

June 14, 2010

Mr. David Phillips  
Florida Department of Environmental Protection  
Site Investigation Section  
2600 Blair Stone Road, MS 4515  
Tallahassee, FL 32399

Subject: **Summary Report**  
**Coomes Oil and Supply Co.**  
**FDEP Site No. 625**  
**8 Hartshorn Street**  
**St. Augustine, St. Johns County, FL 32084**  
**Task Assignment # 31B**

Dear Mr. Phillips,

This letter presents a Summary Report (SR) for the Coomes Oil and Supply facility. The fieldwork and reporting for this assessment were documented in a Scope of Services proposal which was submitted to the Florida Department of Environmental Protection (FDEP) on January 13, 2010. That proposal was prepared following a meeting and on-site inspection (conducted on December 17, 2009) with FDEP – Northeast District personnel, and subsequent discussions with the FDEP in Tallahassee, FL. This meeting discussed current activities observed at the site, potential sources of soil and/or groundwater contaminants, and selection of proposed soil and groundwater sampling locations. The FDEP, upon reviewing the proposal, authorized the SR in a task assignment (TA #31B) issued on February 2, 2010. This TA was funded for the Site Investigation Section under the FDEP Contract GW207 with AECOM.

## **Site Description and Location**

The Coomes Oil facility is an active distributor of petroleum products (gasoline, diesel fuel, kerosene, etc) to commercial customers in northeastern Florida. The facility is located at 8 Hartshorn Street in St. Augustine, Florida. The facility also currently receives and transports used oil and used oil filters from its customers and from the public within the local area. The site currently houses five 20,000-gallon aboveground storage tanks (ASTs), two 250-gallon ASTs, and a fleet of tanker trucks. Gasoline and diesel fuel are stored in the larger ASTs and virgin oil and hydraulic fluid are stored in the smaller ASTs. Several areas of concern identified during the December 17 site inspection, were the AST groups and their secondary containments, areas of surficial staining, piles of soil observed onsite, and areas previously used for staging of 55-gallon drums. Refer to the January 2010 Scope of Services proposal for details of the December 17 site inspection findings. A site map, showing the site and improvements, is attached as **Figure 1**.

## Soil and Groundwater Assessment Activities

The approved work scope under TA31B included: performance of an onsite underground utility locate, general logging of subsurface lithology to the water table, soil vapor screening and soil laboratory sampling at five soil borings, sampling of groundwater at five direct-push (DP) locations, and the preparation of a summary report.

Before beginning intrusive work onsite, a request was submitted to the Florida Sunshine 1-Call Center during the week of March 21, 2010 to locate and mark known underground utilities at the site. In addition, AECOM retained the services of a private underground utility locate contractor to locate and clear known underground utilities at the three proposed drilling locations onsite.

### Soil Screening and Sampling

Five soil borings (SB-1, SB-2, SB-3, SB-4, and SB-5) were advanced, using a hand posthole digger and a stainless-steel hand auger, on March 31, 2010. Soil borings SB-1 and SB-5 were located in the vicinity of the secondary containments for the 20,000-gallon ASTs on the northern end of the site. The location of SB-2 was in the vicinity of the 250-gallon oil AST secondary containment in the southeastern portion of the facility. Soil boring SB-3 was advanced in an area previously used for staging of drums or petroleum-contaminated soil stockpiles. Soil boring SB-4 was located at the southeastern corner of a concrete pad underlying the truck unloading rack. The truck unloading rack is along the east side of the property. The general lithology observed in all five borings was fine to medium-grained sand from grade to 4.5 feet below grade (BG). The approximate depth-to-water in each boring ranged from 3.5 to 4.5 feet BG.

Soil vapor samples were collected at 1-foot intervals in each boring to within a foot above the water table. Soil samples were placed into two 16-ounce glass jars which were half filled with soil and allowed to sit for 5 minutes. The head space analysis was performed with a Foxboro Model 128 organic vapor analyzer (OVA) equipped with a flame ionization detector (FID). The OVA calibration was verified using methane gas at 100 parts per million (ppm). Soil samples were also screened for the presence of naturally occurring methane gas with an activated carbon filter. The carbon filter absorbs petroleum hydrocarbon vapors, allowing the OVA-FID to read methane only. The readings obtained with the carbon filter were subtracted from those obtained without a filter. The corrected net OVA-FID readings were compared to the "Guidelines for Assessment and Source Removal of Petroleum Contaminated Soil" (published by the FDEP in May 1998) and Florida Administrative Code (FAC) Chapter 62-770.200(12) guidelines. The vapor readings were used to determine if potential petroleum impacts existed in the soil at the site. The maximum net FID reading observed was greater than 580 ppm, collected at the 4-foot depth in SB-1. Numerical net readings were not able to be determined for the 3 to 4 foot depths in SB-5 due to the raw and filtered responses on the OVA reading off-scale. **Table 1** lists the FID readings for SB-1 through SB-5.

One soil sample was collected from each boring. Samples for SB-2 through SB-4 were collected from within 1 foot above the water table (due to no "appreciable" FID responses being detected in the intervals from 0 to 4.5 feet BG). Samples for SB-1 and SB-5 were collected from the interval showing the greatest FID response or shallowest "off-scale" net reading. All lab samples were collected for analysis of volatile organic compounds (VOCs) by Method 8260, polynuclear aromatic hydrocarbons (PAHs) by Method 8270, total recoverable petroleum hydrocarbons (TRPH) by the FLPRO method, and for total arsenic, cadmium, chromium, and lead by Method 6020. Each lab sample was collected using Encore disposable samplers and wide-mouth glass jars. The Encore samplers and glass jars were placed into sealed pouches, labeled, listed with a chain-of-custody form, and packed into an iced cooler for shipment to the FDEP's Central Lab in Tallahassee. The

soil screening and lab samples were collected in accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOP-001/01) Field Sampling for Soil (FS 3000).

The soil analytical results indicated that benzene and TRPH concentrations in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil industrial direct-exposure cleanup target level (SCTL). The concentrations of benzene, toluene, ethylbenzene, o-xylene, and m&p-xylene in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil leachability (but not the residential) direct-exposure SCTL. The naphthalene, and 1-, and 2-methylnaphthalene concentrations in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil residential (but not the industrial) direct-exposure SCTL. Concentrations of all other tested soil analytes were reported below their respective laboratory method detection limits (MDLs). The soil analytical data are summarized in **Table 2** and are shown on **Figure 2**.

### Groundwater Sampling

Upon completion of the soil borings, a Florida-licensed environmental driller used a DP rig to advance five groundwater sampling points (DP-1, DP-2, DP-3, DP-4, and DP-5) on March 31, 2010. Each DP point was advanced to 11 or 12 feet BG and the drill rods retracted to expose a sampling interval screened from 7-11 or 8-12 feet below grade.

A virgin piece of polyethylene tubing was placed within each drill string and connected to a battery-driven peristaltic pump. A flow-through cell and groundwater quality meter, connected to the peristaltic pump, was used to measure geochemistry parameters (temperature, pH, specific conductance, dissolved oxygen, and redox potential). Turbidity measurements were read from a separate meter. Groundwater was purged from each well until the geochemistry readings "stabilized". Groundwater samples were collected using quiescent sample techniques. Groundwater sampling was conducted in accordance with the sampling protocols outlined in the applicable portions of DEP-SOP-001/01 FS 2200 (groundwater sampling).

Samples for VOCs were collected by removing the influent tubing from the well, reversing the pump flow, and allowing the sample fluid to drain by gravity from the influent tubing into the sample containers. Samples for total arsenic, cadmium, chromium, and lead, PAHs and TRPH were collected directly from the outflow end of the pump effluent line. The groundwater samples were labeled, listed with a chain-of-custody form, and packed into an iced cooler for shipment to the FDEP's Central Lab in Tallahassee. Upon completion of collection of the groundwater samples, the temporary wells were removed and the boreholes backfilled and sealed.

The groundwater analytical results indicated that the benzene concentration in SB-5 exceeded the Chapter 62-777 FAC groundwater natural attenuation default concentration (NADC). The concentrations of all other tested groundwater analytes were reported below their respective laboratory method detection limits (MDLs). The groundwater analytical data are summarized in **Table 3** and are shown on **Figure 3**.

A review of the soil and groundwater lab report sample integrity information indicated that no sample containers were breached and that samples were analyzed within the holding times. A review of the analytical report quality control data indicated that the majority of lab control (LC) and matrix spike (MS) samples were analyzed without "batch failures". The volume of LC and MS sample used and the percentage recovery of these samples showed generally close correlation. The lab MDLs for tetrachloroethylene, trichloroethylene, and vinyl chloride are greater than the leachability SCTLs, but less than the residential direct-exposure SCTLs.

## Conclusion


AECOM conducted limited soil and groundwater assessment at the Coomes Oil and Supply site on March 31, 2010. Five soil borings and five DP points were sampled for volatile organic and polynuclear aromatic compounds, four metals, and total recoverable petroleum hydrocarbons.

The soil analytical results indicated that benzene and TRPH concentrations in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil industrial direct-exposure cleanup target level (SCTL). The concentrations of benzene, toluene, ethylbenzene, o-xylene, and m&p-xylene in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil leachability (but not the residential) direct-exposure SCTL. The naphthalene, and 1-, and 2-methylnaphthalene concentrations in SB-1 and SB-5 exceeded the Chapter 62-777 FAC soil residential (but not the industrial) direct-exposure SCTL. Concentrations of all other tested soil analytes were reported below their respective laboratory method detection limits (MDLs).

The groundwater analytical results indicated that the benzene concentration in SB-5 exceeded the Chapter 62-777 FAC groundwater natural attenuation default concentration (NADC). The concentrations of all other tested groundwater analytes in DP-1 through DP-5 were reported below their respective laboratory method detection limits (MDLs).

Please feel free to contact me if you have questions or request further information.

Yours sincerely,



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## LIMITED SITE ASSESSMENT REPORT

Coomes Oil and Supply Co.  
FDEP Site No. 625  
8 Hartshorn Street  
St. Augustine, St. Johns County, FL 32084  
Task Assignment # 31B

### Certification

I, Matthew Holbrook, P.G. #2165, certify that I hold an active license in the State of Florida and am competent through education or experience to provide the geological services contained in this report. I further certify that in my professional judgment this report meets the requirements of Chapter 62-780 / 62-770 FAC and was prepared by me or under my responsible charge. Moreover, I certify that AECOM, holds an active license #GB602 authorizing the firm to provide geological consulting services.



Matthew Holbrook, PG  
License #2165 Date: 8/14/10









Location	SB-1
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth	4 ft
Volatile Organic Compoiunds	
Vinyl Chloride	140 U*
trans-1,2-Dichloroethene	140 U J
cis-1,2-Dichloroethene	140 U
Trichloroethene (TCE)	55 U*
Tetrachloroethene (PCE)	140 U*
Benzene	2,800
Toluene	10,000
Ethylbenzene	3,900
m,p-Xylene	8,800
o-Xylene	2,900
Methyl-tert-butylether	140 U
Other VOCs	<MDL
Polynuclear Aromatic Hydrocarbons	
Naphthalene	17,000
1-methylnaphthalene	31,000
2-methylnaphthalene	50,000
Total Recoverable Petroleum Hydrocarbons	
TRPH	12,000
Four Metals	
Arsenic	0.14 I
Cadmium	0.049 U
Chromium	1.15
Lead	3.3

Location	SB-4
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth	3 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Hydrocarbons	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	170
Four Metals	
Arsenic	0.21 I
Cadmium	0.048 U
Chromium	2.14
Lead	3.4

Location	SB-2
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth	3 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Hydrocarbons	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	12 U
Four Metals	
Arsenic	0.58
Cadmium	0.049 U
Chromium	2.62
Lead	3.4

All VOC and PAH concentrations reported in micrograms per kilogram (ug/Kg).  
TRPH and metals concentrations reported in milligrams per kilogram (mg/Kg).  
U - Indicates analyte not detected at specified laboratory method detection limit  
J - Indicates estimated value  
I - Indicates reported value is between laboratory method detection limit and the laboratory practical quantitation limit  
A - Value reported is the mean of two or more determinations  
\* - Lab MDL is greater than the leachability SCTL, but less than the residential direct-exposure SCTL.

<b>Bold</b>	Contaminant detected at specified concentration
<b>XXX</b>	Result is greater than the leachability or residential SCTL
<b>XXX</b>	Result is greater than the industrial SCTL

Location	SB-5
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth	3 ft
Volatile Organic Compoiunds	
Vinyl Chloride	120 U*
trans-1,2-Dichloroethene	120 U J
cis-1,2-Dichloroethene	120 U
Trichloroethene (TCE)	48 U*
Tetrachloroethene (PCE)	120 U*
Benzene	16,000
Toluene	71,000
Ethylbenzene	27,000
m,p-Xylene	38,000
o-Xylene	13,000
Methyl-tert-butylether	120 U
Other VOCs	<MDL
Polynuclear Aromatic Hydrocarbons	
Naphthalene	80,000
1-methylnaphthalene	69,000
2-methylnaphthalene	120,000
Other PAHs	See Note 2
Total Recoverable Petroleum Hydrocarbons	
TRPH	29,000
Four Metals	
Arsenic	0.27 I
Cadmium	0.18 I J
Chromium	2.35 A
Lead	26.8 A



Location	SB-3
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth	1 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Hydrocarbons	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	13 U
Four Metals	
Arsenic	0.82
Cadmium	0.049 U
Chromium	3.22
Lead	7.1





Well ID	DP-1
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth (Feet)	8-12 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Aromatic Compoiunds	
Naphthalene	0.055 I
1-methylnaphthalene	0.059 I
2-methylnaphthalene	0.1 I
Other PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	0.27 U
Four Metals	
Arsenic	0.51 I
Cadmium	0.030 U
Chromium	5.7
Lead	0.9

Well ID	DP-4
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth (Feet)	7-11 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Aromatic Compoiunds	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	0.27 U
Four Metals	
Arsenic	1.79
Cadmium	0.050 U
Chromium	7.7
Lead	1.16

Well ID	DP-2
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth (Feet)	7-11 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Aromatic Compoiunds	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	0.26 U
Four Metals	
Arsenic	0.52 I
Cadmium	0.030 U
Chromium	4.2
Lead	0.86

Well ID	DP-5
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth (Feet)	8-12 ft
Volatile Organic Compoiunds	
Benzene	213
Toluene	3.7
Ethylbenzene	5.5
m,p-Xylene	3.3
o-Xylene	0.66 I
Methyl-tert-butylether	0.50 U
Other VOCs	<MDL
Polynuclear Aromatic Aromatic Compoiunds	
Naphthalene	110
1-methylnaphthalene	76
2-methylnaphthalene	100
Other PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	1.3
Four Metals	
Arsenic	0.56 I
Cadmium	0.030 U
Chromium	1.2 I
Lead	0.79 I



Well ID	DP-3
Laboratory	FDEP-Central
Sample Date	31-Mar-10
Sample Depth (Feet)	8-12 ft
Volatile Organic Compoiunds	
All VOCs	<MDL
Polynuclear Aromatic Aromatic Compoiunds	
All PAHs	<MDL
Total Recoverable Petroleum Hydrocarbons	
TRPH	0.27 U
Four Metals	
Arsenic	0.76 I
Cadmium	0.030 U
Chromium	2.5
Lead	0.54 I

All VOC, PAH, and metals concentrations reported in micrograms per liter (ug/l).  
TRPH concentrations reported in milligrams per liter (mg/l).  
U - Indicates analyte not detected at specified laboratory method detection limit.  
I - Indicates reported value is between laboratory method detection limit and the laboratory practical quantitation limit

<b>Bold</b>	Contaminant detected at specified concentration
<b>XXX</b>	Result is greater than the GCTL
<b>XXX</b>	Result is greater than the groundwater NADC



**TABLE 1**  
**SOIL SCREENING DATA - COOMES Oil AND SUPPLY**

Boring #	Sample Depth (ft)	Unfiltered Reading	Filtered Reading	Net Reading
SB-1	1	220	20	200
	2	>1000	460	>540
	3	>1000	670	>330
	4	>1000	420	>580
SB-2	1	<2	NA	<2
	2	<2	NA	<2
	3	<2	NA	<2
SB-3	1	<2	NA	<2
	2	<2	NA	<2
	3	<2	NA	<2
	3.25	<2	NA	<2
SB-4	1	<2	NA	<2
	2	<2	NA	<2
	3	<2	NA	<2
SB-5	1	<2	NA	<2
	2	<2	NA	<2
	3	>1000	>1000	IND
	3.5	>1000	>1000	IND
	4	>1000	>1000	IND

Notes: All FID readings expressed in parts per million (ppm)

NA - Not Analyzed

Samples analyzed with a flame ionization detector calibrated according to FAC Ch 62-770.200(12) guidelines.

Sampling Date: March 31, 2010 SB-1 through SB-5

IND - net reading not able to be determined

**TABLE 2**  
**Soil Analytical Results**

**Coomes Oil and Supply Co.**  
**8 Hartshorn Street**  
**St. Augustine, FL**

Location	SB-1	SB-2	SB-3	SB-4	SB-5
Laboratory	FDEP-Central	FDEP-Central	FDEP-Central	FDEP-Central	FDEP-Central
Sample Date	31-Mar-10	31-Mar-10	31-Mar-10	31-Mar-10	31-Mar-10
Sample Depth	4 ft	3 ft	1 ft	3 ft	3 ft
<b>Volatile Organic Compounds by EPA Method 8260C</b>					
Vinyl Chloride	140 U*	13 U	14 U	13 U	120 U*
trans-1,2-Dichloroethene	140 U J	13 U J	14 U J	13 U J	120 U J
cis-1,2-Dichloroethene	140 U	13 U	14 U	13 U	120 U
Trichloroethene (TCE)	55 U*	7.4 U	7.4 U	7.4 U	48 U*
Tetrachloroethene (PCE)	140 U*	13 U	14 U	13 U	120 U*
Benzene	2,800	5.2 U	5.6 U	5.3 U	16,000
Toluene	10,000	13 U	14 U	13 U	71,000
Ethylbenzene	3,900	13 U	14 U	13 U	27,000
m,p-Xylene	8,800	13 U	14 U	13 U	38,000
o-Xylene	2,900	5.2 U	5.6 U	5.3 U	13,000
Methyl-tert-butylether	140 U	13 U	14 U	13 U	120 U
Other VOCs	<MDL	<MDL	<MDL	<MDL	<MDL
<b>Polynuclear Aromatic Compounds by EPA Method 8270D</b>					
Naphthalene	17,000	7.8 U	8.4 U	7.9 U	80,000
1-methylnaphthalene	31,000	7.8 U	8.4 U	7.9 U	69,000
2-methylnaphthalene	50,000	7.8 U	8.4 U	7.9 U	120,000
Other PAHs	See Note 1	<MDL	<MDL	<MDL	See Note 2
<b>Total Recoverable Petroleum Hydrocarbons by FLPRO Method</b>					
TRPH	12,000	12 U	13 U	170	29,000
<b>Four Metals by EPA Method 6020A</b>					
Arsenic	0.14 I	0.58	0.82	0.21 I	0.27 I
Cadmium	0.049 U	0.049 U	0.049 U	0.048 U	0.18 I J
Chromium	1.15	2.62	3.22	2.14	2.35 A
Lead	3.3	3.4	7.1	3.4	26.8 A

Compound	FDEP SCTL		
	Residential	Commercial	Leachability
Vinyl Chloride	200	800	7
trans-1,2-Dichloroethene	53000	290000	700
cis-1,2-Dichloroethene	33000	180000	400
Trichloroethene (TCE)	6400	9300	30
Tetrachloroethene	8,800	18,000	30
Benzene	1,200	1,700	7
Toluene	7,500,000	60,000,000	500
Ethylbenzene	1,500,000	9,200,000	600
m,p-Xylene	130,000	700,000	200
o-Xylene	130,000	700,000	200
Methyl-tert-butylether	4,400,000	24,000,000	90
Naphthalene	55,000	300,000	1200
1-methylnaphthalene	200,000	1,800,000	3100
2-methylnaphthalene	210,000	2,100,000	8500
TRPH	460	2,700	340
Arsenic	2,100	12,000	***
Cadmium	82,000	1,700,000	7500
Chromium	210,000	470,000	38000
Lead	400	2,700	***

VOCs - Volatile Organic Compounds  
PAHs - Polynuclear Aromatic Hydrocarbons  
TRPH - Total Recoverable Petroleum Hydrocarbons  
<MDL - less than lab method detection limits  
GCTL - Groundwater cleanup target level  
U - Indicates analyte not detected at specified laboratory method detection limit  
J - Indicates estimated value  
I - Indicates reported value is between laboratory method detection limit and the laboratory practical quantitation  
A - Value reported is the mean of two or more determinations  
\* - Lab MDL is greater than the leachability SCTL, but less than the residential direct-exposure SCTL.

**Notes:**

FDEP - Florida Department of Environmental Protection - Central Laboratory  
All VOC and PAH concentrations reported in micrograms per kilogram (ug/Kg).  
TRPH and metals concentrations reported in milligrams per kilogram (mg/Kg).

1 - 2,6-dimethylnaphthalene, 1-methylphenanthrene, and 2,3,5-trimethylnaphthalene were also detected in SB-1; however no regulatory guidelines are listed in Ch 62-777 FAC for these compounds. Fluorene, Phenanthrene, and Pyrene were also detected in SB-1 but concs are below the Ch 62-777 FAC SCTLs for these compounds  
2 - 2,6-dimethylnaphthalene, 1-methylphenanthrene, and 2,3,5-trimethylnaphthalene were also detected in SB-1; however no regulatory guidelines are listed in Ch 62-777 FAC for these compounds. Fluorene, Phenanthrene, and Pyrene were also detected in SB-1 but concs are below the Ch 62-777 FAC SCTLs for these compounds

\*\*\* Leachability values may be derived using the SPLP test to calculate site-specific SCTLs.

<b>Bold</b>	Contaminant detected at specified concentration
<b>XXX</b>	Result is greater than the soil leachability or residential cleanup target level (SCTL)
<b>XXX</b>	Result is greater than the soil industrial cleanup target level (SCTL)

**TABLE 3**  
**Monitoring Well Analytical Results**  
**(AECOM-Installed Temporary Monitoring Wells)**

Coomes Oil and Supply Co.  
8 Hartshorn Street  
St. Augustine, FL

Well ID	DP-1	DP-2	DP-3	DP-4	DP-5
Laboratory	FDEP-Central	FDEP-Central	FDEP-Central	FDEP-Central	FDEP-Central
Sample Date	31-Mar-10	31-Mar-10	31-Mar-10	31-Mar-10	31-Mar-10
Sample Depth (Feet)	8-12 ft	7-11 ft	8-12 ft	7-11 ft	8-12 ft
<b>Volatile Organic Compoiunds by EPA Method 8260C</b>					
Benzene	0.20 U	0.20 U	0.20 U	0.20 U	<b>213</b>
Toluene	0.50 U	0.50 U	0.50 U	0.50 U	<b>3.7</b>
Ethylbenzene	0.50 U	0.50 U	0.50 U	0.50 U	<b>5.5</b>
m,p-Xylene	0.50 U	0.50 U	0.50 U	0.50 U	<b>3.3</b>
o-Xylene	0.20 U	0.20 U	0.20 U	0.20 U	<b>0.66 I</b>
Methyl-tert-butylether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Other VOCs	<MDL	<MDL	<MDL	<MDL	<MDL
<b>Polynuclear Aromatic Aromatic Compoiunds by EPA Method 8270D</b>					
Naphthalene	<b>0.055 I</b>	0.047 U	0.047 U	0.047 U	<b>110</b>
1-methylnaphthalene	<b>0.059 I</b>	0.047 U	0.047 U	0.047 U	<b>76</b>
2-methylnaphthalene	<b>0.1 I</b>	0.047 U	0.047 U	0.047 U	<b>100</b>
Other PAHs	See Note 1	<MDL	<MDL	<MDL	See Note 2
<b>Total Recoverable Petroleum Hydrocarbons by FLPRO Method</b>					
TRPH	0.27 U	0.26 U	0.27 U	0.27 U	<b>1.3</b>
<b>Four Metals by EPA Method 6020A</b>					
Arsenic	<b>0.51 I</b>	<b>0.52 I</b>	<b>0.76 I</b>	<b>1.79</b>	<b>0.56 I</b>
Cadmium	0.030 U	0.030 U	0.030 U	0.050 U	0.030 U
Chromium	<b>5.7</b>	<b>4.2</b>	<b>2.5</b>	<b>7.7</b>	<b>1.2 I</b>
Lead	<b>0.9</b>	<b>0.86</b>	<b>0.54 I</b>	<b>1.16</b>	<b>0.79 I</b>

Compound	GCTL	NADC
Benzene	1	100
Toluene	40	400
Ethylbenzene	30	300
m,p-Xylene	20	200
o-Xylene	20	200
Methyltert-butylether	20	200
Naphthalene	14,000	140,000
1-methylnaphthalene	28,000	280,000
2-methylnaphthalene	28,000	280,000
TRPH	5	50
Arsenic	10	100
Cadmium	2,000	20,000
Chromium	100	1,000
Lead	15	150

VOCs - Volatile Organic Compounds  
PAHs - Polynuclear Aromatic Hydrocarbons  
TRPH - Total Recoverable Petroleum Hydrocarbons  
<MDL - less than lab method detection limits  
GCTL - Groundwater cleanup target level  
NADC - Natural Attenuation Default Concentration  
U - Indicates analyte not detected at specified laboratory method detection limit.  
J - Indicates estimated value  
I - Indicates reported value is between laboratory method detection limit and the laboratory practical quantitation

**Notes**

FDEP - Florida Department of Environmental Protection - Central Laboratory

All VOC, PAH, and metals concentrations reported in micrograms per liter (ug/l).

TRPH concentrations reported in milligrams per liter (mg/l).

1 - 2,6-dimethylnaphthalene was also detected in DP-1; however no regulatory guideline is listed in Ch62-777 FAC for this compound

2 - 2,6-dimethylnaphthalene and 2,3,5-trimethylnaphthalene were also detected in DP-5; however no regulatory guidelines are listed in Ch 62-777 FAC for these compounds. Acenaphthene, Anthracene, Fluorene, and Phenanthrene were also detected in DP-5 but concs are below the GCTLs.

**Bold** Contaminant detected at specified concentration

**XXX** Result is greater than the groundwater cleanup target level (GCTL)

**XXX** Result is greater than the groundwater natural attenuation default concl (NADC)