

**FLORIDA GAS PLANT SITE  
TECHNICAL MEMORANDUM FOR THE  
APRIL 2008 GROUNDWATER MONITORING EVENT  
FLORIDA LOCATION,  
HOUGHTON COUNTY, MICHIGAN**

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
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Date Prepared	31 July 2008
TDD Number	S05-0003-0707-011
Contract Number	EP-S5-06-04
Document Control Number	238-2A-ACIX
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## 1. INTRODUCTION

Weston Solutions, Inc., (WESTON®) prepared this Technical Memorandum to summarize the April 2008 sampling activities (representing the third of three assigned quarterly events) at the Florida Gas Plant Site (Site) in Florida Location, Houghton County, Michigan (**Figure 1**). The United States Environmental Protection Agency (U.S. EPA) conducted a Time-critical Removal Action (TCRA) at the Site in August 2007 that entailed the following:

- Installation of a sheet-pile barrier to prevent off-site migration of gross contamination and non-aqueous phase liquid (NAPL)
- Excavation of shallow soil from an open drainage ditch that traverses a residential neighborhood to reduce direct contact hazards with contamination
- Installation of groundwater monitoring and recovery wells to monitor changes in hydraulic conditions and contaminant movement, and recovery of NAPL, if necessary

U.S. EPA tasked the WESTON Superfund Technical Assessment and Response Team (START) to perform quarterly groundwater monitoring under START Contract EP-S5-06-04, Technical Direction Document (TDD) number S05-0003-0707-011.

### 1.1 SITE DESCRIPTION

The Site is located in Florida Location, Houghton County, Michigan (**Figure 1**). Florida Location is part of Calumet Township. The Meridian coordinates for the Site are 47.22881 degrees (°) north and 88.44119° west. The Site is defined as the former manufactured gas plant property located in the northeast quadrant of the intersection of Franklin Street and Lake Linden Avenue (M-26). A drainage ditch, which flows southwesterly towards Hammel Creek and historically received uncontrolled discharges of coal tar waste, is located on the south side of the Site along Franklin Street. Flow in the ditch is seasonal. These features are depicted on **Figure 2**.

The Site's topography is relatively flat except for slopes immediately adjacent to the drainage ditches. Residential areas are adjacent to the west and south sides of the Site. An undeveloped wetland is east and northeast of the Site and a commercial business is north of the Site.

## 1.2 SITE GEOLOGY

The information discussed in this section was obtained from *Site Assessment Report, Florida Gas Site, Florida Location, Houghton County, Michigan*. (WESTON, January 2007)

The report indicates that relatively homogeneous geologic conditions prevail across the Site.

In general, the upper several feet of overburden was sand and gravel fill material. At several locations building rubble, coal, cinders and rubbish were noted in the fill material. A thin layer of peat/organic silt was occasionally found underlying the fill material. More often underlying the fill material, brown fine sand with varying amounts of silt and of varying thickness was encountered. Underlying the sand/silt is an extremely dense, calcareous reddish brown or gray silty sand with varying amounts of gravel and cobbles/boulders. This formation was generally encountered between 15 and 20 ft bgs and is a glacial till. A grain size analysis of this formation described the soil as dark brown silty sand with clay and trace clay.

## 2. QUARTERLY SAMPLING

On April 30, 2008, WESTON START conducted the third round of quarterly groundwater monitoring events in accordance with the quarterly groundwater monitoring plan established in the *Sampling and Analysis Plan for Groundwater Monitoring at the Florida Gas Plant Site* (WESTON, September 2007). The purpose of the quarterly sampling was to monitor any changes in groundwater conditions as a result of the installation of the sheet-pile barrier during the TCRA. Six wells (MW-52, MW-53, MW-54, MW-55, MW-56, and

MW-57) installed during the removal in 2007 have been incorporated into the quarterly groundwater monitoring program.

Construction of the sheet-pile barrier in 2007 was as follows: Sixteen-foot lengths of vinyl sheet-pile were driven by vibratory hammer to a minimum average depth of 12 feet (ft) below ground surface (bgs). Most sheet-pile panels were installed at varying depths to 15 ft bgs using the 16-ft panels, with the exception of the side of the Site building along Franklin Street, where depths down to 17 ft bgs were achieved using 18-ft panels. This depth was considered sufficient as gross tar contamination has not been observed at depths below 8 ft bgs.

### 3. SAMPLING PROCEDURES

#### 3.1 WATER LEVEL AND FREE PRODUCT MEASUREMENTS

On April 30, 2008, WESTON START measured static water levels at each monitoring well. Prior to measuring static water levels, each monitoring well was opened and allowed to vent and equilibrate for approximately one hour. An oil/water interface probe was used to measure the presence of free product (both light NAPL and dense NAPL) and record static water levels in each of the 14 monitoring wells and five recovery wells. **Table 1** presents a summary of water level measurements, groundwater elevations, and monitoring well construction data included in the quarterly groundwater monitoring program. Monitoring wells included in monthly static water level and free product measurements (in addition to the six monitoring wells sampled) are also included in the table. **Figure 3** presents Groundwater flow conditions at the Site, based on data gathered during the April 30, 2008, sampling event.

Groundwater flow was to the south/southwest across the Site and is consistent with groundwater flow conditions assessed during previous investigations conducted prior to the U.S. EPA TCRA. Significant rainfall that was not typical for the region occurred during the month of October 2007. Groundwater levels then decreased by approximately two to six inches across the Site based on the January 2008 monitoring event. Since then, groundwater levels have increased by

approximately 6 to 12 inches Site-wide. For wells where well construction is known, several monitoring and recovery well screens remain slightly submerged including R1 through R5, GMW-3, GMW-4, MW-40, MW-46, MW-52, MW-53, and MW-57. Of note, there was nearly a two-foot drop in potentiometric surface across the sheet-pile barrier in the southwestern corner of the property (from RW-2 to MW-55), indicating a restriction in flow, if not full restriction in flow resulting from the sheet-pile construction.

Measurable free product (dense NAPL) recorded in MW-46 during the September and October 2007 monitoring events is consistent with free product measured during previous investigations conducted prior to the U.S. EPA TCRA. Due to the characteristics of the free product, WESTON START did not perform monitoring on MW-46 during the April 2008 monitoring event because the characteristics of the free product do not facilitate easy decontamination of the free-product probe. WESTON START did not observe any sheen on the groundwater at the wells monitored during January 2008, but sheen was observed in recovery wells R1, R3, and R5 in April 2008. The contents of R3 and R5 were checked with a bailer; no measurable product was observed. Light NAPL may be present at other well locations, but the submerged screens may mask the presence of free product.

### **3.2 SAMPLE COLLECTION**

WESTON START collected groundwater samples from each of the six specified monitoring wells on April 30, 2008. Samples were collected using a peristaltic pump and disposable polyethylene tubing following low-flow sampling procedures. Groundwater samples were collected once field measurements of pH, conductivity, and temperature had stabilized within acceptable limits. All samples were analyzed for volatile organic compounds (VOC), semi-VOCs (SVOC), Target Analyte List metals, and total cyanide by U.S. EPA Contract Laboratory Program (CLP) laboratories.

WESTON START also collected field quality assurance/quality control samples. One duplicate sample was collected during the quarterly sampling event. The analytical results of the duplicate

sample (MW-52-043008-D) were consistent with the analytical results from the original sample (MW-52-043008). In addition, two laboratory-prepared trip blanks accompanied the field investigative samples throughout custody changes. The laboratory-prepared trip blank (TB-01) contained detectable concentrations of acetone; however, qualification of the reported results was not required since the concentration of acetone in the blank did not exceed 10 times the concentration detected in any sample. The trip blank results are included with the analytical data provided in **Appendix A**.

#### **4. APPLICABLE REGULATORY CRITERIA**

In order to assess the risks posed by groundwater contamination at the Site and establish a baseline of contaminants in groundwater following the TCRA, WESTON START compared the analytical results to Michigan Department of Environmental Quality (MDEQ) Part 201 Residential/Commercial I Drinking Water (RCDW) criteria, Industrial and Commercial II, III, and IV Drinking Water (ICDW) criteria, and Groundwater/Surface Water Interface (GSI) criteria. WESTON START evaluated other applicable pathways including groundwater volatilization to indoor air, groundwater contact, flammability and explosivity, and acute inhalation. However, the contaminant concentrations detected in groundwater were well below these pathway criteria, and, therefore, are not included in the analytical results summary tables (**Tables 2A, 2B, and 2C**).

#### **5. ANALYTICAL RESULTS**

A summary of analytical results is included in **Tables 2A, 2B, and 2C**. Laboratory analytical reports are provided in **Appendix A**. VOC and SVOC contaminant detections above Part 201 criteria for wells sampled are shown on **Figure 4**.

Analytical results from the April 2008 sampling event indicated the presence of VOCs, SVOCs, and metals in the groundwater above Part 201 criteria as summarized below.

- **Upgradient Well MW-52:** Copper was detected above GSI criteria and manganese was detected above RCDW, and ICDW criteria. Zinc was detected above GSI criteria. Total cyanide was detected above GSI criteria. There were no VOC or SVOC contaminants detected above Part 201 criteria.
- **Sidegradient Well MW-53:** Benzene was detected above RCDW and ICDW criteria. Manganese was detected above GSI, RCDW, and ICDW criteria. Total cyanide was detected above GSI, RCDW, and ICDW criteria.
- **Downgradient Well MW-54:** Copper was detected above GSI criteria, and manganese was detected above RCDW and ICDW criteria. Benzene, ethylbenzene, xylenes, and styrene were detected above ICDW, RCDW, and GSI criteria, and toluene was detected above GSI criteria. No SVOC contaminants were detected above Part 201 criteria.
- **Downgradient Well MW-55:** Copper, naphthalene, dibenzofuran, fluorene, phenanthrene, carbazole, and toluene, were detected above GSI criteria. Benzene, ethylbenzene and xylene were detected above ICDW, RCDW, and GSI criteria. Naphthalene and acenaphthylene were detected above ICDW and/or RCDW criteria.
- **Sidegradient Well MW-56:** Copper, manganese, and cyanide were detected above GSI criteria. Manganese and vanadium were detected above RCDW criteria (and ICDW criteria for manganese). There were no VOC or SVOC contaminants detected above Part 201 criteria.
- **Sidegradient Well MW-57:** Copper was detected above GSI criteria. Manganese was detected above RCDW and ICDW criteria. There were no VOC or SVOC contaminants detected above Part 201 criteria.

Although total cyanide was detected above Part 201 criteria in several samples, it should be noted that total cyanide and not available cyanide was analyzed. The available cyanide better quantifies the risk posed by cyanide in groundwater to human health and the environment. It is likely that the available cyanide is a fraction of the total cyanide concentration. The CLP laboratories were unable to analyze available cyanide at the time of this project.

## 6. CONCLUSIONS AND RECOMMENDATIONS

### 6.1 CONCLUSIONS

Contaminant concentrations (predominantly metals) exceeded RCDW/ICDW and/or GSI criteria in all monitoring wells sampled. There were no SVOC or VOC contaminants detected above Part 201 criteria in three of the six monitoring wells sampled; including MW-52 and MW-56 (the lateral margins of the sheet piling barrier), indicating a good baseline has been established to monitor contaminants that could migrate along the sheet-pile barrier and move beyond its limits.

Static water level measurements indicated groundwater flow was to the south/southwest across the Site and measurable free product has been recorded in MW-46 (dense NAPL).

Overtopping of the sheet-pile barrier was of greatest concern in the spring months due to seasonal increases in the groundwater levels. Observations in April 2008 showed that some minor ponding may occur during high flow times in the Site's low area along the south fenceline near the fuel storage tanks, which indicates the possibility of overtopping in that immediate area. However, no evidence of overtopping was observed.

Groundwater sampling conducted by the MDEQ in October 2006 indicated elevated SVOC and VOC concentrations in monitoring well GMW-3 immediately downgradient of the sheet-pile barrier's planned location prior to installation (proximal to the newly-installed MW-55). Therefore, the existing contamination immediately downgradient of the sheet-pile barrier is well documented and potential increases or decreases in contaminant concentrations as a result of break-through or overtopping can be evaluated during subsequent monitoring events.

A comparison of the data collected in October of 2007 and January 2008 to that collected in April 2008 indicated a general increase in VOC concentrations at both MW-54 and MW-55. A review of historical data for nearby wells (GMW-3 and MW-15) also indicated a slight increase between the fall and spring events, suggesting that the changes may be a seasonal fluctuation,

perhaps due to a “flushing” action which would occur during heavy spring runoff and high flow conditions in Hamel Creek. Therefore, the general increases in concentration may be related to seasonal fluctuation of the documented existing contamination rather than an indication of the performance (or possible lack thereof) of the sheet-pile barrier.

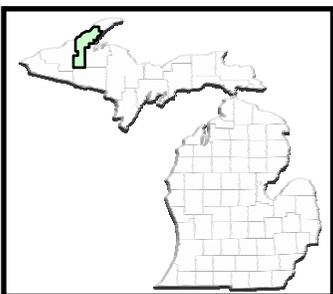
There continues to be no SVOC or VOC contaminants detected above Part 201 criteria in groundwater from wells on the lateral margins of the sheet-pile barrier. Those wells have documented contaminants prior to installation of the barrier and have generally not overall increased or decreased in total VOC, SVOC, or inorganic concentrations since the barrier’s construction. Therefore, a longer duration of groundwater monitoring is required in order to make a conclusive statement regarding the sheet-pile’s effectiveness.

## **6.2 RECOMMENDATIONS**

WESTON START recommends conducting at a minimum, annual groundwater sampling at the six monitoring wells used in the past to continue to monitor for contaminant movement along the sheet-pile barrier and evaluate its effectiveness. Groundwater samples collected during summer months may provide the best indication of annual average conditions. Quarterly or at least bi-annual static water/free product checks are also recommended, especially during the late summer months. Typically, groundwater levels are lowest in the late summer, allowing for the detection of NAPL in the exposed well screen intervals if it begins to accumulate.

Lastly, WESTON recommends coordinating with the MDEQ to ensure that additional wells downgradient of contaminated wells MW-54 and MW-55 be monitored for possible contaminant movement, pending the consideration of project objectives and other factors.

## FIGURES



Scale: Not to Scale

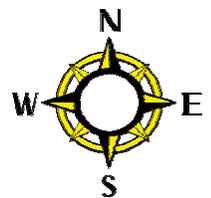
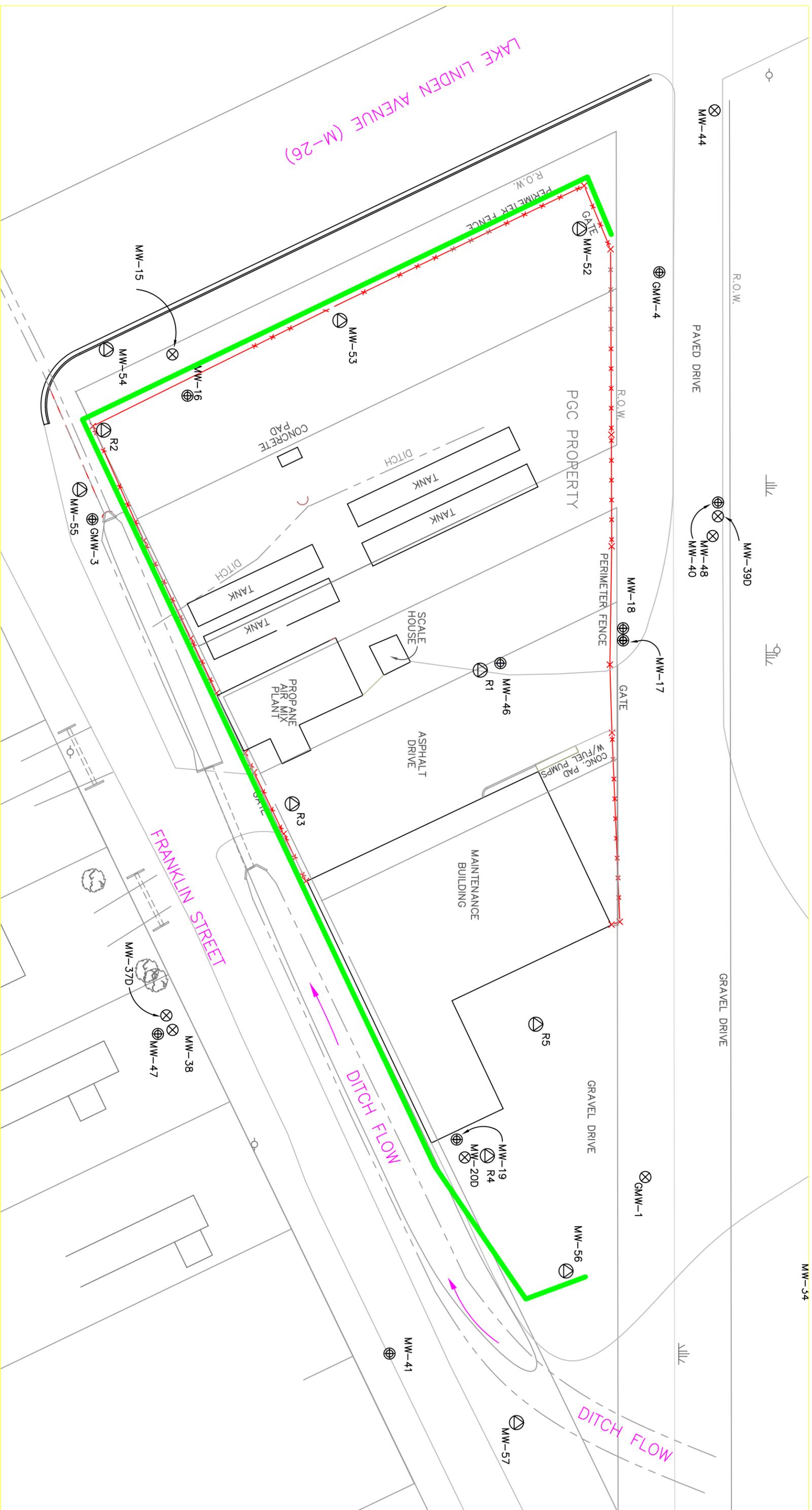


Figure 1


 Prepared for:  
**U.S. EPA. REGION V**  
 Contract No: EP-S5-06-04  
 TDD No.: S05-0003-0707-011  
 DCN: 238-2A-ACIX

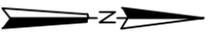
  
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**SITE LOCATION MAP**  
 Florida Gas Plant Site  
 Florida Location, Houghton County., Michigan



**LEGEND**

- EXISTING SHEETPILE BARRIER
- ⊗ MW-39D EXISTING MONITORING WELL LOCATION
- ⊗ MW-44 ABANDONED/MISSING MONITORING WELL LOCATION
- ⊗ MW-52 NEW MONITORING WELL LOCATION
- ⊗ R1 NEW RECOVERY WELL LOCATION
- ⊗ R2 FENCELINE
- ⊗ R3 PENINSULAR GAS COMPANY
- ⊗ R4 RIGHT OF WAY



ADAPTED FROM COLEMAN ENGINEERING COMPANY DRAWING 99001-F6-02A.DWG

FIGURE 2

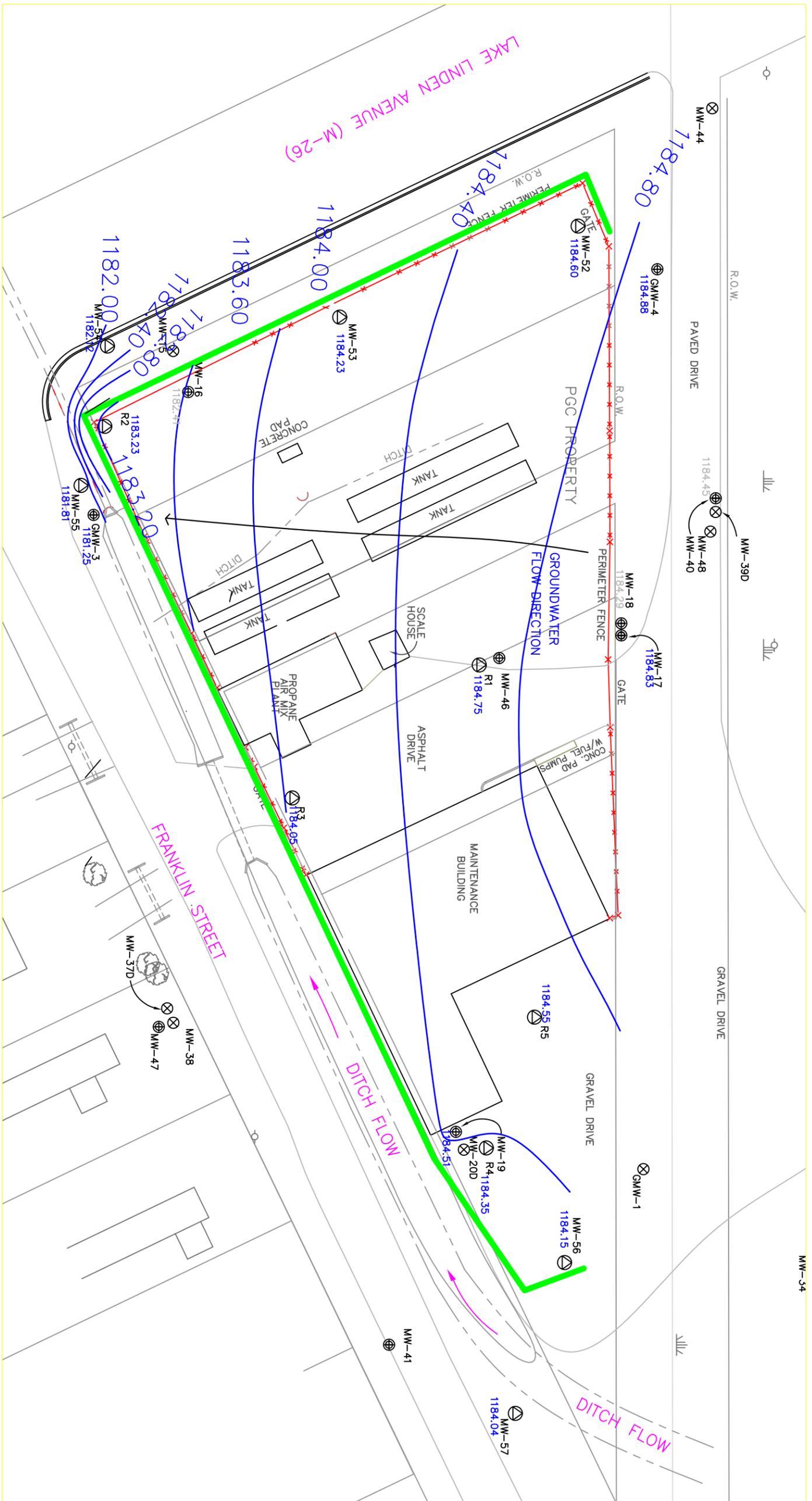


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U.S. EPA, REGION V  
Contract No: EP-S5-06-04  
TDD NO: S05-0003-0707-011  
DCN: 238-2A-ACIX

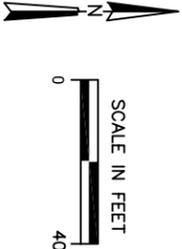


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SITE LAYOUT  
FLORIDA GAS PLANT SITE  
Florida Location, Houghton County, Michigan  
April 2008



- LEGEND**
- EXISTING SHEETPILE BARRIER
  - ⊗ MW-39D EXISTING MONITORING WELL LOCATION
  - ⊗ MW-44 ABANDONED/MISSING MONITORING WELL LOCATION
  - ⊗ MW-52 NEW MONITORING WELL LOCATION
  - ⊗ R1 NEW RECOVERY WELL LOCATION
  - FENCELINE
  - PGC PENINSULAR GAS COMPANY
  - R.O.W RIGHT OF WAY
  - 1181.86 POTENTIOMETRIC SURFACE ELEVATION APRIL 30, 2008 (FEET AMSL) - DATA POINT USED FOR CONTOURING
  - 1182.25 POTENTIOMETRIC SURFACE ELEVATION APRIL 30, 2008 (FEET AMSL) - DATA POINT NOT USED FOR CONTOURING
  - ~ POTENTIOMETRIC SURFACE CONTOUR (CONTOUR INTERVAL 0.40 FEET)



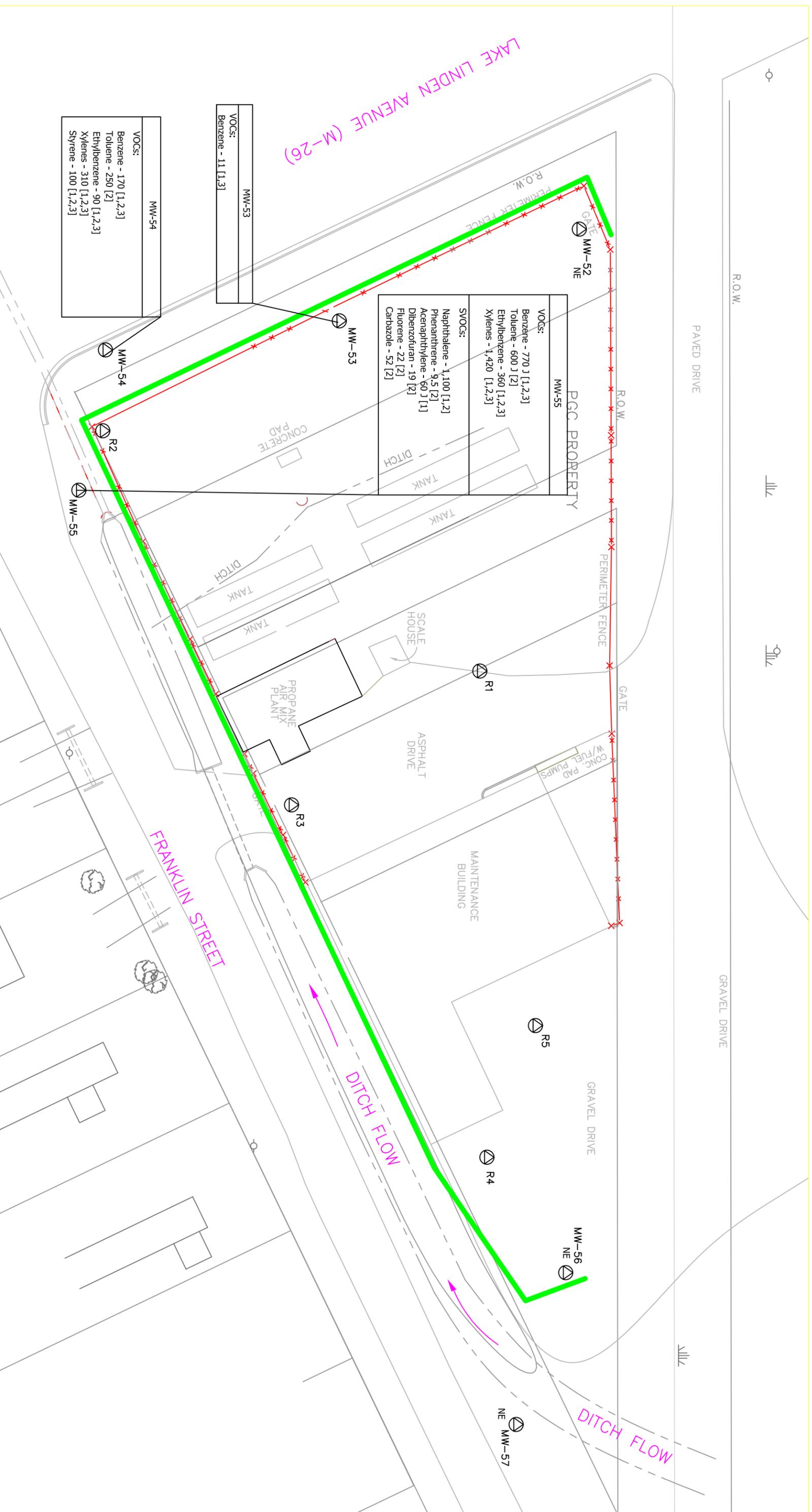
ADAPTED FROM COLEMAN ENGINEERING COMPANY DRAWING 99001-F6-02A.DWG

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SHALLOW POTENTIOMETRIC SURFACE MAP  
 FLORIDA GAS PLANT SITE  
 Florida Location, Houghton County, Michigan  
 April 2008

FIGURE 3



[1] = EXCEEDS RESIDENTIAL AND COMMERCIAL I DRINKING WATER CRITERIA  
 [2] = EXCEEDS RESIDENTIAL AND COMMERCIAL I GROUNDWATER/SURFACE WATER INTERFACE CRITERIA  
 [3] = EXCEEDS INDUSTRIAL AND COMMERCIAL II, III, AND IV DRINKING WATER CRITERIA

Prepared for:  
 U.S. EPA, REGION V  
 Contract No: EP-S5-06-04  
 TDD NO: S05-0003-0707-011  
 DCN: 238-2A-ACIX

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VOC AND SVOC CONTAMINANT DETECTIONS  
 ABOVE PART 201 CRITERIA  
 FLORIDA GAS PLANT SITE  
 Florida Location, Houghton County, Michigan  
 April 2008

## TABLES

**TABLE 2A  
SUMMARY OF DETECTED INORGANIC ANALYTES IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :			MW-52-102307		MW-52-010708		MW-52-010708		MW-52-010708-D		MW-52-010708-D		MW-53-102307		MW-53-010708		MW-53-010708	
		Sample Location			MW-52		MW-52		MW-52		MW-52		MW-52		MW-53		MW-53		MW-53	
		Date Sampled :			10/23/2007		1/7/2008		4/30/2008		1/7/2008		4/30/2008		10/23/2007		1/7/2008		4/30/2008	
		Screened Interval (ft btc)			2-18		2-18		2-18		2-18		2-18		2-18		2-18		2-18	
		Regulatory Criteria																		
					1	2	3	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result
			Residential and Commercial I Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Industrial and Commercial II, III, and IV Drinking Water Criteria															
<b>Metals</b>																				
Arsenic	µg/L	10 (A)	50 (X)	10 (A)	ND	1.0	1.5	1.0	ND	1.0	1.7	1.0	1.7	1.0	15.1	1.0	8.3	1.0	8.3	1.0
Barium	µg/L	2,000 (A)	210 (G,X)	2,000 (A)	61.4	10	93.6	10	109	10	96.2	10	105	10	252	10	111	10	126	10
Chromium	µg/L	100 (A)	11	100 (A)	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
Cobalt	µg/L	40	100	100	1.1	1.0	2.5	1.0	1.6	1.0	2.4	1.0	1.6	1.0	ND	1.0	ND	1.0	0.84 J	1.0
Copper	µg/L	1,000 (E)	5 (G)	1,000 (E)	18.3	2.0	5.2	2.0	21.1	2.0	4.8	2.0	19.5	2.0	ND	2.0	ND	2.0	1.4 J	2.0
Manganese	µg/L	50 (E)	1,000	50 (E)	60.7	1.0	2,740	1.0	266	1.0	2,710	1.0	274	1.0	1,900	1.0	1,010	1.0	1,250	1.0
Nickel	µg/L	100 (A)	29 (G)	100 (A)	2.2	1.0	3.8	1.0	3.9 J-	1.0	4.0	1.0	4.1 J-	1.0	2.6	1.0	1.7	1.0	0.31 J-	1.0
Vanadium	µg/L	4.5	12	62	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Zinc	µg/L	2,400	66 (G)	5,000 (E)	23.5	2.0	16.6	2.0	125	2.0	15.8	2.0	122	2.0	7.4	2.0	3.9	2.0	4.4	2.0
<b>Total Cyanide</b>	µg/L	200 (A)	5.2	200 (A)	309	10	175	10	46.8	10	168	10	44.1	10	819	10	458	10	396	10

**Notes:**

ft btc = feet below top of casing  
 J = Analyte was positively identified. Value is an estimate  
 J+ = The result is an estimated quantity, but the result may be biased high  
 J- = The result is an estimated quantity, but the result may be biased low  
 MDL - method detection limit  
 µg/L - micrograms per liter  
 ND - not detected  
 Shaded cells indicate the result exceeds one or more criteria

**Criteria Notes:**

A - Criterion is State of Michigan Drinking Water Standard  
 E - Criterion is aesthetic drinking water value  
 G - Groundwater surface Water Interface Criteria is hardness and/or pH dependent  
 X - The GSI criterion is not protective for surface water used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting surface waters, the GSI criterion is provided in the Part 201 footnotes.  
 Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environment Protection Act

**TABLE 2A  
SUMMARY OF DETECTED INORGANIC ANALYTES IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :			MW-54-102307		MW-54-102307		MW-55-102207		MW-55-010708		MW-55-010708		MW-56-102207		MW-56-102207-D		MW-56-010708		MW-56-010708	
		Sample Location			MW-54		MW-54		MW-55		MW-55		MW-55		MW-56		MW-56		MW-56		MW-56	
		Date Sampled :			10/23/2007		4/30/2008		10/22/2007		1/7/2008		4/30/2008		10/22/2007		10/22/2007		1/7/2008		4/30/2008	
		Screened Interval (ft btc)			2-18		2-18		2-18		2-18		2-18		2-18		2-18		2-18		2-18	
		Regulatory Criteria			1		2		3													
		Residential and Commercial I Drinking Water Criteria			Groundwater Surface Water Interface Criteria		Industrial and Commercial II, III, and IV Drinking Water Criteria		Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
<b>Metals</b>																						
Arsenic	µg/L	10 (A)	50 (X)	10 (A)	ND	1.0	0.56 J	1.0	ND	1.1	1.1	1.0	0.85 J	1.0	2.5	1.0	2.2	1.0	2.5	1.0	1.8	1.0
Barium	µg/L	2,000 (A)	210 (G,X)	2,000 (A)	36.0	10	19.5	10	ND	10	ND	10	ND	10	147	10	135	10	129	10	95.2	10
Chromium	µg/L	100 (A)	11	100 (A)	ND	2.0	ND	2.0	ND	2.0	ND	2.0	0.81 J	2.0	2.6	2.0	ND	2.0	ND	2.0	1.4 J	2.0
Cobalt	µg/L	40	100	100	ND	1.0	ND	1.0	ND	1.0	ND	1.0	0.30 J	1.0	4.8	1.0	3.9	1.0	6.7	1.0	6.5	1.0
Copper	µg/L	1,000 (E)	5 (G)	1,000 (E)	ND	2.0	11.3	2.0	ND	2.0	ND	2.0	7.4	2.0	10.7	2.0	9.4	2.0	9.8	2.0	15.9	2.0
Manganese	µg/L	50 (E)	1,000	50 (E)	120	1.0	74.2 J+	1.0	33.6	1.0	35.6	1.0	35.8 J+	1.0	4,740	1.0	3,240	1.0	17,500	1.0	10,300	1.0
Nickel	µg/L	100 (A)	29 (G)	100 (A)	ND	1.0	ND J	1.0	ND	1.0	ND	1.0	0.75 J-	1.0	5.1	1.0	4.0	1.0	6.2	1.0	3.1 J-	1.0
Vanadium	µg/L	4.5	12	62	ND	5.0	ND	5.0	ND	5.0	ND	5.0	2.8	5.0	5.4	5.0	ND	5.0	11.9	5.0	8.6	5.0
Zinc	µg/L	2,400	66 (G)	5,000 (E)	ND	2.0	6.3	2.0	ND	2.0	9.6	2.0	9.0	2.0	ND	5.0	ND	3.9	6.2	ND	5.9	ND
<b>Total Cyanide</b>	µg/L	200 (A)	5.2	200 (A)	5.5 J	10	ND	10	10.0	10	10.0	10	ND	10	ND	10	54.2	10	36.3	10	43.7	10

**Notes:**  
ft btc - feet below top of casing  
J - Analyte was positively identified. Value is an estimate  
J+ = The result is an estimated quantity, but the result may be biased high  
J- = The result is an estimated quantity, but the result may be biased low  
MDL - method detection limit  
µg/L - micrograms per liter  
ND - not detected  
Shaded cells indicate the result exceeds one or more criteria

**Criteria Notes:**  
A - Criterion is State of Michigan Drinking Water Standard  
E - Criterion is aesthetic drinking water value  
G - Groundwater surface Water Interface Criteria is hardness and/or pH dependent  
X - The GSI criterion is not protective for surface water used as a drinking water source. For a groundwater discharge to the Great Lakes and their connective surface waters, the GSI criterion is provided in the Part 201 footnotes.

Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act

**TABLE 2A  
SUMMARY OF DETECTED INORGANIC ANALYTES IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :			MW-57-102207	MW-57-010708	MW-57-010708			
		Sample Location			MW-57	MW-57	MW-57			
		Date Sampled :			10/22/2007	1/7/2008	4/30/2008			
		Screened Interval (ft btc)			2-18	2-18	2-18			
		Regulatory Criteria								
		1	2	3	Result	MDL	Result	MDL	Result	MDL
<i>Residential and Commercial I Drinking Water Criteria</i>	<i>Groundwater Surface Water Interface Criteria</i>	<i>Industrial and Commercial II, III, and IV Drinking Water Criteria</i>								
Arsenic	µg/L	10 (A)	50 (X)	10 (A)	ND	1.0	ND	1.0	0.42	1.0
Barium	µg/L	2,000 (A)	210 (G,X)	2,000 (A)	24.9	10	25.4	10	28.2	10
Chromium	µg/L	100 (A)	11	100 (A)	ND	2.0	ND	2.0	0.75 J	2.0
Cobalt	µg/L	40	100	100	ND	1.0	1.9	1.0	1.2	1.0
Copper	µg/L	1,000 (E)	5 (G)	1,000 (E)	14.8	2.0	6.1	2.0	11.2	2.0
Manganese	µg/L	50 (E)	1,000	50 (E)	276	1.0	478	1.0	139	1.0
Nickel	µg/L	100 (A)	29 (G)	100 (A)	ND	1.0	ND	1.5	0.36 J-	1.5
Vanadium	µg/L	4.5	12	62	ND	5.0	ND	5.0	ND	5.0
Zinc	µg/L	2,400	66 (G)	5,000 (E)	ND	2.6	4.3	2.0	21.1	2.0
<b>Total Cyanide</b>	µg/L	200 (A)	5.2	200 (A)	ND	10	ND	10	ND	10

**Notes:**

ft btc = feet below top of casing  
 J = Analyte was positively identified. Value is an estimate  
 J+ = The result is an estimated quantity, but the result may be biased high  
 J- = The result is an estimated quantity, but the result may be biased low  
 MDL -method detection limit  
 µg/L -micrograms per liter  
 ND - not detected  
 Shaded cells indicate the result exceeds one or more criteria

**Criteria Notes:**

A - Criterion is State of Michigan Drinking Water Standard  
 E - Criterion is aesthetic drinking water value  
 G - Groundwater surface Water Interface Criteria is hardness and/or pH dependent  
 X - The GSI criterion is not protective for surface water used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting surface waters, the GSI criterion is provided in the Part 201 footnotes.  
 Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environment Protection Act

**TABLE 2B  
SUMMARY OF SVOCs DETECTED IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :		MW-52-102307	MW-52-010708	MW-52-010708-	MW-52-010708	MW-52-010708-	MW-53-102307	MW-53-010708	MW-53-010708	MW-54-102307	MW-54-102307											
		Sample Location		MW-52	MW-52	MW-52	MW-52	MW-52	MW-53	MW-53	MW-53	MW-54	MW-54											
		Date Sampled :		10/23/2007	1/7/2008	1/7/2008	4/30/2008	4/30/2008	10/23/2007	1/7/2008	4/30/2008	10/23/2007	4/30/2008											
		Screened Interval (ft btc)		2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18											
		Regulatory Criteria																						
				1	2	3																		
		Residential and Commercial I Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Industrial and Commercial II, III, and IV Drinking Water Criteria		Result	MDL	Result	MDL	Result	MDL	Result	MDL											
<b>SVOCs</b>																								
Phenol	µg/L	4,400	210	13,000	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	7.6	5.0
Caprolactam	µg/L	5,800		17,000	ND	5.0	ND	5.2	ND	5.1	1.1 J	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	3.4 J	5.0
2-Methylphenol	µg/L	370	71	1,000	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	1.9 J	5.0
Acetophenone	µg/L	1,500	ID	4,400	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	2.4	5.0	2.1 J	5.3	2.0 J	5.0	ND	5.0	ND	5.0
4-Methylphenol	µg/L	370	71	1,000	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	2.8 J	5.0
2,4-Dimethylpheno	µg/L	370	380	1,000	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	0.59 J	5.0	3.1 J	5.0
Naphthalene	µg/L	520	13	1,500	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	23	5.0	7.4	5.3	4.2 J	5.0	ND	5.0	1.7 J	5.0
2-Methylnaphthalene	µg/L	260	ID	750	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	7.2	5.0	2.1 J	5.3	ND	5.0	ND	5.0	4.2 J	5.0
1,1'-Biphenyl	µg/L	NA	NA	NA	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	1.1 J	5.0	ND	5.3	ND	5.0	ND	5.0	ND	5.0
Acenaphthylene	µg/L	52	ID	150	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	0.86 J	5.0	ND	5.3	ND	5.0	ND	5.0	7.7	5.0
Acenaphthene	µg/L	1,300	19	3,800	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	1.1 J	5.0	ND	5.3	ND	5.0	1.1 J	5.0	3.4 J	5.0
Dibenzofuran	µg/L	ID	4	ID	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	3.6 J	5.0	1.4 J	5.3	ND	5.0	ND	5.0	ND	5.0
Diethylphthalate	µg/L	5,500	110	16,000	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	ND	5.0
Fluorene	µg/L	880	12	2,000 (S)	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	3.4 J	5.0	1.6 J	5.3	1.2 J	5.0	ND	5.0	1.2 J	5.0
Phenanthrene	µg/L	52	2.4	150	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	4.3 J	5.0	2.0 J	5.3	ND	5.0	ND	5.0	ND	5.0
Anthracene	µg/L	43 (S)	ID	43 (S)	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	1.3 J	5.0	0.76 J	5.3	ND	5.0	ND	5.0	ND	5.0
Carbazole	µg/L	85	10 (M)	350	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	3.1 J	5.0	0.92 J	5.3	ND	5.0	ND	5.0	3.5 J	5.0
Bis (2-ethylhexyl) phthalate	µg/L	6.0 (A)	32	6.0 (A)	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	1.2 J	5.0
Di-n-butylphthalate	µg/L	880	10	2,500	ND	5.0	ND	5.2	0.58 J	5.1	ND	5.0	ND	5.0	ND	5.0	ND	5.3	ND	5.0	ND	5.0	ND	5.0
Fluoranthene	µg/L	210 (S)	1.6	210 (S)	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	0.81 J	5.0	0.56 J	5.3	ND	5.0	ND	5.0	ND	5.0
Pyrene	µg/L	140 (S)	ID	140 (S)	ND	5.0	ND	5.2	ND	5.1	ND	5.0	ND	5.0	0.53 J	5.0	ND	5.3	ND	5.0	ND	5.0	ND	5.0

**Notes:**  
ft btc - feet below top of casing  
MDL - method detection limit  
ug/L = micrograms per liter  
ND - not detected  
SVOCs - semi-volatile organic compound:  
Shaded cells indicate the result exceeds one or more criteria

**Criteria Notes:**  
A = Criteria is the State of Michigan drinking water standard.  
ID = Insufficient Data to determine criterion  
M - Calculated criterion is below the target detection limit; and therefore defaults to the target detection limit.  
NA - No criteria established for this analyte  
S - Criterion defaults to the hazardous substance-specific water solubility limit  
Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act

**TABLE 2B  
SUMMARY OF SVOCs DETECTED IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :			MW-55-102207		MW-55-010708		MW-55-010708		MW-56-102207		MW-56-102207		MW-56-102207		MW-57-102207		MW-57-010708		MW-57-010708	
		Sample Location			MW-55		MW-55		MW-55		MW-56		MW-56-DUP		MW-56		MW-57		MW-57		MW-57	
		Date Sampled :			10/22/2007		1/7/2008		4/30/2008		10/22/2007		10/22/2007		4/30/2008		10/22/2007		1/7/2008		4/30/2008	
		Screened Interval (ft btc)			2-18		2-18		2-18		2-18		2-18		2-18		2-18		2-18		2-18	
		Regulatory Criteria			1		2		3													
			Residential and Commercial I Drinking Water Criteria		Groundwater Surface Water Interface Criteria		Industrial and Commercial II, III, and IV Drinking Water Criteria		Result	MDL												
<b>SVOCs</b>																						
Phenol	µg/L	4,400	210	13,000	2.5	10	ND	21	ND	5.0	22	5.0	22	5.0	45	5.0	ND	5.0	0.77 J	5.2	ND	5.2
Caprolactam	µg/L	5,800		17,000	ND	10	ND	21	ND	5.0	ND	5.2	3.3 J	5.2								
2-Methylpheno	µg/L	370	71	1,000	ND	10	ND	21	5.6	5.0	4.5 J	5.0	4.7 J	5.0	24	5.0	ND	5.0	ND	5.2	ND	5.2
Acetophenone	µg/L	1,500	ID	4,400	ND	10	ND	21	2.7 J	5.0	0.96 J	5.0	0.68 J	5.0	ND	5.0	ND	5.0	ND	5.2	ND	5.2
4-Methylpheno	µg/L	370	71	1,000	ND	10	ND	21	1.1 J	5.0	31	5.0	31	5.0	42	5.0	ND	5.0	10	5.0	ND	5.0
2,4-Dimethylpheno	µg/L	370	380	1,000	11 J	10	11 J	21	11	5.0	ND	5.2	ND	5.2								
Naphthalene	µg/L	520	13	1,500	730	10	2,400 J	21	1,100	5.0	ND	5.0	ND	5.0	5.6	5.0	ND	5.0	ND	5.2	1.1 J	5.2
2-Methylnaphthalene	µg/L	260	ID	750	140	10	240	21	120	5.0	ND	5.0	ND	5.0	1.2 J	5.0	ND	5.0	ND	5.2	ND	5.2
1,1'-Biphenyl	µg/L	NA	NA	NA	14	10	19 J	21	15	5.0	ND	5.2	ND	5.2								
Acenaphthylene	µg/L	52	ID	150	84	10	110	21	60 J	5.0	ND	5.2	ND	5.2								
Acenaphthene	µg/L	1,300	19	3,800	12	10	16 J	21	ND	75	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.2	ND	5.2
Dibenzofuran	µg/L	ID	4	ID	16	10	21	21	19	5.0	ND	5.2	ND	5.2								
Diethylphthalate	µg/L	5,500	110	16,000	ND	10	ND	21	ND	5.0	0.56 J	5.2	ND	5.2								
Fluorene	µg/L	880	12	2,000 (S)	19	10	20 J	21	22	5.0	ND	5.2	ND	5.2								
Phenanthrene	µg/L	52	2.4	150	8.8 J	10	12 J	21	9.5	5.0	ND	5.2	ND	5.2								
Anthracene	µg/L	43 (S)	ID	43 (S)	1.1 J	10	ND	21	1.2 J	5.0	ND	5.2	ND	5.2								
Carbazole	µg/L	85	10 (M)	350	47	10	53	21	52	5.0	ND	5.2	ND	5.2								
Bis (2-ethylhexyl) phthal	µg/L	6.0 (A)	32	6.0 (A)	ND	10	ND	21	ND	5.0	ND	5.0	ND	5.0	1.3 J	5.0	ND	5.0	ND	5.2	ND	5.2
Di-n-butylphthalate	µg/L	880	10	2,500	ND	10	ND	21	ND	5.0	0.64 J	5.2	ND	5.2								
Fluoranthene	µg/L	210 (S)	1.6	210 (S)	ND	10	ND	21	ND	5.0	0.61 J	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.2	ND	5.2
Pyrene	µg/L	140 (S)	ID	140 (S)	ND	10	ND	21	ND	5.0	0.54 J	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.2	ND	5.2

**Notes:**  
ft btc - feet below top of casing  
MDL -method detection limit  
J - Analyte was positively identified. Value is an estimate.  
ug/L = micrograms per liter  
ND - not detected  
SVOCs - semi-volatile organic compound  
Shaded cells indicate the result exceeds one or more criteria

**Criteria Notes:**  
A = Criteria is the State of Michigan drinking water standard.  
ID = Insufficient Data to determine criterion  
M - Calculated criterion is below the target detection limit; and therefore defaults to the target detection limit.  
NA - No criteria established for this analyte  
S - Criterion defaults to the hazardous substance-specific water solubility limit  
Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection

**TABLE 2C  
SUMMARY OF VOCS DETECTED IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :		MW-52-102307	MW-52-010708	MW-52-010708-D	MW-52-010708	MW-52-010708-D	MW-53-102307	MW-53-010708	MW-53-010708	MW-54-102307	MW-54-102307											
		Sample Location		MW-52	MW-52	MW-52	MW-52	MW-52	MW-53	MW-53	MW-53	MW-54	MW-54											
		Date Sampled :		10/23/2007	1/7/2008	1/7/2008	4/30/2008	4/30/2008	10/23/2007	1/7/2008	4/30/2008	10/23/2007	4/30/2008											
		Screened Interval (ft btc)		2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18											
		Regulatory Criteria		1	2	3	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Residential and Commercial I Drinking Water Criteria		Groundwater Surface Water Interface Criteria		Industrial and Commercial II, III, and IV Drinking Water Criteria																				
<b>VOCS</b>																								
Dichlorodifluoromethane	µg/L	1,700	ID	4,800	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Acetone	µg/L	730	1,700	2,100	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5
Methyl Acetate	µg/L	4,200	1,000 (M)	12,000	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Cyclohexane	µg/L	NA	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	0.20 J	0.5	ND	0.5	0.25 I	0.5	ND	0.5	1.3	0.5
2-Butanone	µg/L	13,000	2,200	38,000	ND	5	ND	25	ND	25	ND	5	ND	5	ND	5	ND	25	ND	5	ND	5	ND	5
Benzene	µg/L	5.0 (A)	12 (X)	5.0 (A)	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	9.1 J	0.5	8.6	0.5	11	0.5	6.9	0.5	170	0.5
Methylcyclohexane	µg/L	NA	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	0.23 J	0.5	0.31 J	0.5	ND	0.5	ND	0.5	2.7	0.5
Toluene	µg/L	790 (E)	140	790 (E)	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	1.2	0.5	0.36 J	0.5	ND	0.75	0.21 J	0.5	250	0.75
Ethylbenzene	µg/L	74 (E)	18	74 (E)	0.47 J	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	6.9	0.5	2.5	0.5	16	0.5	8.1	0.5	90	0.5
o-Xylene	µg/L	NA	NA	NA	0.48 J	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	4.5	0.5	0.95	0.5	0.98	0.5	5.1	0.5	120	0.5
m,p-Xylene	µg/L	NA	NA	NA	1.7	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	6.1	0.5	1.1	0.5	1.4	0.5	6.2	0.5	190	0.5
Total xylenes	µg/L	280 (E)	35	280 (E)	2.2	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	10.6	1.0	2.1	1.0	2.38	1.0	11.3	1.0	310	1.0
Styrene	µg/L	100 (A)	80	100 (A)	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	100	0.5
Isopropylbenzene	µg/L	800	ID	2,300	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	7.4	0.5	4.2	0.5	5.6	0.5	2.9	0.5	ND	0.5

**Notes:**  
ft btc - feet below top of casing  
MDL -method detection limit  
J - Analyte was positively identified. Value is an estimate.  
ug/L = micrograms per liter  
ND - not detected  
VOCS - volatile organic compound  
Shaded cells indicate the result exceeds one or more criteri

**Criteria Notes:**  
A - Criterion is State of Michigan Drinking Water Standard  
E - Criterion is aesthetic drinking water value  
M - Calculated criterion is below the target detection limit; and therefore defaults to the target detection lin  
NA - No criteria established for this analyt  
X - The GSI criterion is not protective for surface water used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting surface waters, the G criterion is provided in the Part 201 footnotes.

Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act

**TABLE 2C  
SUMMARY OF VOCS DETECTED IN GROUNDWATER  
FLORIDA GAS PLANT SITE**

Parameter	Units	Sampling ID :			MW-55-102207	MW-55-010708	MW-55-010708	MW-56-102207	MW-56-102207-D	MW-56-010708	MW-56-010708	MW-57-102207	MW-57-010708	MW-57-010708										
		Sample Location			MW-55	MW-55	MW-55	MW-56	MW-56-DUP	MW-56	MW-56	MW-57	MW-57	MW-57										
		Date Sampled :			10/22/2007	1/7/2008	4/30/2008	10/22/2007	10/22/2007	1/7/2008	4/30/2008	10/22/2007	1/7/2008	4/30/2008										
		Screened Interval (ft btc)			2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18	2-18										
		Regulatory Criteria																						
					1	2	3																	
			Residential and Commercial I Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Industrial and Commercial II, III, and IV Drinking Water Criteria	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	
<b>VOCS</b>																								
Dichlorodifluoromethane	µg/L	1,700	ID	4,800	ND	0.5	ND	2.5	ND	0.5	0.25 J	0.5	0.29 J	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Acetone	µg/L	730	1,700	2,100	ND	5	ND	25	ND	5	35	5	37	5	340 J	5	63	5	18	5	87	5	ND	5
Methyl Acetate	µg/L	4,200	1,000 (M)	12,000	ND	0.5	ND	2.5	ND	0.5	ND	0.5	ND	0.5	8.5	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Cyclohexane	µg/L	NA	NA	NA	3.6	0.5	4.9	2.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
2-Butanone	µg/L	13,000	2,200	38,000	ND	5	ND	25	ND	5	ND	5	ND	5	100	25	25	25	ND	5	21	25	ND	25
Benzene	µg/L	5.0 (A)	12 (X)	5.0 (A)	250	0.5	1,100 J	44	770 J	0.5	0.85	0.5	0.82	0.5	0.71	0.5	1.6	0.5	ND	0.5	ND	0.5	ND	0.5
Methylcyclohexane	µg/L	NA	NA	NA	6.4	0.5	10	2.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	µg/L	790 (E)	140	790 (E)	160	0.75	430 J	44	600 J	0.75	0.71	0.5	0.69	0.5	7.9	0.5	8.0	0.5	ND	0.5	0.35 J	0.5	ND	0.5
Ethylbenzene	µg/L	74 (E)	18	74 (E)	160 J	0.5	390 J	44	360	0.5	3.7	0.5	3.5	0.5	2.1	0.5	3.1	0.5	0.48 J	0.5	ND	0.5	ND	0.5
o-Xylene	µg/L	NA	NA	NA	280 J	0.5	520 J	44	490	0.5	2.3	0.5	2.2	0.5	1.2	0.5	1.5	0.5	0.51	0.5	ND	0.5	ND	0.5
m,p-Xylene	µg/L	NA	NA	NA	370 J	0.5	900 J	44	930	0.5	3.8	0.5	3.5	0.5	1.3	0.5	1.4	0.5	1.7	0.5	ND	0.5	ND	0.5
Total xylenes	µg/L	280 (E)	35	280 (E)	650 J	1.0	1,420 J	88	1,420	1.0	6.1	1.0	5.7	1.0	2.5	1.0	2.9	1.0	2.21	1.0	ND	1.0	ND	1.0
Styrene	µg/L	100 (A)	80	100 (A)	190 J	0.5	350 J	44	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Isopropylbenzene	µg/L	800	ID	2,300	15	0.5	15	2.5	14 J	0.5	ND	0.5	ND	0.5	ND	0.5	0.17 J	0.5	ND	0.5	ND	0.5	ND	0.5

**Notes:**

**Criteria Notes:**

ft btc - feet below top of casing  
MDL -method detection limit  
J - Analyte was positively identified. Value is an estimate.  
ug/L = micrograms per liter  
ND - not detected  
VOCS - volatile organic compound;  
Shaded cells indicate the result exceeds one or more criteria

A - Criterion is State of Michigan Drinking Water Standard  
E - Criterion is aesthetic drinking water value  
M - Calculated criterion is below the target detection limit; and therefore defaults to the target detection limit  
NA - No criteria established for this analyt  
X - The GSI criterion is not protective for surface water used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting surface waters, the GSI criterion is provided the Part 201 footnotes.

Regulatory criteria were promulgated within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act

## APPENDIX A

Analytical Results (Qualified Data)

Case #: 37424

SDG : E0001

Site :

FLORIDA GAS

Lab. :

A4

Reviewer :

Date :

Number of Soil Samples : 0

Number of Water Samples : 7

Number of Sediment Samples : 0

Sample Number :	E0001	E0002	E0003	E0004	E0004DL					
Sampling Location :	MW-52-043008	MW-52-043008-D	MW-53-043008	MW-55-043008	MW-55-043008					
Matrix :	Water	Water	Water	Water	Water					
Units :	ug/L	ug/L	ug/L	ug/L	ug/L					
Date Sampled :	4/30/2008	4/30/2008	4/30/2008	4/30/2008						
Time Sampled :										
%Moisture :	N/A	N/A	N/A	N/A	N/A					
pH :	6.4	6.4	6.1	7.8	7.8					
Dilution Factor :	1.0	1.0	1.0	1.0	15.0					
Semivolatle Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Phenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Bis(2-Chloroethyl)ether	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2-Chlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2-Methylphenol	5.0	U	5.0	U	5.0	U	5.6		75	U
2,2'-Oxybis(1-chloropropane	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Acetophenone	5.0	U	5.0	U	2.0	J	2.7	J	75	U
4-Methylphenol	5.0	U	5.0	U	5.0	U	1.1	J	75	U
N-Nitroso-di-n-propylamine	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Hexachloroethane	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Nitrobenzene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Isophorone	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2-Nitrophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,4-Dimethylphenol	5.0	U	5.0	U	5.0	U	11		75	U
Bis(2-chloroethoxy)methane	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,4-Dichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Naphthalene	5.0	U	5.0	U	4.2	J	1000	J	1100	
4-Chloroaniline	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Hexachlorobutadiene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Caprolactam	1.1	J	5.0	U	5.0	U	5.0	U	75	U
4-Chloro-3-methylphenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2-Methylnaphthalene	5.0	U	5.0	U	5.0	U	190	J	120	
Hexachlorocyclopentadiene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,4,6-Trichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,4,5-Trichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U
1,1'-Biphenyl	5.0	U	5.0	U	5.0	U	15		9.3	J
2-Chloronaphthalene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2-Nitroaniline	10	U	10	U	10	U	10	U	150	U
Dimethylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,6-Dinitrotoluene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Acenaphthylene	5.0	U	5.0	U	5.0	U	92	J	60	J
3-Nitroaniline	10	U	10	U	10	U	10	U	150	U
Acenaphthene	5.0	U	5.0	U	5.0	U	13		75	U

Analytical Results (Qualified Data)

Case #: 37424 SDG : E0001  
 Site : FLORIDA GAS  
 Lab. : A4  
 Reviewer :  
 Date :

Sample Number :	E0001	E0002	E0003	E0004	E0004DL					
Sampling Location :	MW-52-043008	MW-52-043008-D	MW-53-043008	MW-55-043008	MW-55-043008					
Matrix :	Water	Water	Water	Water	Water					
Units :	ug/L	ug/L	ug/L	ug/L	ug/L					
Date Sampled :	4/30/2008	4/30/2008	4/30/2008	4/30/2008						
Time Sampled :										
%Moisture :	N/A	N/A	N/A	N/A	N/A					
pH :	6.4	6.4	6.1	7.8	7.8					
Dilution Factor :	1.0	1.0	1.0	1.0	15.0					
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	10	U	10	U	10	U	10	U	150	U
4-Nitrophenol	10	U	10	U	10	U	10	U	150	U
Dibenzofuran	5.0	U	5.0	U	5.0	U	19		10	J
2,4-Dinitrotoluene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Diethylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Fluorene	5.0	U	5.0	U	1.2	J	22		14	J
4-Chlorophenyl-phenylether	5.0	U	5.0	U	5.0	U	5.0	U	75	U
4-Nitroaniline	10	U	10	U	10	U	10	U	150	U
4,6-Dinitro-2-methylphenol	10	U	10	U	10	U	10	U	150	U
N-Nitrosodiphenylamine	5.0	U	5.0	U	5.0	U	5.0	U	75	U
1,2,4,5-Tetrachlorobenzene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
4-Bromophenyl-phenylether	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Hexachlorobenzene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Atrazine	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Pentachlorophenol	10	U	10	U	10	U	10	U	150	U
Phenanthrene	5.0	U	5.0	U	5.0	U	9.5		6.1	J
Anthracene	5.0	U	5.0	U	5.0	U	1.2	J	75	U
Carbazole	5.0	U	5.0	U	5.0	U	52		32	J
Di-n-butylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Pyrene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Butylbenzylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	75	U
3,3'-Dichlorobenzidine	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Benzo(a)anthracene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Chrysene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Bis(2-ethylhexyl)phthalate	5.0	U	5.0	U	1.8	J	5.0	U	75	U
Di-n-octylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Benzo(b)fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Benzo(k)fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Benzo(a)pyrene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Indeno(1,2,3-cd)pyrene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Dibenzo(a,h)anthracene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
Benzo(g,h,i)perylene	5.0	U	5.0	U	5.0	U	5.0	U	75	U
2,3,4,6-Tetrachlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	75	U

Analytical Results (Qualified Data)

Case #: 37424      SDG : E0001  
 Site :              FLORIDA GAS  
 Lab. :              A4  
 Reviewer :  
 Date :

Sample Number :	E0004MS	E0004MSD	E0005	E0006	E0009					
Sampling Location :	MW-55-043008	MW-55-043008	MW-56-043008	MW-57-043008	MW-54-043008					
Matrix :	Water	Water	Water	Water	Water					
Units :	ug/L	ug/L	ug/L	ug/L	ug/L					
Date Sampled :			4/30/2008	4/30/2008	4/30/2008					
Time Sampled :										
%Moisture :	0	0	N/A	N/A	N/A					
pH :	7.8	7.8	6.5	6.2	7.5					
Dilution Factor :	1.0	1.0	1.0	1.0	1.0					
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Phenol	52		50		45		5.0	U	7.6	
Bis(2-Chloroethyl)ether	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Chlorophenol	41		41		5.0	U	5.0	U	5.0	U
2-Methylphenol	6.7		7.1		24		5.0	U	1.9	J
2,2'-Oxybis(1-chloropropane	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Acetophenone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Methylphenol	1.0	J	1.2	J	42		5.0	U	2.8	J
N-Nitroso-di-n-propylamine	29		28		5.0	U	5.0	U	5.0	U
Hexachloroethane	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Nitrobenzene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Isophorone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Nitrophenol	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4-Dimethylphenol	11		11		5.0	U	5.0	U	3.1	J
Bis(2-chloroethoxy)methane	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4-Dichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Naphthalene	1100	J	1100	J	5.6		1.1	J	1.7	J
4-Chloroaniline	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachlorobutadiene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Caprolactam	5.0	U	5.0	U	5.0	U	3.3	J	3.4	J
4-Chloro-3-methylphenol	54		52		5.0	U	5.0	U	5.0	U
2-Methylnaphthalene	210	J	210	J	1.2	J	5.0	U	4.2	J
Hexachlorocyclopentadiene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4,6-Trichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4,5-Trichlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,1'-Biphenyl	16		15		5.0	U	5.0	U	5.0	U
2-Chloronaphthalene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Nitroaniline	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,6-Dinitrotoluene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Acenaphthylene	100	J	96	J	5.0	U	5.0	U	7.7	
3-Nitroaniline	10	U	10	U	10	U	10	U	10	U
Acenaphthene	35		33		5.0	U	5.0	U	3.4	J

Analytical Results (Qualified Data)

Case #: 37424 SDG : E0001  
 Site : FLORIDA GAS  
 Lab. : A4  
 Reviewer :  
 Date :

Sample Number :	E0004MS	E0004MSD	E0005	E0006	E0009					
Sampling Location :	MW-55-043008	MW-55-043008	MW-56-043008	MW-57-043008	MW-54-043008					
Matrix :	Water	Water	Water	Water	Water					
Units :	ug/L	ug/L	ug/L	ug/L	ug/L					
Date Sampled :			4/30/2008	4/30/2008	4/30/2008					
Time Sampled :										
%Moisture :	0	0	N/A	N/A	N/A					
pH :	7.8	7.8	6.5	6.2	7.5					
Dilution Factor :	1.0	1.0	1.0	1.0	1.0					
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	10	U	10	U	10	U	10	U	10	U
4-Nitrophenol	57		58		10	U	10	U	10	U
Dibenzofuran	18		18		5.0	U	5.0	U	5.0	U
2,4-Dinitrotoluene	28		27		5.0	U	5.0	U	5.0	U
Diethylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Fluorene	24		23		5.0	U	5.0	U	1.2	J
4-Chlorophenyl-phenylether	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Nitroaniline	10	U	10	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,2,4,5-Tetrachlorobenzene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Bromophenyl-phenylether	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachlorobenzene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Atrazine	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Pentachlorophenol	56		53		10	U	10	U	10	U
Phenanthrene	10		10		5.0	U	5.0	U	5.0	U
Anthracene	1.3	J	1.2	J	5.0	U	5.0	U	5.0	U
Carbazole	53		53		5.0	U	5.0	U	3.5	J
Di-n-butylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Pyrene	20		19		5.0	U	5.0	U	5.0	U
Butylbenzylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
3,3'-Dichlorobenzidine	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(a)anthracene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Chrysene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Bis(2-ethylhexyl)phthalate	5.0	U	5.0	U	1.3	J	5.0	U	1.2	J
Di-n-octylphthalate	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(b)fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(k)fluoranthene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(a)pyrene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Indeno(1,2,3-cd)pyrene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibenzo(a,h)anthracene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(g,h,i)perylene	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,3,4,6-Tetrachlorophenol	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U

Analytical Results (Qualified Data)

Case #: 37424 SDG : E0001  
 Site : FLORIDA GAS  
 Lab. : A4  
 Reviewer :  
 Date :

Sample Number :	SBLK5D									
Sampling Location :										
Matrix :	Water									
Units :	ug/L									
Date Sampled :										
Time Sampled :										
%Moisture :	0									
pH :										
Dilution Factor :	1.0									
Semivolatile Compound	Result	Flag								
Benzaldehyde	5.0	U								
Phenol	5.0	U								
Bis(2-Chloroethyl)ether	5.0	U								
2-Chlorophenol	5.0	U								
2-Methylphenol	5.0	U								
2,2'-Oxybis(1-chloropropane	5.0	U								
Acetophenone	5.0	U								
4-Methylphenol	5.0	U								
N-Nitroso-di-n-propylamine	5.0	U								
Hexachloroethane	5.0	U								
Nitrobenzene	5.0	U								
Isophorone	5.0	U								
2-Nitrophenol	5.0	U								
2,4-Dimethylphenol	5.0	U								
Bis(2-chloroethoxy)methane	5.0	U								
2,4-Dichlorophenol	5.0	U								
Naphthalene	5.0	U								
4-Chloroaniline	5.0	U								
Hexachlorobutadiene	5.0	U								
Caprolactam	5.0	U								
4-Chloro-3-methylphenol	5.0	U								
2-Methylnaphthalene	5.0	U								
Hexachlorocyclopentadiene	5.0	U								
2,4,6-Trichlorophenol	5.0	U								
2,4,5-Trichlorophenol	5.0	U								
1,1'-Biphenyl	5.0	U								
2-Chloronaphthalene	5.0	U								
2-Nitroaniline	10	U								
Dimethylphthalate	5.0	U								
2,6-Dinitrotoluene	5.0	U								
Acenaphthylene	5.0	U								
3-Nitroaniline	10	U								
Acenaphthene	5.0	U								

Analytical Results (Qualified Data)

Case #: 37424 SDG : E0001  
 Site : FLORIDA GAS  
 Lab. : A4  
 Reviewer :  
 Date :

Sample Number :	SBLK5D									
Sampling Location :										
Matrix :	Water									
Units :	ug/L									
Date Sampled :										
Time Sampled :										
%Moisture :	0									
pH :										
Dilution Factor :	1.0									
Semivolatile Compound	Result	Flag								
2,4-Dinitrophenol	10	U								
4-Nitrophenol	10	U								
Dibenzofuran	5.0	U								
2,4-Dinitrotoluene	5.0	U								
Diethylphthalate	5.0	U								
Fluorene	5.0	U								
4-Chlorophenyl-phenylether	5.0	U								
4-Nitroaniline	10	U								
4,6-Dinitro-2-methylphenol	10	U								
N-Nitrosodiphenylamine	5.0	U								
1,2,4,5-Tetrachlorobenzene	5.0	U								
4-Bromophenyl-phenylether	5.0	U								
Hexachlorobenzene	5.0	U								
Atrazine	5.0	U								
Pentachlorophenol	10	U								
Phenanthrene	5.0	U								
Anthracene	5.0	U								
Carbazole	5.0	U								
Di-n-butylphthalate	5.0	U								
Fluoranthene	5.0	U								
Pyrene	5.0	U								
Butylbenzylphthalate	5.0	U								
3,3'-Dichlorobenzidine	5.0	U								
Benzo(a)anthracene	5.0	U								
Chrysene	5.0	U								
Bis(2-ethylhexyl)phthalate	5.0	U								
Di-n-octylphthalate	5.0	U								
Benzo(b)fluoranthene	5.0	U								
Benzo(k)fluoranthene	5.0	U								
Benzo(a)pyrene	5.0	U								
Indeno(1,2,3-cd)pyrene	5.0	U								
Dibenzo(a,h)anthracene	5.0	U								
Benzo(g,h,l)perylene	5.0	U								
2,3,4,6-Tetrachlorophenol	5.0	U								

Analytical Results (Qualified Data)

Case #: 37424

SDG : ME0001

Site :

FLORIDA GAS

Number of Soil Samples : 0

Lab. :

A4 Scientific

Number of Water Samples : 7

Reviewer :

James Abston

Date :

6/3/2008

Sample Number :	ME0001	ME0002	ME0003	ME0004	ME0005					
Sampling Location :	MW-52-043008	MW-52-043008-D	MW-53-043008	MW-55-043008	MW-56-043008					
Matrix :	Water	Water	Water	Water	Water					
Units :	ug/L	ug/L	ug/L	ug/L	ug/L					
Date Sampled :	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008					
Time Sampled :										
%Solids :	0.0	0.0	0.0	0.0	0.0					
Dilution Factor :	1.0	1.0	1.0	1.0	2.5					
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM										
ANTIMONY	2.0	U	2.0	U	2.0	U	1.2	UJ	2.0	U
ARSENIC	1.0	U	1.0	U	8.3		0.85	J	1.8	
BARIUM	109		105		126		5.0	J	95.2	
BERYLLIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CADMIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CALCIUM										
CHROMIUM	2.0	U	2.0	U	2.0	U	0.81	J	1.4	J
COBALT	1.6		1.6		0.84	J	0.30	J	6.5	
COPPER	21.1		19.5		1.4	J	7.4		15.9	
IRON										
LEAD	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	0.58	J
MANGANESE	266		274		1250		35.8	J+	10300	
MERCURY	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
NICKEL	3.9	J-	4.1	J-	0.31	J-	0.75	J-	3.1	J-
POTASSIUM										
SELENIUM	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
SILVER	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
SODIUM										
THALLIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
VANADIUM	5.0	U	5.0	U	5.0	U	2.8		8.6	
ZINC	125		122		4.4		9.0		5.9	
CYANIDE	46.8		44.1		396		10.0	U	43.7	

Analytical Results (Qualified Data)

Case #: 37424 SDG : ME0001  
 Site : FLORIDA GAS  
 Lab. : A4 Scientific  
 Reviewer : James Abston  
 Date : 6/3/2008

ANALYTE	Result	Flag								
ALUMINUM										
ANTIMONY	2.0	U	2.0	U						
ARSENIC	0.42		0.56	J						
BARIUM	28.2		19.5							
BERYLLIUM	1.0	U	1.0	U						
CADMIUM	1.0	U	1.0	U						
CALCIUM										
CHROMIUM	0.75	J	2.0	U						
COBALT	1.2		1.0	U						
COPPER	11.2		11.3							
IRON										
LEAD	1.0	UJ	1.0	UJ						
MANGANESE	139		74.2	J+						
MERCURY	0.20	U	0.20	U						
NICKEL	0.36	J-	1.0	UJ						
POTASSIUM										
SELENIUM	5.0	U	5.0	U						
SILVER	1.0	U	1.0	U						
SODIUM										
THALLIUM	1.0	U	1.0	U						
VANADIUM	5.0	U	5.0	U						
ZINC	21.1		6.3							
CYANIDE	10.0	U	10.0	U						