inc.  
Research Center - Bldg 8139/15  
500 Hercules Road  
Wilmington, DE 19808-1599  
Attention: Mr. Timothy Hassett



Approved for release:  
Bernard Kirkland  
Project Manager I  
5/29/2009 3:47 PM

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Designee for  
Lidya Gulizia  
Project Manager I  
lidya.gulizia@testamericainc.com  
05/29/2009

cc: Mr. Charles Coney  
Mr. Charlie Jordan

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

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TestAmerica Laboratories, Inc.  
TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
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**Job Narrative**  
**680-J47361-1**

**Receipt**

Method(s) 8260B: The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): HER-RB03-051409 (680-47361-28). The container labels list RB02 @ 09:01. The COC lists RB03 @ 09:01.

Method(s) 8260B: The following sample(s) was received with headspace in the sample vial: HER-MW15-051409 (680-47361-21), HER-MW16-051409 (680-47361-20). Both IDs contain headspace in all three vials.

All other samples were received in good condition within temperature requirements.

**GC/MS VOA**

Method(s) 8260B: The rinse blanks associated with these samples contained a detection above the reporting limit (RL) for the following analyte: toluene. Samples were reanalyzed for confirmation of toluene. The initial runs for these samples were reported.

No other analytical or quality issues were noted.

## METHOD SUMMARY

Client: Hercules Inc.

Job Number: 680-47361-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix</b> <b>Water</b>			
Volatile Organic Compounds (GC/MS)	TAL SAV	SW846 8260B	
Purge and Trap	TAL SAV		SW846 5030B

### Lab References:

TAL SAV = TestAmerica Savannah

### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## SAMPLE SUMMARY

Client: Hercules Inc.

Job Number: 680-47361-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-47361-1	HER-MW03-051309	Water	05/13/2009 0902	05/16/2009 0945
680-47361-2RB	HER-RS1-051209	Water	05/12/2009 1419	05/16/2009 0945
680-47361-3	HER-CM05-051209	Water	05/12/2009 1400	05/16/2009 0945
680-47361-4	HER-CM04-051209	Water	05/12/2009 1415	05/16/2009 0945
680-47361-5	HER-CM03-051209	Water	05/12/2009 1440	05/16/2009 0945
680-47361-6	HER-CM02-051209	Water	05/12/2009 1455	05/16/2009 0945
680-47361-7	HER-CM01-051209	Water	05/12/2009 1510	05/16/2009 0945
680-47361-8	HER-CM00-051209	Water	05/12/2009 1530	05/16/2009 0945
680-47361-9	HER-MW02-051309	Water	05/13/2009 0948	05/16/2009 0945
680-47361-9MS	HER-MW02-051309	Water	05/13/2009 0948	05/16/2009 0945
680-47361-9MSD	HER-MW02-051309	Water	05/13/2009 0948	05/16/2009 0945
680-47361-10	HER-MW10-051309	Water	05/13/2009 1151	05/16/2009 0945
680-47361-11	HER-MW04-051309	Water	05/13/2009 1236	05/16/2009 0945
680-47361-12	HER-MW11-051309	Water	05/13/2009 1332	05/16/2009 0945
680-47361-13FD	HER-FD01-051309	Water	05/13/2009 0000	05/16/2009 0945
680-47361-14	HER-MW05-051309	Water	05/13/2009 1606	05/16/2009 0945
680-47361-15	HER-MW12-051309	Water	05/13/2009 1713	05/16/2009 0945
680-47361-16	HER-MW06-051309	Water	05/13/2009 1802	05/16/2009 0945
680-47361-17	HER-MW18-051309	Water	05/13/2009 1852	05/16/2009 0945
680-47361-18	HER-MW19-051409	Water	05/14/2009 0827	05/16/2009 0945
680-47361-19	HER-MW07-051409	Water	05/14/2009 0941	05/16/2009 0945
680-47361-19MS	HER-MW07-051409	Water	05/14/2009 0941	05/16/2009 0945
680-47361-19MSD	HER-MW07-051409	Water	05/14/2009 0941	05/16/2009 0945
680-47361-20	HER-MW16-051409	Water	05/14/2009 1037	05/16/2009 0945
680-47361-21	HER-MW15-051409	Water	05/14/2009 1140	05/16/2009 0945
680-47361-22	HER-MW14-051409	Water	05/14/2009 1403	05/16/2009 0945
680-47361-23	HER-MW09-051509	Water	05/15/2009 0713	05/16/2009 0945
680-47361-23MS	HER-MW09-051509	Water	05/15/2009 0713	05/16/2009 0945
680-47361-23MSD	HER-MW09-051509	Water	05/15/2009 0713	05/16/2009 0945
680-47361-24	HER-MW13-051409	Water	05/14/2009 1518	05/16/2009 0945
680-47361-25	HER-MW08-051509	Water	05/15/2009 0846	05/16/2009 0945
680-47361-26	HER-MW17-051509	Water	05/15/2009 0935	05/16/2009 0945
680-47361-27RB	HER-RB02-051309	Water	05/13/2009 1647	05/16/2009 0945
680-47361-28RB	HER-RB03-051409	Water	05/14/2009 0901	05/16/2009 0945
680-47361-29FD	HER-FD02-051409	Water	05/14/2009 0000	05/16/2009 0945
680-47361-30RB	HER-RB04-051509	Water	05/15/2009 0754	05/16/2009 0945
680-47361-31TB	TRIP BLANK	Water	05/12/2009 0000	05/16/2009 0945

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW03-051309

Lab Sample ID: 680-47361-1

Date Sampled: 05/13/2009 0902

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0623.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1356		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1356		

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW03-051309

Lab Sample ID: 680-47361-1

Date Sampled: 05/13/2009 0902

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0623.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1356		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1356		

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	86	75 - 120
Dibromofluoromethane	109	75 - 121
Toluene-d8 (Surr)	103	75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-RS1-051209

Lab Sample ID: 680-47361-2RB

Date Sampled: 05/12/2009 1419

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0625.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1426		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1426		

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0



Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-RS1-051209

Lab Sample ID: 680-47361-2RB

Date Sampled: 05/12/2009 1419

Client Matrix: Water

Date Received: 05/16/2009 0945

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 680-138202 Instrument ID: GC/MS Volatiles - P  
Preparation: 5030B Lab File ID: p0625.d  
Dilution: 1.0 Initial Weight/Volume: 5 mL  
Date Analyzed: 05/19/2009 1426 Final Weight/Volume: 5 mL  
Date Prepared: 05/19/2009 1426

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	87	75 - 120
Dibromofluoromethane	110	75 - 121
Toluene-d8 (Surr)	104	75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CM05-051209

Lab Sample ID: 680-47361-3

Date Sampled: 05/12/2009 1400

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138355

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p0651.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/20/2009 1320

Final Weight/Volume: 5 mL

Date Prepared: 05/20/2009 1320

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	4.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CM05-051209

Lab Sample ID: 680-47361-3

Date Sampled: 05/12/2009 1400

Client Matrix: Water

Date Received: 05/16/2009 0945

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138355

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p0651.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/20/2009 1320

Final Weight/Volume: 5 mL

Date Prepared: 05/20/2009 1320

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	87	75 - 120
Dibromofluoromethane	100	75 - 121
Toluene-d8 (Surr)	103	75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO4-051209

Lab Sample ID: 680-47361-4

Date Sampled: 05/12/2009 1415

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0629.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1524		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1524		

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	4.1		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

# Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO4-051209

Lab Sample ID: 680-47361-4

Date Sampled: 05/12/2009 1415

Client Matrix: Water

Date Received: 05/16/2009 0945

## 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID:	GC/MS Volatiles - P
Preparation:	5030B		Lab File ID:	p0629.d
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	05/19/2009 1524		Final Weight/Volume:	5 mL
Date Prepared:	05/19/2009 1524			

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	86	75 - 120
Dibromofluoromethane	110	75 - 121
Toluene-d8 (Surr)	100	75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO3-051209

Lab Sample ID: 680-47361-5

Date Sampled: 05/12/2009 1440

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0631.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1553		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1553		

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0



## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO3-051209

Lab Sample ID: 680-47361-5

Date Sampled: 05/12/2009 1440

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138202

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p0631.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1553

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1553

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
<hr/>			
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	85	75 - 120	
Dibromofluoromethane	106	75 - 121	
Toluene-d8 (Surr)	104	75 - 120	

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO2-051209

Lab Sample ID: 680-47361-6

Date Sampled: 05/12/2009 1455

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 680-138202	Instrument ID: GC/MS Volatiles - P
Preparation:	5030B		Lab File ID: p0633.d
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	05/19/2009 1623		Final Weight/Volume: 5 mL
Date Prepared:	05/19/2009 1623		

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO2-051209

Lab Sample ID: 680-47361-6

Date Sampled: 05/12/2009 1455

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138202

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p0633.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1623

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1623

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
<b>Surrogate</b>	<b>%Rec</b>		<b>Acceptance Limits</b>
4-Bromofluorobenzene	87		75 - 120
Dibromofluoromethane	106		75 - 121
Toluene-d8 (Surr)	101		75 - 120

Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO1-051209

Lab Sample ID: 680-47361-7

Date Sampled: 05/12/2009 1510

Client Matrix: Water

Date Received: 05/16/2009 0945

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0622.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1342

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1342

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

**Analytical Data**

Client: Hercules Inc

Job Number: 680-47361-1

Client Sample ID: HER-CMO1-051209

Lab Sample ID: 680-47361-7

Date Sampled: 05/12/2009 1510

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0622.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1342

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1342

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	95	75 - 120
Dibromofluoromethane	107	75 - 121
Toluene-d8 (Surr)	109	75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CM00-051209

Lab Sample ID: 680-47361-8

Date Sampled: 05/12/2009 1530

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0624.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1411

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1411

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0



**Analytical Data**

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-CMO0-051209

Lab Sample ID: 680-47361-8

Date Sampled: 05/12/2009 1530

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0624.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1411

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1411

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	97	75 - 120	
Dibromofluoromethane	115	75 - 121	
Toluene-d8 (Surr)	114	75 - 120	

## Analytical Data

Client: Hercules Inc

Job Number: 680-47361-1

Client Sample ID: HER-MW02-051309

Lab Sample ID: 680-47361-9

Date Sampled: 05/13/2009 0948

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0620.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1313

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1313

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

**Analytical Data**

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW02-051309

Lab Sample ID: 680-47361-9

Date Sampled: 05/13/2009 0948

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0620.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1313

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1313

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	92	75 - 120	
Dibromofluoromethane	107	75 - 121	
Toluene-d8 (Surr)	120	75 - 120	

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW10-051309

Lab Sample ID: 680-47361-10

Date Sampled: 05/13/2009 1151

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B  
 Preparation: 5030B  
 Dilution: 1.0  
 Date Analyzed: 05/19/2009 1440  
 Date Prepared: 05/19/2009 1440

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2  
 Lab File ID: p0626.d  
 Initial Weight/Volume: 5 mL  
 Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromofom	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

**Analytical Data**

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW10-051309

Lab Sample ID: 680-47361-10

Date Sampled: 05/13/2009 1151

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0626.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1440

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1440

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	96	75 - 120
Dibromofluoromethane	110	75 - 121
Toluene-d8 (Surr)	111	75 - 120

Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW04-051309

Lab Sample ID: 680-47361-11

Date Sampled: 05/13/2009 1236

Client Matrix: Water

Date Received: 05/16/2009 0945

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0628.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1509

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1509

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0



**Analytical Data**

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW04-051309

Lab Sample ID: 680-47361-11

Date Sampled: 05/13/2009 1236

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0628.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1509

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1509

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	96		75 - 120
Dibromofluoromethane	106		75 - 121
Toluene-d8 (Surr)	106		75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW11-051309

Lab Sample ID: 680-47361-12

Date Sampled: 05/13/2009 1332

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0630.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1539

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1539

Analyte	Result (ug/L)	Qualifier	RL
Acetone	42		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

**Analytical Data**

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-MW11-051309

Lab Sample ID: 680-47361-12

Date Sampled: 05/13/2009 1332

Client Matrix: Water

Date Received: 05/16/2009 0945

**8260B Volatile Organic Compounds (GC/MS)**

Method: 8260B

Analysis Batch: 680-138258

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0630.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/19/2009 1539

Final Weight/Volume: 5 mL

Date Prepared: 05/19/2009 1539

Analyte	Result (ug/L)	Qualifier	RL
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0		1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0
Trichloroethene	<1.0		1.0
Trichlorofluoromethane	<1.0		1.0
1,2,3-Trichloropropane	<1.0		1.0
Vinyl acetate	<2.0		2.0
Vinyl chloride	<1.0		1.0
Xylenes, Total	<2.0		2.0
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	96		75 - 120
Dibromofluoromethane	108		75 - 121
Toluene-d8 (Surr)	108		75 - 120

## Analytical Data

Client: Hercules Inc.

Job Number: 680-47361-1

Client Sample ID: HER-FD01-051309

Lab Sample ID: 680-47361-13FD

Date Sampled: 05/13/2009 0000

Client Matrix: Water

Date Received: 05/16/2009 0945

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B

Analysis Batch: 680-138373

Instrument ID: GC/MS Volatiles - P C2

Preparation: 5030B

Lab File ID: p0660.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 05/20/2009 1532

Final Weight/Volume: 5 mL

Date Prepared: 05/20/2009 1532

Analyte	Result (ug/L)	Qualifier	RL
Acetone	<25		25
Acetonitrile	<40		40
Acrolein	<20		20
Acrylonitrile	<20		20
Benzene	<1.0		1.0
Dichlorobromomethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<1.0		1.0
2-Butanone (MEK)	<10		10
Carbon disulfide	<2.0		2.0
Carbon tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<1.0		1.0
Chloroform	<1.0		1.0
Chloromethane	<1.0		1.0
2-Chloro-1,3-butadiene	<1.0		1.0
3-Chloro-1-propene	<1.0		1.0
Chlorodibromomethane	<1.0		1.0
1,2-Dibromo-3-Chloropropane	<1.0		1.0
Ethylene Dibromide	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<2.0		2.0
Dichlorodifluoromethane	<1.0		1.0
1,1-Dichloroethane	<1.0	*	1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Ethyl methacrylate	<1.0		1.0
2-Hexanone	<10		10
Iodomethane	<5.0		5.0
Isobutyl alcohol	<40		40
Methacrylonitrile	<20		20
Methylene Chloride	<5.0		5.0
Methyl methacrylate	<1.0		1.0
4-Methyl-2-pentanone (MIBK)	<10		10
Pentachloroethane	<5.0		5.0
Propionitrile	<20		20
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0