

An employee-owned company

38414 NG  
GW  
SW  
JRW  
10/30/07

July 16, 2007

Dept. of Environmental Protection

Solid Waste Section  
Department of Environmental Protection  
Southwest District Office  
3804 Coconut Palm Drive  
Tampa, FL 33619-1352

JUL 19 2007

Southwest District

**Re: Review of Semi-Annual Sampling Results  
First Half 2007 Sampling Event  
Hardee County Solid Waste Disposal Facility  
GMS ID No. 4025C30001  
Long-term Care Permit No. 38414-007-SO**

Dear Sir or Madam:

On behalf of the Hardee County Solid Waste Department, PBS&J would like to present this review of the results of the first half 2007 sampling event at for the facility referenced above. This document is designed to comply with the requirements of Specific Condition 33 of the facility's permit, and was compiled in general accordance with the guidelines promulgated in Chapter 62-701.510(9) (a) of the Florida Administrative Code (FAC).

## BACKGROUND

The Hardee County Solid Waste Disposal Facility is an active Class I landfill which encompasses approximately 100 acres of land at 685 Airport Road in Hardee County, Florida. According to the facility's permit, the facility's water quality monitoring network is designed to monitor the groundwater in the surficial aquifer, surface water, and leachate. The groundwater monitoring network is designed to include seven monitoring wells, which are designated MW-1, MW-2, MW-4, MW-5, MW-8, MW-9, and MW-10. The facility's permit designates MW-1 MW-4 as background wells and the other wells as detection wells. Two wells are not currently active, MW-9 which was recently damaged by heavy equipment, and MW-10 which has not yet been installed. There are three other monitoring wells, MW-3, MW-6, and MW-7, which are designated by the permit as piezometers. The layout of the site illustrating the well locations is presented in Figure 1.

Specific Condition 29 of the facility's permit specifies that groundwater samples be collected from monitoring wells MW-1, MW-2, MW-4, MW-5, MW-8, MW-9, and MW-10 on a semiannual basis. The groundwater samples are analyzed for the parameters listed on the 40

actually sampled

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Code of Federal Regulations (CFR) Part 258, Appendix I excluding the volatile organic compounds, as well as for total ammonia, iron, chlorides, mercury, nitrate, sodium, and total dissolved solids (TDS). These parameters are also listed in Specific Condition No. 29(c) of the facility's permit.

In addition, surface water is collected at one location, designated SW-2, during both semi-annual sampling events. The surface water sample is analyzed for the laboratory parameters listed in Specific Condition 27(c) of the permit.

According to Specific Condition 26 (a) of the permit, leachate is collected once per year, during the first semiannual sampling event, at Manhole 9. The leachate sample is analyzed for the laboratory parameters listed in the referenced specific condition.

### **FIRST HALF 2007 SAMPLING EVENT**

The first half 2007 sampling event was conducted on June 21, 2007 by PBS&J personnel. A leachate sample was collected from Manhole 9, and groundwater samples were collected from wells MW-2, MW-5, and MW-8. A groundwater sample could not be collected from monitoring well MW-1 because it was dry at the time of sampling, and from MW-4 because the well could not be accessed because of a faulty cap. No surface water sample was collected at SW-2 because the sampling point was dry at the time of sampling.

Descriptions of the sampling procedures and findings of this sampling event are presented below. A Florida Department of Environmental Protection (FDEP) Ground Water Monitoring Report form for the sampling event is provided in Attachment A.

#### **Sample Collection Methodology**

The samples that were collected during this sampling event were done so in general accordance with the FDEP's Standard Operating Procedure for Field Activities (SOP 001/01).

The leachate sample was collected with a peristaltic pump. The sample was designated M-9. Prior to sampling the monitoring wells, they were purged with a peristaltic pump using the "low-flow" method. A minimum equivalent of three well volumes was purged from each well prior to sample collection. Temperature, pH, conductivity, dissolved oxygen (DO), and turbidity measurements were monitored and recorded throughout the purging process to ensure that representative water samples were collected. The groundwater samples were given identifiers which corresponded to the well of origin.

Copies of the field data sheets and the field equipment calibration logs from this sampling event are provided in Attachment B.

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Depth-to-groundwater measurements were made from the top-of-casing (TOC) at each monitoring well prior to initiating the purging process. The water level measurements were subtracted from the TOC elevations to determine the elevation of the water table at each well. The TOC elevations are referenced in feet above the National Geodetic Vertical Datum (NGVD).

The leachate and groundwater samples were carried to Environmental Conservation Laboratories, Inc. (ENCO) for analysis of the parameters listed in the applicable specific conditions of the facility's permit.

## **Sampling Results**

### Leachate Analytical Results

The following analytes were detected in the leachate sample collected during this sampling event:

- Numerous inorganic analytes.
- Several pesticides/herbicides, including A-BHC, D-BHC, endosulfan sulfate, endosulfan II, and methoxychlor.
- Several volatile organics, including 1,4-dichlorobenzene, acetone, benzene, carbon disulfide, chlorobenzene, ethylbenzene, and toluene.

The concentration of every parameter that was detected in the leachate was compared to the regulatory levels listed in 40 CFR Part 261.24, as required by the Florida solid waste regulations. A standard has not been established for every parameter. None of the parameter concentrations detected in the leachate exceeded their respective regulatory standard.

A summary of the leachate analytical results is presented in Table 1. The complete laboratory analytical report is provided in Attachment C-1.

### Groundwater Analytical Results

The only parameters that were detected in the groundwater samples were inorganics, and all of the inorganics that were included in the analytical program except for antimony, beryllium, cadmium, cobalt, selenium, silver, and thallium were detected in at least one well. A summary of the groundwater analytical results is presented in Table 2, and the analytical report is provided in Attachment C.

The concentration of every parameter that was detected in the groundwater was compared to its Maximum Contaminant Level (MCL) or Secondary Drinking Water Standard (SDWS) in accordance with the Florida statutes. The MCLs and SDWSs for Drinking Water Standards,

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Monitoring, and Reporting are promulgated in Chapter 62-550, FAC. Not every parameter has an MCL or SDWS. Two parameters, pH and iron, were detected in the samples collected at all three wells sampled during this event at concentrations in excess of the regulatory criteria, or outside of the prescribed range as is the case with pH. Both of these analytes have secondary standards.

### **Groundwater Flow Pattern**

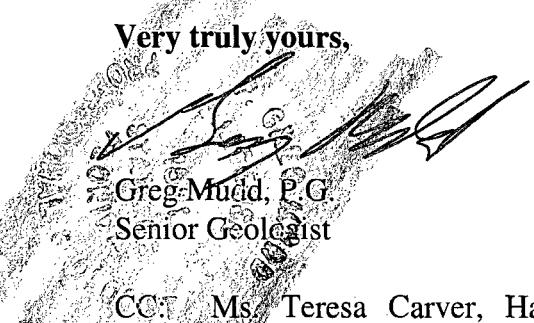
The groundwater level elevation data from this event are presented in Table 3. The elevation data were plotted and contoured to generate the groundwater elevation contour map presented in Figure 1. The data indicated that the groundwater in the surficial aquifer beneath the landfill was flowing in a south-southeasterly direction at the time of this sampling event. The water table gradient measured 0.003 feet per foot beneath the site.

### **SUMMARY AND CONCLUSIONS**

The results of the first half 2007 sampling event at the Hardee County Solid Waste Disposal Facility were consistent with those of the recent sampling events. There were no analytes detected in the leachate at concentrations in excess of the regulatory criteria. There were two analytes detected in the groundwater at concentrations in excess of the criteria, pH, and iron, but both of these analytes have secondary standards.

If you have any questions regarding the information presented in this report, please call me at (407) 806-4339.

Very truly yours,

  
Greg Mudd, P.G.  
Senior Geologist

CC: Ms. Teresa Carver, Hardee County Solid Waste Department, 685 Airport Road,  
Wauchula, FL 33873 (2 copies)  
File, 071893.00 0120

**TABLES**

**Table 2- Hardee County Landfill Groundwater Analytical Summary  
First Half 2007**

Analyte	Monitoring Well	MW-1	MW-2	MW-4	MW-5	MW-8
	Sample Date:	6/21/2007	6/21/2007	6/21/2007	6/21/2007	6/21/2007
	Standard <sup>(1)</sup>	Units	Not sampled.	Not sampled.		
<b>Field Measurements</b>						
Depth to Groundwater		ft		8.12		12.07
Temperature		deg. C		24	25.1	26.9
pH	6.5-8.5	STD		6.43	4.42	5.56
Conductivity		umhos/cm		0.489	0.045	0.122
Dissolved Oxygen (DO)		mg/l		0.31	0.18	0.87
Turbidity		NTU		36.3	19.8	38.8
<b>Inorganics</b>						
Antimony	6	ug/l		<0.76	<0.76	0.774
Arsenic	10	ug/l		1.92	3.14	<0.98
Barium	200	ug/l		19.1	<1.3	<1.3
Beryllium	4	ug/l		<0.81	<0.81	<0.81
Cadmium	5	ug/l		<0.3	<0.3	<0.3
Chloride	250	mg/l		32	3.2	5.5
Chromium	100	ug/l		1.2	3.24	2.49
Cobalt	140	ug/l		<0.26	<0.26	<0.26
Copper	1000	ug/l		<0.63	7.9	<0.63
Iron	300	ug/l		11000	8210	3260
Lead	15	ug/l		<0.17	0.375	1.2
Mercury	2	ug/l		<0.0092	0.045	<0.0092
Nickel	100	ug/l		1.84	<0.47	1.15
Nitrate	10	mg/l		0.068	0.029	<0.008
Selenium	50	ug/l		<1.7	<1.7	<1.7
Silver	100	ug/l		<0.2	<0.2	<0.2
Sodium	160000	ug/l		26200	2940	6940
Thallium	2	ug/l		<0.29	<0.29	<0.29
Total Ammonia-N		mg/l		0.14	0.16	0.051
Total Dissolved Solids (TDS)	500	mg/l		410	68	110
Vanadium	49	ug/l		<0.38	2.42	2.12
Zinc	5000	ug/l		5.2	30.8	72.1
<b>Organics</b>						
Acetone		ug/l		<2.6	<2.6	<2.6
Acrylonitrile		ug/l		<1.7	<1.7	<1.7
1,1,1-Trichloroethane	200	ug/l		<0.88	<0.88	<0.88
1,1,2-Trichloroethane	5	ug/l		<0.44	<0.44	<0.44
1,2,3-Trichloropropane		ug/l		<0.34	<0.34	<0.34
1,1,1,2-Tetrachloroethane		ug/l		<0.24	<0.24	<0.24
1,1,2,2-Tetrachloroethane		ug/l		<0.20	<0.20	<0.20
1,1-Dichloroethane		ug/l		<0.60	<0.60	<0.60
1,1-Dichloroethene	7	ug/l		<0.83	<0.83	<0.83
1,2-Dichlorobenzene	600	ug/l		<0.27	<0.27	<0.27
1,2-Dichloroethane	3	ug/l		<0.94	<0.94	<0.94
1,2-Dichloropropane	5	ug/l		<0.97	<0.24	<0.24
1,4-Dichlorobenzene	75	ug/l		<0.24	<0.48	<0.48
Benzene	1	ug/l		<0.48	<0.93	<0.93
Bromochloromethane		ug/l		<0.93	<0.22	<0.22
Bromodichloromethane		ug/l		<0.22	<0.48	<0.48
Bromoform		ug/l		<0.48	<0.81	<0.82
Bromomethane		ug/l		<0.80	<1.0	<1.0
2-Butanone		ug/l		<1.0	<0.97	<0.97
Carbon disulfide		ug/l		<0.97	<0.85	<0.85
Carbon tetrachloride	3	ug/l		<0.85	<0.21	<0.21
Chlorobenzene		ug/l		<0.21	<0.66	<0.66
Chloroethane		ug/l		<0.66	<0.75	<0.75
cis-1,2-Dichloroethene	70	ug/l		<0.75	<0.20	<0.20
cis-1,3-Dichloropropene		ug/l		<0.20	<0.89	<0.89
Chloroform		ug/l		<0.89	<0.20	<0.20
Dibromochloromethane		ug/l		<0.20	<1.0	<1.0
Methylene chloride	5	ug/l		<1.0	<0.42	<0.42
Dibromomethane		ug/l		<0.42	<0.99	<0.99
Ethylbenzene	700	ug/l		<0.99	<0.01	<0.01
1,2-Dibromoethane	0.02	ug/l		<0.01	<2.1	<2.1
2-Hexanone		ug/l		<2.1		

MW-10 Sampled but not included in table - lab work included

MW-1: MW-4 (Background wells) Not Sampled - should have been

**Table 2- Hardee County Landfill Groundwater Analytical Summary  
First Half 2007**

Analyte	Monitoring Well		MW-1	MW-2	MW-4	MW-5	MW-8
	Sample Date:		6/21/2007	6/21/2007	6/21/2007	6/21/2007	6/21/2007
	Standard <sup>(1)</sup>	Units	Not sampled.		Not sampled.		
Chloromethane		ug/l		<0.82		<0.82	<0.82
Iodomethane		ug/l		<0.81		<0.81	<0.81
4-Methyl-2-pentanone		ug/l		<1.6		<1.6	<1.6
Styrene	100	ug/l		<0.19		<0.19	<0.19
Tetrachloroethylene	3	ug/l		<0.65		<0.65	<0.65
Toluene	1000	ug/l		<0.25		<0.25	<0.25
Total xylenes	10000	ug/l		<0.60		<0.60	<0.60
trans-1,2-Dichloroethylene	100	ug/l		<0.83		<0.83	<0.83
trans-1,4-Dichloro-2-butene		ug/l		<0.61		<0.61	<0.61
trans-1,3-Dichloropropene		ug/l		<0.20		<0.20	<0.20
Trichloroethylene	3	ug/l		<0.71		<0.71	<0.71
Trichlorofluoromethane		ug/l		<0.70		<0.70	<0.70
Vinyl acetate		ug/l		<0.20		<0.20	<0.20
1,2-Dibromo-3-chloropropane		ug/l		<0.008		<0.008	<0.008
Vinyl chloride	1	ug/l		<0.52		<0.52	<0.52

<sup>(1)</sup> - Maximum Contaminant Level (MCL) or Secondary Drinking Water Standard (SDWS), as established in Chapter 62-550. Analyte concentrations shown with shading represent an exceedance of the MCL or SDWS.

**Table 3**  
**Groundwater Elevation Data**  
**Hardee County Landfill**  
**First Half 2007**

METSWED  
6/21/07?

Well Identifier	Top-of-Casing Elevation (Ft-NGVD)	Ground Surface Elevation (Ft-NGVD)	Total Depth (Ft-TOC)	Well Diameter (Inches)	Depth to Groundwater (Ft below TOC)	Groundwater Elevation (Ft-NGVD)
MW-1	87.97	86.24	11.00	4	NM	NA
MW-2	85.86	83.75	10.50	4	8.02	77.84
MW-4	87.16	84.09	18.90	2	7.70	79.46
MW-5	88.76	85.83	18.10	2	NM	NA
MW-8	88.98	85.80	13.50	2	10.48	78.50

Fig 1 contour map

—

77.74

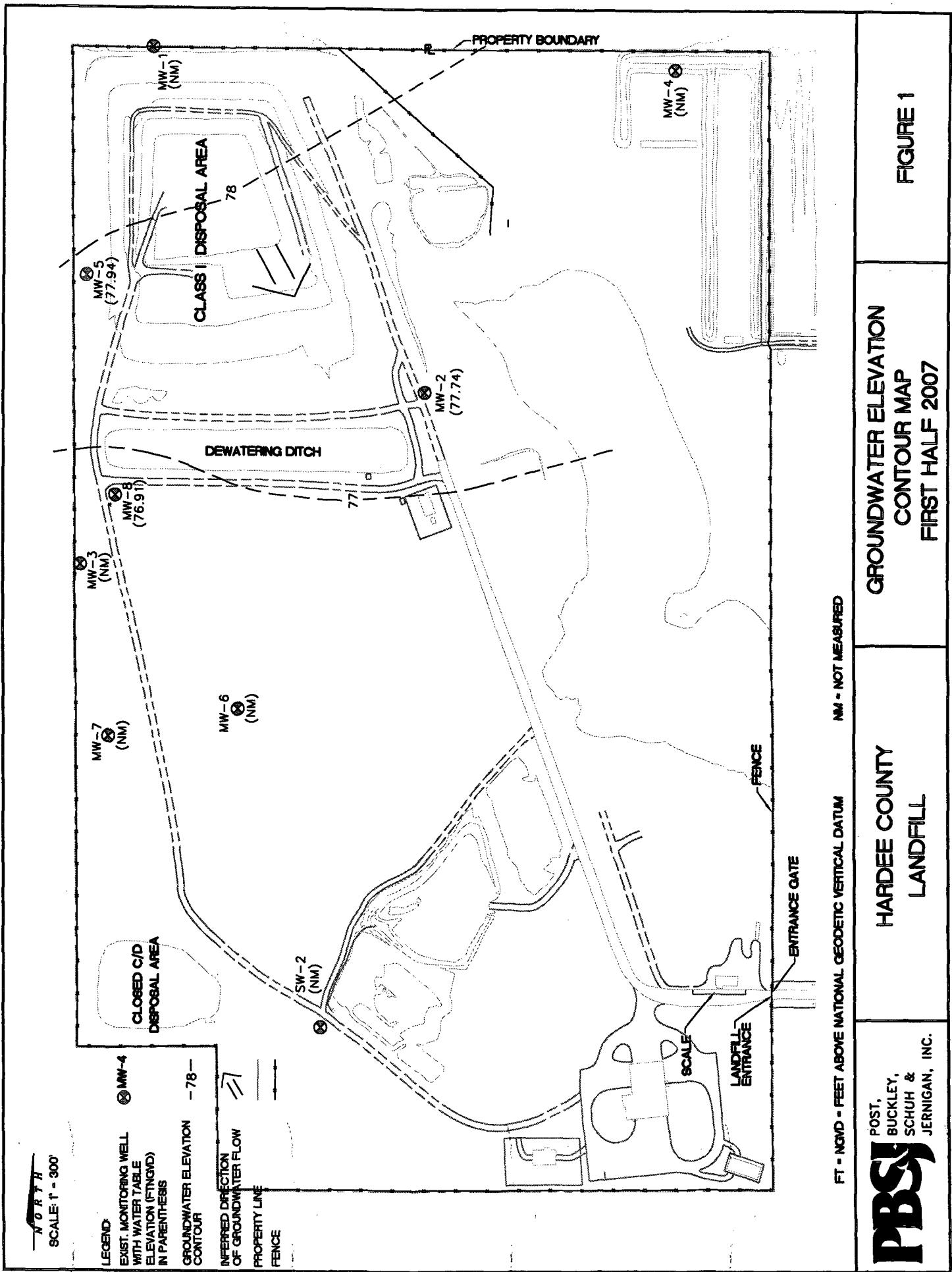
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77.94

76.91

Abbreviations: Ft- NGVD = Feet above the National Geodetic Vertical Datum; Ft-TOC = Feet from Top-of-Casing; NM = Not measured; NA = Not available.

## **FIGURES**



**ATTACHMENT A**

**Ground Water Monitoring Report Form**

# Florida Department of Environmental Protection

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DEP Form # 62-522.900(2)

Form Title Ground Water Monitoring Report

Effective Date \_\_\_\_\_

DEP Application No. \_\_\_\_\_

## GROUND WATER MONITORING REPORT Rule 62-522.600(11)

### PART I GENERAL INFORMATION

(1) Facility Name Hardee County Solid Waste Disposal Facility

Address 685 Airport Road

City Wachula, Florida

Zip 33873

Telephone Number (863) 733-5089

(2) The GMS Identification Number 4025C30001

(3) DEP Permit Number 38414-007-SO

(4) Authorized Representative Name Greg Mudd, P.G., PBS&J

Address 482 Keller Road

City Orlando, Florida

Zip 32810

Telephone Number (407) 806-4339

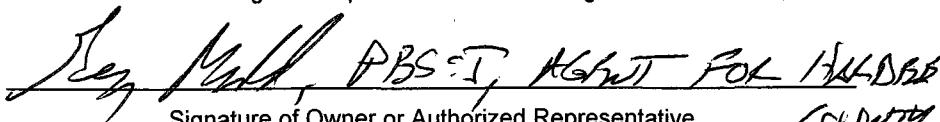
(5) Type of Discharge N/A

(6) Method of Discharge N/A

### Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Date: 7/12/07

  
Greg Mudd, PBS&J, Agent for Hardee County

Signature of Owner or Authorized Representative

### PART II QUALITY ASSURANCE REQUIREMENTS

Sample Organization Comp QAP # PBS&J

Analytical Lab Comp QAP # /HRS Certification # E83182

\*Comp QAP # /HRS Certification #       

Lab #1: Environmental Conservation Laboratories, Inc. , 10775 Central Port Drive, Orlando, FL 32824

Lab #2:       

Phone Number (407) 826-5314

### PART III ANALYTICAL RESULTS

Facility GMS #: \_\_\_\_\_ Sampling Date/Time: June 2007

Test Site ID #: \_\_\_\_\_ Report Period: First Half 2007  
(year/quarter)

Well Name: \_\_\_\_\_ Well Purged (Y/N): \_\_\_\_\_

Classification of Ground Water: \_\_\_\_\_ Well Type: (      ) Background

Ground Water Elevation (NGVD): \_\_\_\_\_ ( ) Compliance

or (MSL): \_\_\_\_\_

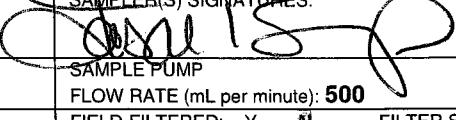
\* Attach Laboratory Reports

**ATTACHMENT B**

**Field Data Sheets**

PBS

**Form FD 9000-24**

SITE NAME: Hardee County Landfill				SITE LOCATION: 685 Airport Rd., Wachula, FL. 33873							
WELL NO: MW-2		SAMPLE ID: MW-2				DATE: 6-21-07					
PURGING DATA											
WELL DIAMETER (inches): 4	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 3.2 feet to 13.2 feet		STATIC DEPTH TO WATER (feet): 8.12		PURGE PUMP TYPE OR BAILER: Purge pump					
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
$3.5 = (13.2 \text{ feet} - 8.12 \text{ feet}) \times 0.65 \text{ gallons/foot} = \text{gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = (TUBING CAPACITY X TUBING LENGTH) (only fill out if applicable)											
$0.052 = (0.0026 \text{ gallons/foot} \times 20.00 \text{ feet})$											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 10.0		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10.0		PURGING INITIATED AT: 0913		PURGING ENDED AT: 0940					
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (μmhos/cm or μS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0940	3.5	3.5	0.125	8.12	5.87	23.8	.499	0.32	-10	Clear	
0942	0.25	3.75	"	"	6.37	24.0	.493	0.36	"	"	
0944	"	4.0	"	"	6.42	"	.490	0.33	"	"	
0946	"	4.25	"	"	6.43	"	.489	0.31	"	"	
									36.3*	"	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
SAMPLING DATA											
SAMPLED BY (PRINT) / AFFILIATION: <b>Jason Brancamp / PBSJ</b>				SAMPLER(S) SIGNATURES: 				SAMPLING INITIATED AT: 0950		SAMPLING ENDED AT: 0955	
PUMP OR TUBING DEPTH IN WELL (feet): 10.0				SAMPLE PUMP FLOW RATE (mL per minute): 500				TUBING MATERIAL CODE: PP			
FIELD DECONTAMINATION: Y N				FIELD-FILTERED: Y N FILTER SIZE: _____ μm Filtration Equipment Type:				DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
MW-2	3	CG	40mL	HCl	40		8260		SM		
	2	CG	40mL	N/A	40		8011		SM		
	1	PE	250mL	H2SO4	250		Amonia		SM		
	1	PE	250mL	HNO3	250		Ag,As,Ba,Be,Cd,Co, Cr,Cu,Fe,Hg,Na,Ni,		SM		
							Pb,Sb,Se,Tl,V,Zn				
	1	PE	250mL	N/A	250		Ag,As,Ba,Cl,Cr,Hg, Chloride,Pb,Se,TDS,		SM		
							Nitrate				
REMARKS:											
* HACH Turbidity Meter											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING/PURGING EQUIPMENT CODES:		APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump				VT = Vacuum Trap; O = Other (Specify)					
RFPP = Reverse Flow Peristaltic Pump;		SM = Straw Method (Tubing Gravity Drain);									

**REMARKS:**

\* HACH Turbidity Meter

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

**SAMPLING/PURGING EQUIPMENT CODES:** APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

**2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)**

**pH:**  $\pm 0.2$  units **Temperature:**  $\pm 0.2^\circ\text{C}$  **Specific Conductance:**  $\pm 5\%$  **Dissolved Oxygen:** all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2 \text{ mg/L}$  or  $\pm 10\%$  (whichever is greater) **Turbidity:** all readings  $< 20 \text{ NTU}$ ; optionally  $\pm 5 \text{ NTU}$  or  $\pm 10\%$  (whichever is greater)

**Form FD 9000-24**

SITE NAME: <b>Hardee County Landfill</b>	SITE LOCATION: <b>685 Airport Rd., Wachula, FL 33873</b>	
WELL NO: <b>MW-5</b>	SAMPLE ID: <b>MW-5</b>	DATE: <b>6-21-07</b>

## PURGING DATA

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>0.25</b>	WELL SCREEN INTERVAL DEPTH: <b>10.9</b> feet to <b>20.9</b> feet	STATIC DEPTH TO WATER (feet): <b>10.82</b>	PURGE PUMP TYPE OR BAILER: <b>Purge pump</b>
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**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
only fill out if applicable)

$$1.75 = (20.9 \text{ feet} - 10.82 \text{ feet}) \times 0.16 \text{ gallons/foot} = \text{gallons}$$

**EQUIPMENT VOLUME PURGE:** 1 EQUIPMENT VOL. = (TUBING CAPACITY X TUBING LENGTH)  
(only fill out if applicable)

$$0.052 = (0.0026 \text{ gallons/foot} \times 20.00 \text{ feet})$$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>16.0</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>16.0</b>	PURGING INITIATED AT: <b>1100</b>	PURGING ENDED AT: <b>1115</b>	TOTAL VOLUME PURGED (gallons): <b>2.5</b>
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**WELL CAPACITY** (Gallons Per Foot):  $0.75'' = 0.02;$   $1'' = 0.04;$   $1.25'' = 0.06;$   $2'' = 0.16;$   $3'' = 0.37;$   $4'' = 0.65;$   $5'' = 1.02;$   $6'' = 1.47;$   $12'' = 5.88$   
**TUBING INSIDE DIA. CAPACITY** (Gal./Ft.):  $1/8'' = 0.0006;$   $3/16'' = 0.0014;$   $1/4'' = 0.0026;$   $5/16'' = 0.004;$   $3/8'' = 0.006;$   $1/2'' = 0.010;$   $5/8'' = 0.016$

## **SAMPLING DATA**

**REMARKS:**

\* HACH Turbidity Meter

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

**SAMPLING/PURGING EQUIPMENT CODES:** APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

**2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)**

**pH:**  $\pm$  0.2 units **Temperature:**  $\pm$  0.2 °C **Specific Conductance:**  $\pm$  5% **Dissolved Oxygen:** all readings  $\leq$  20% saturation (see Table FS 2200-2); optionally,  $\pm$  0.2 mg/L or  $\pm$  10% (whichever is greater) **Turbidity:** all readings  $<$  20 NTU; optionally  $\pm$  5 NTU or  $\pm$  10% (whichever is greater)

**Form FD 9000-24**  
**GROUNDWATER SAMPLING LOG**

SITE NAME: <b>Hardee County Landfill</b>	SITE LOCATION: <b>685 Airport Rd., Wachula, FL 33873</b>	
WELL NO: <b>MW-8</b>	SAMPLE ID: <b>MW-8</b>	DATE: <b>6-21-07</b>

## PURGING DATA

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>0.25</b>	WELL SCREEN INTERVAL DEPTH: <b>3.36</b> feet to <b>13.36</b> feet	STATIC DEPTH TO WATER (feet): <b>12.07</b>	PURGE PUMP TYPE OR BAILER: <b>Purge pump</b>
-------------------------------------	--	--	--	---

**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
only fill out if applicable)

$$0.25 = (13.36 \text{ feet} - 12.07 \text{ feet}) \times 0.16 \text{ gallons/foot} = \text{gallons}$$

**EQUIPMENT VOLUME PURGE:** 1 EQUIPMENT VOL. = (TUBING CAPACITY X TUBING LENGTH)  
(only fill out if applicable)

$$\mathbf{0.052} = (\mathbf{0.0026 \text{ gallons/foot}} \times \mathbf{20.00 \text{ feet}})$$

**WELL CAPACITY** (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88  
**TUBING INSIDE DIA. CAPACITY** (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

## SAMPLING DATA

REMARKS

\* HACH Turbidity Meter.

\*\*Well was dry for ~20 minutes during purge process

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

**SAMPLING/PURGING**    **APP** = After Peristaltic Pump;    **B** = Bailer;    **BP** = Bladder Pump;    **ESP** = Electric Submersible Pump;    **PP** = Peristaltic Pump

**EQUIPMENT CODES:** **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap;  
**RFP** = Reverse Flow Peristaltic Pump; **O** = Other (Specify)

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

**2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)**

**pH:**  $\pm 0.2$  units **Temperature:**  $\pm 0.2^\circ\text{C}$  **Specific Conductance:**  $\pm 5\%$  **Dissolved Oxygen:** all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally  $\pm 0.2\text{ mg/L}$  or  $\pm 10\%$  (whichever is greater). **Turbidity:** all readings  $< 20\text{ NTU}$ ; optionally  $+ 5\text{ NTU}$  or  $+ 10\%$  (whichever is greater)

**Form FD 9000-24**

**GROUNDWATER SAMPLING LOG**

SITE NAME: <b>Hardee County Landfill</b>	SITE LOCATION: <b>685 Airport Rd., Wachula, FL 33873</b>	
WELL NO: <b>MW-10</b>	SAMPLE ID: <b>MW-10</b>	DATE: <b>6-22-07</b>

# PURGING DATA

## SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <b>Jason Brancamp / PBSJ</b>		SAMPLER(S) SIGNATURES: 		SAMPLING INITIATED AT: <b>1030</b>	SAMPLING ENDED AT: <b>1035</b>			
PUMP OR TUBING DEPTH IN WELL (feet): <b>12.0</b>		SAMPLE PUMP FLOW RATE (mL per minute): <b>500</b>		TUBING MATERIAL CODE: <b>PP</b>				
FIELD DECONTAMINATION: <b>Y N</b>		FIELD-FILTERED: <b>Y N</b> FILTER SIZE: _____ μm Filtration Equipment Type:			DUPPLICATE: <b>Y N</b>			
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)			FINAL pH
<b>MW-10</b>	<b>3</b>	<b>CG</b>	<b>40mL</b>	<b>HCl</b>	<b>40</b>		<b>8260</b>	<b>SM</b>
	<b>2</b>	<b>CG</b>	<b>40mL</b>	<b>N/A</b>	<b>40</b>		<b>8011</b>	<b>SM</b>
	<b>1</b>	<b>PE</b>	<b>250mL</b>	<b>H<sub>2</sub>SO<sub>4</sub></b>	<b>250</b>		<b>Amonia</b>	<b>SM</b>
	<b>1</b>	<b>PE</b>	<b>250mL</b>	<b>HNO<sub>3</sub></b>	<b>250</b>		<b>Ag,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Hg,Na,Ni,Pb,Sb,Se,Tl,V,Zn</b>	<b>SM</b>
	<b>1</b>	<b>PE</b>	<b>250mL</b>	<b>N/A</b>	<b>250</b>		<b>Ag,As,Ba,Cl,Cr,Hg,Chloride,Pb,Se,TDS,Nitrate</b>	<b>SM</b>

**REMARKS:**

\* HACH Turbidity Meter

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

**SAMPLING/PURGING EQUIPMENT CODES:** APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

**pH:**  $\pm 0.2$  units **Temperature:**  $\pm 0.2^\circ\text{C}$  **Specific Conductance:**  $\pm 5\%$  **Dissolved Oxygen:** all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2 \text{ mg/L}$  or  $\pm 10\%$  (whichever is greater) **Turbidity:** all readings  $\leq 20 \text{ NTU}$ ; optionally  $\pm 5 \text{ NTU}$  or  $\pm 10\%$  (whichever is greater)

**ATTACHMENT C**

**Laboratory Analytical Report**

PBSJ

**Environmental Conservation Laboratories, Inc.**

10775 Central Port Drive

Orlando FL, 32824

Phone: 407.826.5314 FAX: 407.850.6945



[www.encolabs.com](http://www.encolabs.com)

Monday, July 9, 2007

PBS&J (PB003)

Attn: Greg Mudd

482 South Keller Road

Orlando, FL 32810

**RE: Project Number: [none], Project Name/Desc: Hardee Co.**

**ENCO Workorder: A703167**

Dear Greg Mudd,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, June 21, 2007.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

This data has been produced in accordance with NELAC standards (June, 2003). This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Ronald Wambles".

Ronald Wambles  
Project Manager

Enclosure(s)

**SAMPLE SUMMARY/LABORATORY CHRONICLE****Client ID:** MW-2**Lab ID:** A703167-01**Sampled:** 06/21/07 09:50**Received:** 06/21/07 15:22

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	06/28/07	06/21/07 18:30	6/22/2007 14:00
EPA 300.0	06/23/07 09:50	06/21/07 14:23	6/22/2007 06:42
EPA 300.0	07/19/07	06/21/07 14:23	6/22/2007 06:42
EPA 350.1	07/19/07	06/22/07 07:57	6/22/2007 11:50
EPA 6020	12/18/07	06/29/07 14:39	7/6/2007 02:47
EPA 7470A	07/19/07	06/27/07 11:21	6/28/2007 09:22
EPA 8011	07/05/07 07/04/07 00:00	07/03/07 14:24	7/3/2007 19:24
EPA 8260B	07/05/07	06/29/07 14:33	6/30/2007 01:25

**Client ID:** MW-2**Lab ID:** A703167-01RE**Sampled:** 06/21/07 09:50**Received:** 06/21/07 15:22

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6020	12/18/07	06/29/07 14:39	7/6/2007 14:49

**Client ID:** MW-5**Lab ID:** A703167-02**Sampled:** 06/21/07 11:25**Received:** 06/21/07 15:22

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	06/28/07	06/21/07 18:30	6/22/2007 14:00
EPA 300.0	06/23/07 11:25	06/21/07 14:23	6/22/2007 06:59
EPA 300.0	07/19/07	06/21/07 14:23	6/22/2007 06:59
EPA 350.1	07/19/07	06/22/07 07:57	6/22/2007 12:03
EPA 6020	12/18/07	06/29/07 14:39	7/6/2007 02:54
EPA 7470A	07/19/07	06/27/07 11:21	6/28/2007 09:25
EPA 8011	07/05/07 07/04/07 00:00	07/03/07 14:24	7/3/2007 19:35
EPA 8260B	07/05/07	06/29/07 14:33	6/30/2007 01:54

**Client ID:** MW-8**Lab ID:** A703167-03**Sampled:** 06/21/07 12:30**Received:** 06/21/07 15:22

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	06/28/07	06/21/07 18:30	6/22/2007 14:00
EPA 300.0	06/23/07 12:30	06/21/07 14:23	6/22/2007 07:16
EPA 300.0	07/19/07	06/21/07 14:23	6/22/2007 07:16
EPA 350.1	07/19/07	06/22/07 07:57	6/22/2007 11:57
EPA 6020	12/18/07	06/29/07 14:39	7/6/2007 03:04
EPA 7470A	07/19/07	06/27/07 11:21	6/28/2007 09:28
EPA 8011	07/05/07	07/04/07 00:00	07/03/07 14:24
			7/3/2007 19:45

**Client ID:** MW-8**Lab ID:** A703167-03RE**Sampled:** 06/21/07 12:30**Received:** 06/21/07 15:22

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/05/07	06/29/07 14:33	7/4/2007 10:39

### SAMPLE DETECTION SUMMARY

**Client ID: MW-2**

Analyte	Results/Qual	MRL	Units	Method
Ammonia as N	0.14	0.020	mg/L	EPA 350.1
Arsenic	1.92 I	10.0	ug/L	EPA 6020
Barium	19.1 I	100	ug/L	EPA 6020
Chloride	32	1.0	mg/L	EPA 300.0
Nickel	1.84 I	10.0	ug/L	EPA 6020
Nitrate as N	0.068	0.050	mg/L	EPA 300.0
Sodium	26200	1000	ug/L	EPA 6020
Total Dissolved Solids	410	10	mg/L	EPA 160.1
Zinc	5.20 I	50.0	ug/L	EPA 6020

**Client ID: MW-2**

Analyte	Results/Qual	MRL	Units	Method
Iron	11000 D	500	ug/L	EPA 6020

**Client ID: MW-5**

Analyte	Results/Qual	MRL	Units	Method
Ammonia as N	0.16	0.020	mg/L	EPA 350.1
Arsenic	3.14 I	10.0	ug/L	EPA 6020
Chloride	3.2	1.0	mg/L	EPA 300.0
Chromium	3.24 I	10.0	ug/L	EPA 6020
Copper	7.90 I	10.0	ug/L	EPA 6020
Iron	8210	50.0	ug/L	EPA 6020
Lead	0.375 I	5.00	ug/L	EPA 6020
Mercury	0.045 I	0.20	ug/L	EPA 7470A
Nitrate as N	0.029 I	0.050	mg/L	EPA 300.0
Sodium	2940	1000	ug/L	EPA 6020
Total Dissolved Solids	68	10	mg/L	EPA 160.1
Vanadium	2.42 I	10.0	ug/L	EPA 6020
Zinc	30.8 I	50.0	ug/L	EPA 6020

**Client ID: MW-8**

Analyte	Results/Qual	MRL	Units	Method
Ammonia as N	0.051	0.020	mg/L	EPA 350.1
Antimony	0.774 I	5.00	ug/L	EPA 6020
Chloride	5.5	1.0	mg/L	EPA 300.0
Chromium	2.49 I	10.0	ug/L	EPA 6020
Iron	3260	50.0	ug/L	EPA 6020
Lead	1.20 I	5.00	ug/L	EPA 6020
Nickel	1.15 I	10.0	ug/L	EPA 6020
Sodium	6940	1000	ug/L	EPA 6020
Total Dissolved Solids	110	10	mg/L	EPA 160.1
Vanadium	2.12 I	10.0	ug/L	EPA 6020
Zinc	72.1	50.0	ug/L	EPA 6020

## ANALYTICAL REPORT

Sample ID: MW-2  
 Lab #: A703167-01  
 Prep. Method: EPA 5030B\_MS  
 Analyzed: 06/30/07 By: kat  
 Anal. Method: EPA 8260B  
 Anal. Batch: AA01117  
 QC Batch: 7F29015

Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water  
 Unit: ug/L  
 Dilution Factor: 1

### Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,1,1,2-Tetrachloroethane ✓	630-20-6	0.24 U	0.24 ✓	1.0	ug/L
1,1,1-Trichloroethane ✓	71-55-6	0.88 U	0.88 ✓	1.0	ug/L
1,1,2,2-Tetrachloroethane ✓	79-34-5	0.20 U	0.20 ✓	0.20	ug/L
1,1,2-Trichloroethane ✓	79-00-5	0.44 U	0.44 ✓	1.0	ug/L
1,1-Dichloroethane ✓	75-34-3	0.60 U	0.60 ✓	1.0	ug/L
1,1-Dichloroethene ✓	75-35-4	0.83 U	0.83 ✓	1.0	ug/L
1,2,3-Trichloropropane ✓ PQL @ 20 OK	96-18-4	0.34 U	(0.34) 0.02	1.0	ug/L
1,2-Dichlorobenzene ✓	95-50-1	0.27 U	0.27 ✓	1.0	ug/L
1,2-Dichloroethane ✓	107-06-2	0.94 U	0.94 ✓	1.0	ug/L
1,2-Dichloropropane ✓	78-87-5	0.97 U	0.97 ✓	1.0	ug/L
1,4-Dichlorobenzene ✓	106-46-7	0.24 U	0.24 ✓	1.0	ug/L
2-Butanone ✓	78-93-3	1.0 U	1.0 ✓	5.0	ug/L
2-Hexanone ✓	591-78-6	2.1 U	2.1 ✓	5.0	ug/L
4-Methyl-2-pentanone ✓	108-10-1	1.6 U	1.6 ✓	5.0	ug/L
Acetone ✓	67-64-1	2.6 U	2.6 ✓	5.0	ug/L
Acrylonitrile ✓ PQL @ 20 OK	107-13-1	1.7 U	(1.7) 0.06	2.0	ug/L
Benzene ✓	71-43-2	0.48 U	0.48 ✓	1.0	ug/L
Bromochloromethane ✓	74-97-5	0.93 U	0.93 ✓	1.0	ug/L
Bromodichloromethane ✓	75-27-4	0.22 U	0.22 ✓	0.40	ug/L
Bromoform ✓	75-25-2	0.48 U	0.48 ✓	1.0	ug/L
Bromomethane ✓	74-83-9	0.80 U	0.80 ✓	1.0	ug/L
Carbon disulfide ✓	75-15-0	0.97 U	0.97 ✓	5.0	ug/L
Carbon tetrachloride ✓	56-23-5	0.85 U	0.85 ✓	1.0	ug/L
Chlorobenzene ✓	108-90-7	0.21 U	0.21 ✓	1.0	ug/L
Chloroethane ✓	75-00-3	0.66 U	0.66 ✓	1.0	ug/L
Chloroform ✓	67-66-3	0.89 U	0.89 ✓	1.0	ug/L
Chloromethane ✓	74-87-3	0.82 U	0.82 ✓	1.0	ug/L
cis-1,2-Dichloroethene ✓	156-59-2	0.75 U	0.75 ✓	1.0	ug/L
cis-1,3-Dichloropropene ✓	10061-01-5	0.20 U	0.20 ✓	0.20	ug/L
Dibromochloromethane ✓	124-48-1	0.20 U	0.20 ✓	0.20	ug/L
Dibromomethane ✓	74-95-3	0.42 U	0.42 ✓	1.0	ug/L
Ethylbenzene ✓	100-41-4	0.99 U	0.99 ✓	1.0	ug/L
Iodomethane ✓	74-88-4	0.81 U	0.81 NE	3.0	ug/L
m,p-Xylenes	108-38-3/106-42-3	0.55 U	0.55	1.0	ug/L
Methylene chloride ✓	75-09-2	1.0 U	1.0 ✓	2.0	ug/L
o-Xylene	95-47-6	0.60 U	0.60	1.0	ug/L

### ANALYTICAL REPORT

Sample ID: MW-2  
 Lab #: A703167-01  
 Prep. Method: EPA 5030B\_MS  
 Analyzed: 06/30/07 By: kat  
 Anal. Method: EPA 8260B  
 Anal. Batch: AA01117  
 QC Batch: 7F29015

Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water  
 Unit: ug/L  
 Dilution Factor: 1

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#### **Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
Styrene ✓	100-42-5	0.19 U	0.19 ✓	1.0	ug/L
Tetrachloroethene ✓	127-18-4	0.65 U	0.65 ✓	1.0	ug/L
Toluene ✓	108-88-3	0.25 U	0.25 ✓	1.0	ug/L
trans-1,2-Dichloroethene ✓	156-60-5	0.83 U	0.83 ✓	1.0	ug/L
trans-1,3-Dichloropropene ✓	10061-02-6	0.20 U	0.20 ✓	0.20	ug/L
trans-1,4-Dichloro-2-butene ✓	110-57-6	0.61 U	0.61 NE	1.0	ug/L
Trichloroethene ✓	79-01-6	0.71 U	0.71 ✓	1.0	ug/L
Trichlorofluoromethane ✓	75-69-4	0.70 U	0.70 ✓	1.0	ug/L
Vinyl acetate ✓	108-05-4	0.20 U	0.20 ✓	1.0	ug/L
Vinyl chloride ✓	75-01-4	0.52 U	0.52 ✓	1.0	ug/L
Xylenes (Total) ✓	1330-20-7	0.60 U	0.60 ✓	1.0	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	49	50.0	99 %	64-133
Dibromofluoromethane	1868-53-7	45	50.0	90 %	66-137
Toluene-d8	2037-26-5	40	50.0	80 %	76-125



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### ANALYTICAL REPORT

Sample ID:	MW-2	Project:	Hardee Co.
Lab #:	A703167-01	Work Order #:	A703167
Prep. Method:	EPA 504/8011	Matrix:	Ground Water
Analyzed:	07/03/07 By: RG	Unit:	ug/L
Anal. Method:	EPA 8011	Dilution Factor:	1
Anal. Batch:	AA01136		
QC Batch:	7G03017		

#### Semivolatile Organic Compounds by GC

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,2-Dibromo-3-chloropropane	✓ 96-12-8	0.008 U	0.008 ✓	0.020	ug/L
1,2-Dibromoethane	✓ 106-93-4	0.010 U	0.010 ✓	0.020	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
1,3-Dichlorobenzene	541-73-1	0.18 S-04	0.250	72 %	83-150

### ANALYTICAL REPORT

Sample ID: MW-2  
 Lab #: A703167-01

Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water

#### **Metals by EPA 6000/7000 Series Methods**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony ✓	7440-36-0	0.760 U	0.760 ✓	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Arsenic ✓	7440-38-2	1.92 I	0.980 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Barium ✓	7440-39-3	19.1 I	1.30 ✓	100	ug/L	EPA 6020	EPA 3005A	7F29012
Beryllium ✓	7440-41-7	0.810 U	0.810 ✓	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Cadmium ✓	7440-43-9	0.300 U	0.300 ✓	3.00	ug/L	EPA 6020	EPA 3005A	7F29012
Chromium ✓	7440-47-3	1.20 U	1.20 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Cobalt ✓	7440-48-4	0.260 U	0.260 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Copper ✓	7440-50-8	0.630 U	0.630 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Lead ✓	7439-92-1	0.170 U	0.170 ✓	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Mercury ✓	7439-97-6	0.0092 U	0.0092 ✓	0.20	ug/L	EPA 7470A	EPA 7470A	7F21020
Nickel ✓	7440-02-0	1.84 I	0.470 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Selenium ✓	7782-49-2	1.70 U	1.70 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Silver ✓	7440-22-4	0.200 U	0.200 ✓	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Sodium ✓	7440-23-5	26200	16.0 ✓	1000	ug/L	EPA 6020	EPA 3005A	7F29012
Thallium ✓	7440-28-0	0.290 U	0.290 ✓	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Vanadium ✓	7440-62-2	0.380 U	0.380 ✓	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Zinc ✓	7440-66-6	5.20 I	1.90 ✓	50.0	ug/L	EPA 6020	EPA 3005A	7F29012

## ANALYTICAL REPORT

Sample ID: MW-2  
 Lab #: A703167-01      Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water

### **Classical Chemistry Parameters**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Ammonia as N ✓	7664-41-7	0.14	0.003 ✓	0.020	mg/L	EPA 350.1	NO PREP	7F22002
Chloride ✓	16887-00-6	32	0.05 ✓	1.0	mg/L	EPA 300.0	NA	7F21004
Nitrate as N ✓	14797-55-8	0.068	0.008 ✓	0.050	mg/L	EPA 300.0	NA	7F21004
Total Dissolved Solids ✓	NA	410	10 ✓	10	mg/L	EPA 160.1	NO PREP	7F21022

### ANALYTICAL REPORT

Sample ID: MW-2  
Lab #: A703167-01RE1

Project: Hardee Co.  
Work Order #: A703167  
Matrix: Ground Water

#### Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Iron	7439-89-6	11000 D	67.0	500	ug/L	EPA 6020	EPA 3005A	7F29012

## ANALYTICAL REPORT

Sample ID:	MW-5	Project:	Hardee Co.
Lab #:	A703167-02	Work Order #:	A703167
Prep. Method:	EPA 5030B_MS	Matrix:	Ground Water
Analyzed:	06/30/07 By: kat	Unit:	ug/L
Anal. Method:	EPA 8260B	Dilution Factor:	1
Anal. Batch:	AA01117		
QC Batch:	7F29015		

### **Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.24 U	0.24	1.0	ug/L
1,1,1-Trichloroethane	71-55-6	0.88 U	0.88	1.0	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.20 U	0.20	0.20	ug/L
1,1,2-Trichloroethane	79-00-5	0.44 U	0.44	1.0	ug/L
1,1-Dichloroethane	75-34-3	0.60 U	0.60	1.0	ug/L
1,1-Dichloroethene	75-35-4	0.83 U	0.83	1.0	ug/L
1,2,3-Trichloropropane	96-18-4	0.34 U	0.34	1.0	ug/L
1,2-Dichlorobenzene	95-50-1	0.27 U	0.27	1.0	ug/L
1,2-Dichloroethane	107-06-2	0.94 U	0.94	1.0	ug/L
1,2-Dichloropropane	78-87-5	0.97 U	0.97	1.0	ug/L
1,4-Dichlorobenzene	106-46-7	0.24 U	0.24	1.0	ug/L
2-Butanone	78-93-3	1.0 U	1.0	5.0	ug/L
2-Hexanone	591-78-6	2.1 U	2.1	5.0	ug/L
4-Methyl-2-pentanone	108-10-1	1.6 U	1.6	5.0	ug/L
Acetone	67-64-1	2.6 U	2.6	5.0	ug/L
Acrylonitrile	107-13-1	1.7 U	1.7	2.0	ug/L
Benzene	71-43-2	0.48 U	0.48	1.0	ug/L
Bromochloromethane	74-97-5	0.93 U	0.93	1.0	ug/L
Bromodichloromethane	75-27-4	0.22 U	0.22	0.40	ug/L
Bromoform	75-25-2	0.48 U	0.48	1.0	ug/L
Bromomethane	74-83-9	0.80 U	0.80	1.0	ug/L
Carbon disulfide	75-15-0	0.97 U	0.97	5.0	ug/L
Carbon tetrachloride	56-23-5	0.85 U	0.85	1.0	ug/L
Chlorobenzene	108-90-7	0.21 U	0.21	1.0	ug/L
Chloroethane	75-00-3	0.66 U	0.66	1.0	ug/L
Chloroform	67-66-3	0.89 U	0.89	1.0	ug/L
Chloromethane	74-87-3	0.82 U	0.82	1.0	ug/L
cis-1,2-Dichloroethene	156-59-2	0.75 U	0.75	1.0	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.20 U	0.20	0.20	ug/L
Dibromochloromethane	124-48-1	0.20 U	0.20	0.20	ug/L
Dibromomethane	74-95-3	0.42 U	0.42	1.0	ug/L
Ethylbenzene	100-41-4	0.99 U	0.99	1.0	ug/L
Iodomethane	74-88-4	0.81 U	0.81	3.0	ug/L
m,p-Xylenes	108-38-3/106-42-3	0.55 U	0.55	1.0	ug/L
Methylene chloride	75-09-2	1.0 U	1.0	2.0	ug/L
o-Xylene	95-47-6	0.60 U	0.60	1.0	ug/L

### ANALYTICAL REPORT

Sample ID:	MW-5	Project:	Hardee Co.
Lab #:	A703167-02	Work Order #:	A703167
Prep. Method:	EPA 5030B_MS	Matrix:	Ground Water
Analyzed:	06/30/07 By: kat	Unit:	ug/L
Anal. Method:	EPA 8260B	Dilution Factor:	1
Anal. Batch:	AA01117		
QC Batch:	7F29015		

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**Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
Styrene	100-42-5	0.19 U	0.19	1.0	ug/L
Tetrachloroethene	127-18-4	0.65 U	0.65	1.0	ug/L
Toluene	108-88-3	0.25 U	0.25	1.0	ug/L
trans-1,2-Dichloroethene	156-60-5	0.83 U	0.83	1.0	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.20 U	0.20	0.20	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.61 U	0.61	1.0	ug/L
Trichloroethene	79-01-6	0.71 U	0.71	1.0	ug/L
Trichlorofluoromethane	75-69-4	0.70 U	0.70	1.0	ug/L
Vinyl acetate	108-05-4	0.20 U	0.20	1.0	ug/L
Vinyl chloride	75-01-4	0.52 U	0.52	1.0	ug/L
Xylenes (Total)	1330-20-7	0.60 U	0.60	1.0	ug/L
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Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	44	50.0	88 %	64-133
Dibromofluoromethane	1868-53-7	44	50.0	88 %	66-137
Toluene-d8	2037-26-5	38	50.0	77 %	76-125

### ANALYTICAL REPORT

Sample ID:	MW-5	Project:	Hardee Co.
Lab #:	A703167-02	Work Order #:	A703167
Prep. Method:	EPA 504/8011	Matrix:	Ground Water
Analyzed:	07/03/07 By: RG	Unit:	ug/L
Anal. Method:	EPA 8011	Dilution Factor:	1
Anal. Batch:	AA01136		
QC Batch:	7G03017		

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#### Semivolatile Organic Compounds by GC

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,2-Dibromo-3-chloropropane	96-12-8	0.008 U	0.008	0.020	ug/L
1,2-Dibromoethane	106-93-4	0.010 U	0.010	0.020	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
1,3-Dichlorobenzene	541-73-1	0.18 S-04	0.250	71 %	83-150

### ANALYTICAL REPORT

Sample ID: MW-5  
 Lab #: A703167-02  
 Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water

#### Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results		MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	0.760	U	0.760	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Arsenic	7440-38-2	3.14	I	0.980	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Barium	7440-39-3	1.30	U	1.30	100	ug/L	EPA 6020	EPA 3005A	7F29012
Beryllium	7440-41-7	0.810	U	0.810	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Cadmium	7440-43-9	0.300	U	0.300	3.00	ug/L	EPA 6020	EPA 3005A	7F29012
Chromium	7440-47-3	3.24	I	1.20	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Cobalt	7440-48-4	0.260	U	0.260	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Copper	7440-50-8	7.90	I	0.630	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Iron	7439-89-6	8210		6.70	50.0	ug/L	EPA 6020	EPA 3005A	7F29012
Lead	7439-92-1	0.375	I	0.170	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Mercury	7439-97-6	0.045	I	0.0092	0.20	ug/L	EPA 7470A	EPA 7470A	7F21020
Nickel	7440-02-0	0.470	U	0.470	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Selenium	7782-49-2	1.70	U	1.70	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Silver	7440-22-4	0.200	U	0.200	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Sodium	7440-23-5	2940		16.0	1000	ug/L	EPA 6020	EPA 3005A	7F29012
Thallium	7440-28-0	0.290	U	0.290	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Vanadium	7440-62-2	2.42	I	0.380	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Zinc	7440-66-6	30.8	I	1.90	50.0	ug/L	EPA 6020	EPA 3005A	7F29012

### ANALYTICAL REPORT

Sample ID: MW-5  
Lab #: A703167-02

Project: Hardee Co.  
Work Order #: A703167  
Matrix: Ground Water

#### **Classical Chemistry Parameters**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Ammonia as N	7664-41-7	<b>0.16</b>	0.003	0.020	mg/L	EPA 350.1	NO PREP	7F22002
Chloride	16887-00-6	<b>3.2</b>	0.05	1.0	mg/L	EPA 300.0	NA	7F21004
Nitrate as N	14797-55-8	<b>0.029 I</b>	0.008	0.050	mg/L	EPA 300.0	NA	7F21004
Total Dissolved Solids	NA	<b>68</b>	10	10	mg/L	EPA 160.1	NO PREP	7F21022



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## ANALYTICAL REPORT

Sample ID: MW-8 Project: Hardee Co.  
Lab #: A703167-03RE1 Work Order #: A703167  
Prep. Method: EPA 5030B\_MS Matrix: Ground Water  
Analyzed: 07/04/07 By: kdm Unit: ug/L  
Anal. Method: EPA 8260B Dilution Factor: 1  
Anal. Batch: AA01117  
QC Batch: 7F29015

### Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.24 U	0.24	1.0	ug/L
1,1,1-Trichloroethane	71-55-6	0.88 U	0.88	1.0	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.20 U	0.20	0.20	ug/L
1,1,2-Trichloroethane	79-00-5	0.44 U	0.44	1.0	ug/L
1,1-Dichloroethane	75-34-3	0.60 U	0.60	1.0	ug/L
1,1-Dichloroethene	75-35-4	0.83 U	0.83	1.0	ug/L
1,2,3-Trichloropropane	96-18-4	0.34 U	0.34	1.0	ug/L
1,2-Dichlorobenzene	95-50-1	0.27 U	0.27	1.0	ug/L
1,2-Dichloroethane	107-06-2	0.94 U	0.94	1.0	ug/L
1,2-Dichloropropane	78-87-5	0.97 U	0.97	1.0	ug/L
1,4-Dichlorobenzene	106-46-7	0.24 U	0.24	1.0	ug/L
2-Butanone	78-93-3	1.0 U	1.0	5.0	ug/L
2-Hexanone	591-78-6	2.1 U	2.1	5.0	ug/L
4-Methyl-2-pentanone	108-10-1	1.6 U	1.6	5.0	ug/L
Acetone	67-64-1	2.6 U	2.6	5.0	ug/L
Acrylonitrile	107-13-1	1.7 U	1.7	2.0	ug/L
Benzene	71-43-2	0.48 U	0.48	1.0	ug/L
Bromochloromethane	74-97-5	0.93 U	0.93	1.0	ug/L
Bromodichloromethane	75-27-4	0.22 U	0.22	0.40	ug/L
Bromoform	75-25-2	0.48 U	0.48	1.0	ug/L
Bromomethane	74-83-9	0.80 U	0.80	1.0	ug/L
Carbon disulfide	75-15-0	0.97 U	0.97	5.0	ug/L
Carbon tetrachloride	56-23-5	0.85 U	0.85	1.0	ug/L
Chlorobenzene	108-90-7	0.21 U	0.21	1.0	ug/L
Chloroethane	75-00-3	0.66 U	0.66	1.0	ug/L
Chloroform	67-66-3	0.89 U	0.89	1.0	ug/L
Chloromethane	74-87-3	0.82 U	0.82	1.0	ug/L
cis-1,2-Dichloroethene	156-59-2	0.75 U	0.75	1.0	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.20 U	0.20	0.20	ug/L
Dibromochloromethane	124-48-1	0.20 U	0.20	0.20	ug/L
Dibromomethane	74-95-3	0.42 U	0.42	1.0	ug/L
Ethylbenzene	100-41-4	0.99 U	0.99	1.0	ug/L
Iodomethane	74-88-4	0.81 U	0.81	3.0	ug/L
m,p-Xylenes	108-38-3/106-42-3	0.55 U	0.55	1.0	ug/L
Methylene chloride	75-09-2	1.0 U	1.0	2.0	ug/L
o-Xylene	95-47-6	0.60 U	0.60	1.0	ug/L

## ANALYTICAL REPORT

Sample ID: MW-8  
 Lab #: A703167-03RE1  
 Prep. Method: EPA 5030B\_MS  
 Analyzed: 07/04/07 By: kdm  
 Anal. Method: EPA 8260B  
 Anal. Batch: AA01117  
 QC Batch: 7F29015

Project: Hardee Co.  
 Work Order #: A703167  
 Matrix: Ground Water  
 Unit: ug/L  
 Dilution Factor: 1

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### **Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
Styrene	100-42-5	0.19 U	0.19	1.0	ug/L
Tetrachloroethene	127-18-4	0.65 U	0.65	1.0	ug/L
Toluene	108-88-3	0.25 U	0.25	1.0	ug/L
trans-1,2-Dichloroethene	156-60-5	0.83 U	0.83	1.0	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.20 U	0.20	0.20	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.61 U	0.61	1.0	ug/L
Trichloroethene	79-01-6	0.71 U	0.71	1.0	ug/L
Trichlorofluoromethane	75-69-4	0.70 U	0.70	1.0	ug/L
Vinyl acetate	108-05-4	0.20 U	0.20	1.0	ug/L
Vinyl chloride	75-01-4	0.52 U	0.52	1.0	ug/L
Xylenes (Total)	1330-20-7	0.60 U	0.60	1.0	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	57	50.0	113 %	52-147
Dibromofluoromethane	1868-53-7	40	50.0	79 %	40-141
Toluene-d8	2037-26-5	56	50.0	113 %	64-134



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## ANALYTICAL REPORT

Sample ID: MW-8  
Lab #: A703167-03  
Prep. Method: EPA 504/8011  
Analyzed: 07/03/07 By: RG  
Anal. Method: EPA 8011  
Anal. Batch: AA01136  
QC Batch: 7G03017

Project: Hardee Co.  
Work Order #: A703167  
Matrix: Ground Water  
Unit: ug/L  
Dilution Factor: 1

### Semivolatile Organic Compounds by GC

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,2-Dibromo-3-chloropropane	96-12-8	0.008 U	0.008	0.020	ug/L
1,2-Dibromoethane	106-93-4	0.010 U	0.010	0.020	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
1,3-Dichlorobenzene	541-73-1	0.16 S-04	0.250	64 %	83-150

### ANALYTICAL REPORT

Sample ID: MW-8  
 Lab #: A703167-03      Project: Hardee Co.  
 Matrix: Ground Water

#### **Metals by EPA 6000/7000 Series Methods**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
<b>Antimony</b>	7440-36-0	<b>0.774 I</b>	0.760	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Arsenic	7440-38-2	0.980 U	0.980	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Barium	7440-39-3	1.30 U	1.30	100	ug/L	EPA 6020	EPA 3005A	7F29012
Beryllium	7440-41-7	0.810 U	0.810	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
Cadmium	7440-43-9	0.300 U	0.300	3.00	ug/L	EPA 6020	EPA 3005A	7F29012
<b>Chromium</b>	7440-47-3	<b>2.49 I</b>	1.20	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Cobalt	7440-48-4	0.260 U	0.260	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Copper	7440-50-8	0.630 U	0.630	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
<b>Iron</b>	7439-89-6	<b>3260</b>	6.70	50.0	ug/L	EPA 6020	EPA 3005A	7F29012
<b>Lead</b>	7439-92-1	<b>1.20 I</b>	0.170	5.00	ug/L	EPA 6020	EPA 3005A	7F29012
Mercury	7439-97-6	0.0092 U	0.0092	0.20	ug/L	EPA 7470A	EPA 7470A	7F21020
<b>Nickel</b>	7440-02-0	<b>1.15 I</b>	0.470	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Selenium	7782-49-2	1.70 U	1.70	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Silver	7440-22-4	0.200 U	0.200	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
<b>Sodium</b>	7440-23-5	<b>6940</b>	16.0	1000	ug/L	EPA 6020	EPA 3005A	7F29012
Thallium	7440-28-0	0.290 U	0.290	1.00	ug/L	EPA 6020	EPA 3005A	7F29012
<b>Vanadium</b>	7440-62-2	<b>2.12 I</b>	0.380	10.0	ug/L	EPA 6020	EPA 3005A	7F29012
Zinc	7440-66-6	<b>72.1</b>	1.90	50.0	ug/L	EPA 6020	EPA 3005A	7F29012

### ANALYTICAL REPORT

Sample ID: MW-8 Project: Hardee Co.  
 Lab #: A703167-03 Work Order #: A703167  
 Matrix: Ground Water

#### **Classical Chemistry Parameters**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Ammonia as N	7664-41-7	0.051	0.003	0.020	mg/L	EPA 350.1	NO PREP	7F22002
Chloride	16887-00-6	5.5	0.05	1.0	mg/L	EPA 300.0	NA	7F21004
Nitrate as N	14797-55-8	0.008 U	0.008	0.050	mg/L	EPA 300.0	NA	7F21004
Total Dissolved Solids	NA	110	10	10	mg/L	EPA 160.1	NO PREP	7F21022

### NOTES AND DEFINITIONS

- D Data reported from a dilution
- I Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- U Analyte included in the analysis, but not detected

### LABORATORY CERTIFICATION SUMMARY

Analysis	Matrix	Cert ID	Cert Number
8011	Water	NELAC	E83182
8260B Appendix 1	Water	NELAC	E83182
Ammonia 350.1	Water	NELAC	E83182
Antimony Total EPA 6020	Water	NELAC	E83182
Arsenic Total EPA 6020	Water	NELAC	E83182
Barium Total EPA 6020	Water	NELAC	E83182
Beryllium Total EPA 6020	Water	NELAC	E83182
Cadmium Total EPA 6020	Water	NELAC	E83182
Chloride 300	Water	NELAC	E83182
Chromium Total EPA 6020	Water	NELAC	E83182
Cobalt Total EPA 6020	Water	NELAC	E83182
Copper Total EPA 6020	Water	NELAC	E83182
Iron Total EPA 6020	Water	NELAC	E83182
Lead Total EPA 6020	Water	NELAC	E83182
Mercury Total EPA 7470A	Water	NELAC	E83182
Nickel Total EPA 6020	Water	NELAC	E83182
Nitrate as N 300	Water	NELAC	E83182
Selenium Total EPA 6020	Water	NELAC	E83182
Silver Total EPA 6020	Water	NELAC	E83182
Sodium Total EPA 6020	Water	NELAC	E83182
TDS 160.1	Water	NELAC	E83182
Thallium Total EPA 6020	Water	NELAC	E83182
Vanadium Total EPA 6020	Water	NELAC	E83182
Zinc Total EPA 6020	Water	NELAC	E83182



## ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

40775 Cypress Pointe Dr.  
Chardon, OH 44024  
(440) 286-5314 Fax (440) 286-2110

1015 Bonham Way,  
Cary, NC 27513  
(919) 467-0679 Fax (919) 467-0846

Project Name#		Project Number:		Project Name/Type:		Collection Date:		Collection Time:		Matrix:		Sample ID:		Preparation/Spec Codes (Combine as necessary)		Prepared by:		Received by:		Total # of Containers		Comments:			
PCSS		462 S. KELLY RD.		MADEE CO.		10/21/01	0500	06:00	06:00	SW	4	1	4	1	5	N				4	1	NOT SAMPLED (DESTROYED)			
462 S. KELLY RD.																									
DELAND, FL	32804			SPEC MUNDO																					
467-647-12K				JASON BEAN/CAMP/PBSS																					
Sampling Station/Assignment:																									
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**Environmental Conservation Laboratories, Inc.**

10775 Central Port Drive

Orlando FL, 32824

Phone: 407.826.5314 FAX: 407.850.6945



[www.encolabs.com](http://www.encolabs.com)

Tuesday, July 10, 2007

PBS&J (PB003)

Attn: Greg Mudd  
482 South Keller Road  
Orlando, FL 32810

**RE: Project Number: [none], Project Name/Desc: Hardee Co.  
ENCO Workorder: A703498**

Dear Greg Mudd,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, June 22, 2007.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

This data has been produced in accordance with NELAC standards (June, 2003). This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Ronald Wambles".

Ronald Wambles  
Project Manager

Enclosure(s)

**SAMPLE SUMMARY/LABORATORY CHRONICLE****Client ID:** MW-10**Lab ID:** A703498-01**Sampled:** 06/22/07 10:30**Received:** 06/22/07 14:33

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 160.1	06/29/07	06/27/07 13:30	6/28/2007 16:20
EPA 300.0	06/24/07 10:30	06/22/07 14:05	6/22/2007 20:50
EPA 300.0	07/20/07	06/22/07 14:05	6/22/2007 20:50
EPA 350.1	07/20/07	06/26/07 13:43	6/26/2007 15:24
EPA 6020	12/19/07	07/02/07 11:15	7/6/2007 18:08
EPA 7470A	07/20/07	06/28/07 10:31	6/29/2007 10:13
EPA 8011	07/06/07	07/04/07 00:00	7/3/2007 19:56
EPA 8260B	07/06/07	06/27/07 09:00	6/30/2007 06:25

**Client ID:** MW-10**Lab ID:** A703498-01RE**Sampled:** 06/22/07 10:30**Received:** 06/22/07 14:33

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6020	12/19/07	07/02/07 11:15	7/9/2007 20:34

### SAMPLE DETECTION SUMMARY

**Client ID:** MW-10

Analyte	Lab ID:	A703498-01	Results/Qual	MRL	Units	Method
Ammonia as N			0.036	0.020	mg/L	EPA 350.1
Arsenic			8.59 I	10.0	ug/L	EPA 6020
Barium			689	100	ug/L	EPA 6020
Beryllium			2.02	1.00	ug/L	EPA 6020
Carbon disulfide			1.5 I	5.0	ug/L	EPA 8260B
Chloride			7.4	1.0	mg/L	EPA 300.0
Chromium			48.4	10.0	ug/L	EPA 6020
Cobalt			3.31 I	10.0	ug/L	EPA 6020
Copper			6.53 I	10.0	ug/L	EPA 6020
Lead			25.9	5.00	ug/L	EPA 6020
Mercury			0.085 I	0.20	ug/L	EPA 7470A
Nickel			5.13 I	10.0	ug/L	EPA 6020
Nitrate as N			0.048 I	0.050	mg/L	EPA 300.0
Selenium			2.59 I	10.0	ug/L	EPA 6020
Sodium			8630	1000	ug/L	EPA 6020
Toluene			0.25 I	1.0	ug/L	EPA 8260B
Total Dissolved Solids			160	10	mg/L	EPA 160.1
Vanadium			41.8	10.0	ug/L	EPA 6020
Zinc			17.0 I	50.0	ug/L	EPA 6020

**Client ID:** MW-10

Analyte	Lab ID:	A703498-01RE1	Results/Qual	MRL	Units	Method
Iron			16500 D	500	ug/L	EPA 6020

**Client ID:** MW-9

Analyte	Lab ID:	A703498-02	Results/Qual	MRL	Units	Method
1,4-Dichlorobenzene			0.72 I	1.0	ug/L	EPA 8260B
Acetone			2.5 I	5.0	ug/L	EPA 8260B
alpha-BHC			0.01 I	0.05	ug/L	EPA 8081A
Ammonia as N			76 D	1.0	mg/L	EPA 350.1
Arsenic			4.78 I	10.0	ug/L	EPA 6020
Barium			67.3 I	100	ug/L	EPA 6020
Benzene			0.47 I	1.0	ug/L	EPA 8260B
Bicarbonate as CaCO <sub>3</sub>			1100 D	100	mg/L	SM 4500
Carbon disulfide			1.3 I	5.0	ug/L	EPA 8260B
Chloride			290 D	2.0	mg/L	EPA 300.0
Chlorobenzene			1.5	1.0	ug/L	EPA 8260B
Chromium			9.79 I	10.0	ug/L	EPA 6020
Cobalt			3.98 I	10.0	ug/L	EPA 6020
Copper			0.697 I	10.0	ug/L	EPA 6020
delta-BHC			0.24	0.05	ug/L	EPA 8081A
Endosulfan II			0.03 I	0.05	ug/L	EPA 8081A

## ANALYTICAL REPORT

Sample ID:	MW-10	Project:	Hardee Co.
Lab #:	A703498-01	Work Order #:	A703498
Prep. Method:	EPA 5030B_MS	Matrix:	Ground Water
Analyzed:	06/30/07 By: ds	Unit:	ug/L
Anal. Method:	EPA 8260B	Dilution Factor:	1
Anal. Batch:	BA00905		
QC Batch:	7F28010		

### **Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,1,1,2-Tetrachloroethane	630-20-6	0.10 U	0.10	0.30	ug/L
1,1,1-Trichloroethane	71-55-6	0.30 U	0.30	1.0	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	0.20 U	0.20	0.20	ug/L
1,1,2-Trichloroethane	79-00-5	0.30 U	0.30	1.0	ug/L
1,1-Dichloroethane	75-34-3	0.20 U	0.20	1.0	ug/L
1,1-Dichloroethene	75-35-4	0.20 U	0.20	1.0	ug/L
1,2,3-Trichloropropane	96-18-4	0.30 U	0.30	1.0	ug/L
1,2-Dichlorobenzene	95-50-1	0.20 U	0.20	1.0	ug/L
1,2-Dichloroethane	107-06-2	0.10 U	0.10	1.0	ug/L
1,2-Dichloropropane	78-87-5	0.40 U	0.40	1.0	ug/L
1,4-Dichlorobenzene	106-46-7	0.10 U	0.10	1.0	ug/L
2-Butanone	78-93-3	2.0 U	2.0	5.0	ug/L
2-Hexanone	591-78-6	0.60 U	0.60	5.0	ug/L
4-Methyl-2-pentanone	108-10-1	2.0 U	2.0	5.0	ug/L
Acetone	67-64-1	2.0 U	2.0	5.0	ug/L
Acrylonitrile	107-13-1	0.40 U	0.40	1.0	ug/L
Benzene	71-43-2	0.20 U	0.20	1.0	ug/L
Bromochloromethane	74-97-5	0.30 U	0.30	1.0	ug/L
Bromodichloromethane	75-27-4	0.20 U	0.20	0.40	ug/L
Bromoform	75-25-2	0.20 U	0.20	1.0	ug/L
Bromomethane	74-83-9	0.60 U	0.60	1.0	ug/L
<b>Carbon disulfide</b>	75-15-0	<b>1.5 I</b>	0.90	5.0	ug/L
Carbon tetrachloride	56-23-5	0.30 U	0.30	1.0	ug/L
Chlorobenzene	108-90-7	0.20 U	0.20	1.0	ug/L
Chloroethane	75-00-3	0.30 U	0.30	1.0	ug/L
Chloroform	67-66-3	0.20 U	0.20	1.0	ug/L
Chloromethane	74-87-3	0.30 U	0.30	1.0	ug/L
cis-1,2-Dichloroethene	156-59-2	0.20 U	0.20	1.0	ug/L
cis-1,3-Dichloropropene	10061-01-5	0.10 U	0.10	0.20	ug/L
Dibromochloromethane	124-48-1	0.20 U	0.20	0.20	ug/L
Dibromomethane	74-95-3	0.30 U	0.30	1.0	ug/L
Ethylbenzene	100-41-4	0.30 U	0.30	1.0	ug/L
Iodomethane	74-88-4	1.0 U	1.0	3.0	ug/L
m,p-Xylenes	108-38-3/106-42-3	0.30 U	0.30	2.0	ug/L
Methylene chloride	75-09-2	2.0 U	2.0	2.0	ug/L
o-Xylene	95-47-6	0.20 U	0.20	1.0	ug/L

### ANALYTICAL REPORT

Sample ID: MW-10  
 Lab #: A703498-01  
 Prep. Method: EPA 5030B\_MS  
 Analyzed: 06/30/07 By: ds  
 Anal. Method: EPA 8260B  
 Anal. Batch: BA00905  
 QC Batch: 7F28010

Project: Hardee Co.  
 Work Order #: A703498  
 Matrix: Ground Water  
 Unit: ug/L  
 Dilution Factor: 1

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#### **Volatile Organic Compounds by GCMS**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
Styrene	100-42-5	0.10 U	0.10	1.0	ug/L
Tetrachloroethene	127-18-4	0.30 U	0.30	1.0	ug/L
<b>Toluene</b>	<b>108-88-3</b>	<b>0.25 I</b>	0.20	1.0	ug/L
trans-1,2-Dichloroethene	156-60-5	0.20 U	0.20	1.0	ug/L
trans-1,3-Dichloropropene	10061-02-6	0.20 U	0.20	0.20	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	0.40 U	0.40	1.0	ug/L
Trichloroethene	79-01-6	0.30 U	0.30	1.0	ug/L
Trichlorofluoromethane	75-69-4	0.30 U	0.30	1.0	ug/L
Vinyl acetate	108-05-4	2.0 U	2.0	5.0	ug/L
Vinyl chloride	75-01-4	0.40 U	0.40	1.0	ug/L
Xylenes (Total)	NA	0.30 U	0.30	1.0	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	49	50.0	97 %	60-130
Dibromofluoromethane	1868-53-7	50	50.0	101 %	66-131
Toluene-d8	2037-26-5	59	50.0	117 %	67-139

### ANALYTICAL REPORT

Sample ID:	MW-10	Project:	Hardee Co.
Lab #:	A703498-01	Work Order #:	A703498
Prep. Method:	EPA 504/8011	Matrix:	Ground Water
Analyzed:	07/03/07 By: RG	Unit:	ug/L
Anal. Method:	EPA 8011	Dilution Factor:	1
Anal. Batch:	AA01136		
QC Batch:	7G03017		

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#### Semivolatile Organic Compounds by GC

Parameter	CAS Number	Analytical Results	MDL	MRL	Units
1,2-Dibromo-3-chloropropane	96-12-8	0.008 U	0.008	0.020	ug/L
1,2-Dibromoethane	106-93-4	0.010 U	0.010	0.020	ug/L
Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
1,3-Dichlorobenzene	541-73-1	0.17 S-04	0.250	68 %	83-150

### ANALYTICAL REPORT

Sample ID: MW-10  
 Lab #: A703498-01

Project: Hardee Co.  
 Work Order #: A703498  
 Matrix: Ground Water

#### **Metals by EPA 6000/7000 Series Methods**

<b>Parameter</b>	<b>CAS Number</b>	<b>Analytical Results</b>		<b>MDL</b>	<b>MRL</b>	<b>Units</b>	<b>Analysis Method</b>	<b>Prep Method</b>	<b>Analytical Batch</b>
		<b>Result</b>	<b>Qual.</b>						
Antimony	7440-36-0	0.760	U	0.760	5.00	ug/L	EPA 6020	EPA 3005A	7F29020
Arsenic	7440-38-2	<b>8.59</b>	I	0.980	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Barium	7440-39-3	<b>689</b>		1.30	100	ug/L	EPA 6020	EPA 3005A	7F29020
Beryllium	7440-41-7	<b>2.02</b>		0.810	1.00	ug/L	EPA 6020	EPA 3005A	7F29020
Cadmium	7440-43-9	0.300	U	0.300	3.00	ug/L	EPA 6020	EPA 3005A	7F29020
Chromium	7440-47-3	<b>48.4</b>		1.20	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Cobalt	7440-48-4	<b>3.31</b>	I	0.260	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Copper	7440-50-8	<b>6.53</b>	I	0.630	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Lead	7439-92-1	<b>25.9</b>		0.170	5.00	ug/L	EPA 6020	EPA 3005A	7F29020
Mercury	7439-97-6	<b>0.085</b>	I	0.0092	0.20	ug/L	EPA 7470A	EPA 7470A	7F22021
Nickel	7440-02-0	<b>5.13</b>	I	0.470	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Selenium	7782-49-2	<b>2.59</b>	I	1.70	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Silver	7440-22-4	0.200	U	0.200	1.00	ug/L	EPA 6020	EPA 3005A	7F29020
Sodium	7440-23-5	<b>8630</b>		16.0	1000	ug/L	EPA 6020	EPA 3005A	7F29020
Thallium	7440-28-0	0.290	U	0.290	1.00	ug/L	EPA 6020	EPA 3005A	7F29020
Vanadium	7440-62-2	<b>41.8</b>		0.380	10.0	ug/L	EPA 6020	EPA 3005A	7F29020
Zinc	7440-66-6	<b>17.0</b>	I	1.90	50.0	ug/L	EPA 6020	EPA 3005A	7F29020

## ANALYTICAL REPORT

Sample ID: MW-10  
Lab #: A703498-01

Project: Hardee Co.  
Work Order #: A703498  
Matrix: Ground Water

### **Classical Chemistry Parameters**

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Ammonia as N	7664-41-7	0.036	0.003	0.020	mg/L	EPA 350.1	NO PREP	7F26015
Chloride	16887-00-6	7.4	0.05	1.0	mg/L	EPA 300.0	NA	7F22015
Nitrate as N	14797-55-8	0.048 I	0.008	0.050	mg/L	EPA 300.0	NA	7F22015
Total Dissolved Solids	NA	160	10	10	mg/L	EPA 160.1	NO PREP	7F27002

### ANALYTICAL REPORT

Sample ID: MW-10  
Lab #: A703498-01RE1

Project: Hardee Co.  
Work Order #: A703498  
Matrix: Ground Water

#### Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	MDL	MRL	Units	Analysis Method	Prep Method	Analytical Batch
Iron	7439-89-6	16500 D	67.0	500	ug/L	EPA 6020	EPA 3005A	7F29020

**NOTES AND DEFINITIONS**

- D Data reported from a dilution
- I Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- U Analyte included in the analysis, but not detected

**LABORATORY CERTIFICATION SUMMARY**

Analysis	Matrix	Cert ID	Cert Number
8081A Appendix 2	Water	NELAC	E82277
8082 Appendix 2	Water	NELAC	E82277
8260B Appendix 1	Water	NELAC	E82277
8011	Water	NELAC	E83182
8151A Appendix 2	Water	NELAC	E83182
8270C Appendix 2 Scan-SIM	Water	NELAC	E83182
Alkalinity 310.2	Water	NELAC	E83182
Ammonia 350.1	Water	NELAC	E83182
Antimony Total EPA 6020	Water	NELAC	E83182
Arsenic Total EPA 6020	Water	NELAC	E83182
Barium Total EPA 6020	Water	NELAC	E83182
Beryllium Total EPA 6020	Water	NELAC	E83182
Cadmium Total EPA 6020	Water	NELAC	E83182
Chloride 300	Water	NELAC	E83182
Chromium Total EPA 6020	Water	NELAC	E83182
Cobalt Total EPA 6020	Water	NELAC	E83182
Copper Total EPA 6020	Water	NELAC	E83182
Cyanide Total 9014	Water	NELAC	E83182
Iron Total EPA 6020	Water	NELAC	E83182
Lead Total EPA 6020	Water	NELAC	E83182
Mercury Total EPA 7470A	Water	NELAC	E83182
Nickel Total EPA 6020	Water	NELAC	E83182
Nitrate as N 300	Water	NELAC	E83182
Selenium Total EPA 6020	Water	NELAC	E83182
Silver Total EPA 6020	Water	NELAC	E83182
Sodium Total EPA 6020	Water	NELAC	E83182
Sulfide 376.1	Water	NELAC	E83182
TDS 160.1	Water	NELAC	E83182
Thallium Total EPA 6020	Water	NELAC	E83182
Tin Total EPA 6020	Water	NELAC	E83182
Vanadium Total EPA 6020	Water	NELAC	E83182
Zinc Total EPA 6020	Water	NELAC	E83182

