

**UNDERGROUND STORAGE TANK
CLOSURE REPORT
TT-2084**

**TARAWA TERRACE
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

APRIL 23, 2009

CATLIN PROJECT NO. 209-022



PREPARED FOR:

**OSAGE OF VIRGINIA, INC.
2618A COLLEY AVENUE
NORFOLK, VIRGINIA 23517-1132
(757) 440-0400**

PREPARED BY:

**CATLIN ENGINEERS AND SCIENTISTS
P. O. BOX 10279
WILMINGTON, NORTH CAROLINA 28404-0279
(910) 452-5861**

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**UST-12
UNDERGROUND STORAGE TANK CLOSURE REPORT
SITE TT-2084
TARAWA TERRACE
MCB CAMP LEJEUNE, NORTH CAROLINA**

A. GENERAL INFORMATION

1. Facility Information

a. Facility Name:

Site TT-2084
Tarawa Terrace

b. Facility ID Number:

N/A

c. Facility address, telephone number, and county:

Commanding Officer
Director, Installations and Environment Department, Environmental
Management Division (EMD)
PSC Box 20004
Marine Corps Base (MCB) Camp Lejeune, North Carolina, 28542-0004
(910) 451-5068
Onslow County

2. Contacts

a. Name, address, telephone number, and job title of primary contact person:

Mr. Bruce Markwick
Installations & Environment Department, EMD
MCB Camp Lejeune, North Carolina 28542
(910) 451-5068

b. Name, address, and telephone number of closure contractor:

Osage of Virginia, Inc. (Osage)
2618A Colley Avenue
Norfolk, Virginia 23517-1132
(757) 440-0400

c. Name, address, and telephone number of primary consultant:

CATLIN Engineers and Scientists (CATLIN)
220 Old Dairy Road
Wilmington, NC 28405
(910) 452-5861

d. Name, address, telephone number, and State certification number of laboratory:

SGS Environmental Services (SGS)
5500 Business Drive
Wilmington, North Carolina 28405
(910) 350-1903
NC Laboratory Certification # 481

3. UST Information

Tank Number	Installation Date	Capacity (Gallons)	Tank Dimensions	Last Contents of Tank
TT-2084	Unknown	550	4 ft x 6 ft	#2 Heating Oil

4. Site Characteristics

a. Describe any past releases at the site:

No previous releases have been reported in conjunction with this tank.

b. Indicate if the facility is active or inactive. If inactive, note the last date that the USTs were in operation:

The UST was an inactive home heating oil tank previously used to store #2 Heating Oil for on-site use.

c. Describe the use of surrounding properties:

The site is located within the Tarawa Terrace Housing Area aboard the MCB Camp Lejeune. The site area, where existing housing sites have been demolished, will be used to re-build military housing units. As a result, land use should be categorized as Residential.

d. Describe site geology and hydrogeology:

The site lies within the Tidewater Region of the Coastal Plain Physiographic Province of North Carolina, where large streams and many of their tributaries are affected by ocean tides. The predominant soil type at the site is silty sand to sand of Quarternary surficial deposits. The depth to the underlain Tertiary Castle Hayne limestone/sand is unknown, but is estimated to be more than 30 feet. The depth to water is estimated to be approximately 12 feet below land surface (BLS).

e. If a release has occurred, describe the results of the receptor survey performed within 1,500 feet of the facility:

As illustrated on Figure 1, the nearest surface water body is an unnamed tributary of the New River, which is approximately 150 feet east of the site. Groundwater flow direction in the surficial aquifer is estimated to flow toward the south. There are no water supply wells within a 1,500 ft radius of the site,

and all buildings in the area are supplied by the MCB water supply system, specifically water from the Holcomb Boulevard Water Treatment Plant.

The nearest place of public assembly is unknown at this time as the entire area is being redeveloped with new residential housing units. Community playgrounds may be planned in the area where the new housing units are to be constructed.

B. CLOSURE PROCEDURES

1. Describe preparations for closure including steps taken to notify authorities, permits obtained, and steps taken to clean and purge the tanks:

According to Osage, the UST was pre-located and surveyed prior to removal to prevent damage or UST releases by subcontractors of Actus Lend Lease (Actus). On January 23, 2009 an access hole was cut into the top of the tank in order to remove liquid contents from tank. A vacuum truck, provided by the EMD, Resource Conservation and Recovery Section (RCRS), was used to remove approximately 500 gallons of contaminated water from the tank.

As documented by Osage, on February 6, 2009 the tank was removed and transported to RCRS Building 977 for cleaning and disposal preparation. Osage personnel noted there were signs of deterioration and corrosion on the bottom of the UST. The tank was transported to J&E Salvage for disposal on February 18, 2009. The Tank Disposal Manifest is included in Appendix C. Appendix A and B contain North Carolina Department of Environment and Natural Resources (NCDENR) Forms UST-2 and UST-61, respectively.

2. Note the amount of residual material pumped from the tank:

Osage reported that approximately 500 gallons of contaminated water was pumped from the tank.

3. Describe the storage, sampling and disposal of the residual material:

According to Osage, the 500 gallons of contaminated water pumped from the tank was containerized and properly disposed of by EMD, RCRS at Building 977.

4. Excavation

a. Describe excavation procedures noting the condition of the soil encountered and the dimensions of the excavation in relation to the tank, piping, and/or pumps:

Osage mobilized to the site to conduct a site survey and begin soil removal around the UST on February 5, 2009. Approximately 29.49 tons of contaminated soil was removed around the UST and transported to Camp Lejeune's soil drying bed, TP467, awaiting proper disposal.

On February 6, 2009 the UST was removed, product was noted beneath the tank. Excavation activities continued and a Photo Ionization Detector (PID)

was used to identify contamination limits prior to obtaining soil samples. PID readings ranged from 0 to 79 parts per million (ppm) along the sidewalls of the excavation, but over 200 ppm at the bottom of the excavation. Photographs taken during the excavation activities are included in Appendix F.

The excavation limits were approximately 24 feet (length) x 16 feet (width) x seven feet (depth). Four soil samples were collected at approximately three feet BLS along the sidewalls surrounding the tank (TT2084-S001 through TT2084-S004). One soil sample (TT2084-S005) was collected at six feet BLS, directly below the tank bottom. The soil samples were collected from the backhoe bucket. After obtaining the soil sample from the bottom of the tank basin, excavation continued to approximately eight feet BLS in an attempt to remove obvious soil contamination. Approximately 118.12 tons of contaminated soil was loaded onto trucks and transported to the P&F Land Farming Facility, Permit# SR0500106, Whitakers NC for disposal. The excavation area was fenced off to ensure security.

On February 11, 2009 Osage personnel returned to the site to collect a risk-based soil sample from the bottom of the tank basin since laboratory analysis indicated noncompliant Total Petroleum Hydrocarbons (TPH) concentrations at this location. The confirmation soil sample, TT2084-S006, was collected from a depth of eight feet BLS and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Again, the area was fenced off to ensure security pending results of the confirmation soil sample.

On February 24, 2009 Osage personnel returned to the site to conduct over excavation of the bottom of the tank basin. Laboratory analysis indicated contaminants at concentrations above the Soil-to-Groundwater (STGW) Maximum Soil Contaminant Concentrations (MSCCs) in the TT2084-S006 soil sample. The resultant excavation increased the depth of the excavation to nine feet BLS. An additional 16.53 tons of soil was excavated and transported to Camp Lejeune's soil drying bed, TP467, awaiting proper disposal. After the additional excavation a confirmation soil sample, TT2084-S007, was collected from a depth of nine feet BLS and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Again, the area was fenced off to ensure security pending results of the confirmation soil sample.

On March 6 and 9, 2009 Osage personnel returned to the site to conduct an additional over excavation of the bottom of the tank basin. Laboratory analysis revealed concentrations of 4-Isopropyltoluene in the TT2084-S007 soil sample. There are no established MSCCs for 4-Isopropyltoluene. The resultant excavation increased the depth of the excavation to 13 feet BLS. An additional 34.90 tons of soil was excavated and transported to the P&F Land Farming Facility, Permit# SR0500106, Whitakers NC for disposal. Confirmation soil samples were collected on March 6, 2009 and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Soil samples TT2084-S008 through TT2084-S011 were collected at each of the

sidewalls from a depth of 11.5 feet BLS. Again, the area was fenced off to ensure security pending results of the confirmation soil samples.

b. Note the depth from the land surface to the top of the tank:

Approximately 2 feet.

c. Note the volume of soil excavated:

A total of approximately 199.04 tons of soil was excavated from the tank basin – approximately 29.49 tons of contaminated soil was excavated on February 5, 2009, approximately 118.12 tons was excavated on February 6, 2009, approximately 16.53 tons was excavated on February 24, 2009 and 34.90 tons was excavated between March 6 and 9, 2009.

d. Describe the soil type(s) encountered:

Based on field observation of the tank excavation:

0.0 – 2.5' BLS – Dry light brown silty sand with dark silty sand

2.5 – 7.0' BLS – Slightly moist light brown silty clay with sand

7.0 – 9.5' BLS – Moist light brown to tan clayey sand

9.5 – 12.0' BLS – Moist tan to white fine sand

e. Describe the type and source of backfill used:

The excavation was backfilled on March 12, 2009. The excavation was filled with common fill sand from Morton Trucking in Jacksonville, NC.

f. Note if water, free product, or bedrock was encountered during the excavation process:

Groundwater was encountered at approximately 12.5 to 13 feet BLS. Therefore, EMD concluded a temporary monitoring well would need to be installed in the former tank basin. Minor amounts of free product were found upon removal of the tank, however subsequent excavations apparently removed all remaining free product. No bedrock was encountered during the excavation process.

5. Contaminated soil

During UST removal activities and over excavation, a total of approximately 199.04 tons of contaminated soil were excavated. Approximately 46.02 tons of contaminated soil from the excavations was transported to Camp Lejeune's soil drying bed, TP467, awaiting proper disposal via contract N40085-08-D-1401. The remaining 153.02 tons of soil removed during the excavations was transported to the P&F Land Facility, Permit# SR0500106, in Whitakers, NC for disposal. Soil Disposal Manifests are included in Appendix D.

C. SITE INVESTIGATION

1. Provide information of field screening and physical observations, including methods used to calibrate field screening instruments:

Soil discoloration and petroleum odor were observed within the UST excavation. PID field screening indicated moderate organic vapor readings in the sidewalls, as well as at the bottom. Readings ranged from 0 to over 200 ppm. The PID instrument was calibrated using the standard procedure as recommended by the manufacturer.

2. Document soil sampling information including the sample locations, sample type, procedure, and analyses used:

Soil sample locations are illustrated on Figure 2.

Confirmation soil samples (Sample IDs TT2084-S001 through S005) were collected from the tank basin on February 6, 2009 immediately following excavation of the basin. Soil samples TT2084-S001 through S004 were collected from the sidewalls at a depth of three feet. Soil sample TT2084-S005 was obtained from the bottom of the tank basin at approximately six feet BLS. The samples were placed into laboratory provided glassware, properly labeled, and transported directly to SGS under proper chain of custody. Samples were analyzed for TPH Gasoline and Diesel Range Organics (GRO/DRO) via EPA Method 8015.

On February 11, 2009 Osage personnel returned to the site to collect a risk-based soil sample from the bottom of the tank basin since laboratory analysis indicated noncompliant TPH concentrations at this location. The confirmation soil sample, TT2084-S006, was collected from a depth of eight feet BLS and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH.

On February 24, 2009 Osage personnel returned to the site to conduct over excavation of the bottom of the tank basin. Laboratory analysis indicated contaminants at concentrations above the STGW MSCCs in the TT2084-S006 soil sample. Additional soil was excavated and a confirmation soil sample, TT2084-S007, was collected from a depth of nine feet BLS and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH.

On March 6 and 9, 2009 Osage personnel returned to the site to conduct an additional over excavation of the bottom of the tank basin. Laboratory analysis revealed concentrations of 4-Isopropyltoluene in the TT2084-S007 soil sample. There are no established MSCCs for 4-Isopropyltoluene. Additional contaminated soil was excavated and confirmation soil samples were collected on March 6, 2009 and submitted for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Soil samples TT2084-S008 through TT2084-S011 were collected at each of the sidewalls from a depth of 11.5 feet BLS.

3. Document groundwater sampling information:

CATLIN installed temporary monitoring well TT2084-TW01 in the center of the

former tank basin. The monitoring well was advanced to a depth of 14.3 feet BLS. The well was installed to monitor for the presence of free-phase product and to allow for the collection of a groundwater sample. As free-phase product was not encountered, a representative groundwater sample was collected on March 25, 2009 after proper purging of the well. The groundwater sample was analyzed per EPA Methods 602 and 625 and MADEP VPH/EPH. Groundwater analytical results are presented in Table 3 and illustrated on Figure 3. The temporary monitoring well was permanently abandoned on March 25, 2009. A well construction and abandonment record is included in Appendix G.

4. Document quality-control measures:

Laboratory provided glassware and containers and disposable gloves were used during sampling. Upon collection, soil samples were immediately packed into clean containers and refrigerated for shipment to the analytical laboratory. There was a laboratory trip blank included with each cooler of samples.

5. Describe investigation results:

Soil Investigation

Some free product, soil discoloration and petroleum odor were observed during tank removal. Elevated PID readings indicated the presence of organic vapors in the sidewalls, as well as the excavation bottom.

Laboratory results of the soil samples collected during this tank removal action are summarized in Tables 1 and 2, illustrated on Figure 2 and the laboratory analytical reports are included in Appendix E.

Confirmation soil samples (Sample IDs TT2084-S001 through S005) were collected from the tank basin on February 6, 2009. Soil sample TT2084-S005 exhibited noncompliant TPH DRO concentrations of 1,970 mg/kg.

On February 11, 24 and March 6, Osage personnel collected confirmation soil samples (Soil Samples TT2084-S006 through TT2084-S011). These soil samples were sent to SGS for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Laboratory results are discussed as follows:

EPA Method 8260

Seven EPA Method 8260 compounds were detected at concentrations above the laboratory detection limits in one or more samples. These compounds were n-Butylbenzene, sec-Butylbenzene, 4-Isopropyltoluene, Naphthalene, n-Propyl benzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene. However, all of the detected concentrations of these compounds were below the established MSCCs. Please note, there are no established MSCCs for 4-Isopropyltoluene, therefore any detection is considered reportable. 4-Isopropyltoluene, with molecular formula $C_{10}H_{14}$, is an Aromatic compound whose structure is based on the Benzene ring. By definition, Aromatics are carbon compounds whose structures are based on rings of carbon. 4-Isopropyltoluene contains ten carbon atoms and has a ringed

structure, so detections can be compared to the MSCCs for the C₉-C₂₂ Aromatics hydrocarbon fraction. A comparison of the detected concentrations of 4-Isopropyltoluene to the MSCCs for the C₉-C₂₂ Aromatics hydrocarbon fraction reveals that the concentrations were well below the MSCCs.

All other EPA Method 8260 compounds were reported as Below Method Detection Limits (BMDL).

EPA Method 8270

Five EPA Method 8270 compounds were detected at concentrations above the laboratory detection limits in one or more samples. These compounds were Acenaphthene, Dibenzofuran, Fluorene, 2-Methylnaphthalene, and Naphthalene. However, all of the detected concentrations of these compounds were below the established MSCCs. All other EPA Method 8270 compounds were reported as BMDL.

MADEP VPH/EPH

Soil sample TT2084-S006 contained the C₉-C₂₂ Aromatics hydrocarbon fractions at a concentration of 253.6 mg/kg which was above the Soil-to-Groundwater (STGW) MSCC for this compound. Several other samples revealed MADEP hydrocarbon fractions above the laboratory detection limits but none at concentrations approaching the MSCCs.

Groundwater Investigation

Laboratory results of the groundwater samples collected during this tank removal action are summarized in Table 3, illustrated on Figure 3 and the laboratory analytical reports are included in Appendix E.

A representative groundwater sample was collected on March 25, 2009 after proper purging of temporary monitoring well TT2084-TW01. The groundwater sample was analyzed per EPA Methods 602 and 625 and MADEP VPH/EPH. Laboratory results are discussed as follows:

EPA Method 602

All EPA Method 602 compounds were reported as BMDL.

EPA Method 625

Bis(2-ethylhexyl)phthalate and Naphthalene were detected at estimated concentrations of 0.522 ug/L and 4.41 ug/L, respectively, in the TT2084-TW01 groundwater sample. Each of these concentrations were well below the established 2L Groundwater Quality Standard (GWQS) and Gross Contamination Level (GCL) for these compounds.

All other EPA Method 625 compounds were reported as BMDL.

MADEP VPH/EPH

All MADEP VPH/EPH compounds were reported as BMDL.

D. CONCLUSIONS AND RECOMMENDATION

A total of approximately 199.04 tons of contaminated soil was removed from the TT-2084 site. Final confirmation soil sample results indicate that site soils have been remediated to less than the lowest MSCCs.

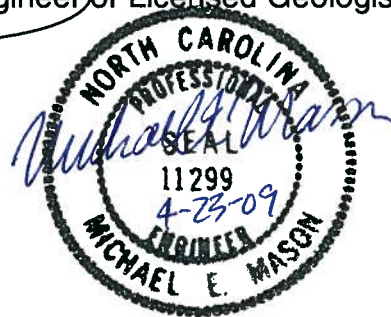
The groundwater sample collected from temporary monitoring well TT2084-TW01 revealed Bis(2-ethylhexyl)phthalate and Naphthalene at concentrations well below the 2L GWQSS and GCLs. All other groundwater compounds were below MDLs in the TT2084-TW01 groundwater sample.

As previously stated the site's Land Use Classification is Residential. Since final confirmation soil samples revealed no contaminants above the lowest MSCCs and no groundwater contaminants were detected above the 2L GWQSS the site should require No Further Action (NFA).

E. SIGNATURE AND SEAL

Signature and seal of certifying Professional Engineer or Licensed Geologist:

Michael E. Mason



F. LIMITATIONS

The soil and groundwater samples analyzed as part of this investigation only provide isolated data points and may not represent conditions at every location in the project area. Analyses and conclusions of this report, being based on interpolation between data points at the project area, may not be completely representative of all site conditions. Conclusions and recommendations of this investigation and report are based on the best available data in an effort to comply with current regulatory requirements.

G. REFERENCES

CATLIN Engineers and Scientists. *Workplan/Health and Safety Plan, Sites TT-2018, TT-2084, TT-3103, TT-3114, TT-3127 and TT-3145 – Groundwater Assessment*. Marine Corps Base, Camp Lejeune, NC. March 23, 2009.

North Carolina Department of Environment and Natural Resources, Division of Waste Management, Underground Storage Tank Section, *Underground Storage Tank Section Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement*, Effective March 1, 2007.

TABLES

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS FROM FEBRUARY 6, 2009

Incident Name and No.: TT-2084 - Pending

Sample ID	Contaminant of Concern →		Gasoline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR Action Level (mg/kg)			10	10
TT2084-S001	2/6/2009	3	<5.54	<6.65
TT2084-S002	2/6/2009	3	<7.31	<7.82
TT2084-S003	2/6/2009	3	<5.38	<6.75
TT2084-S004	2/6/2009	3	<5.32	<7.08
TT2084-S005	2/6/2009	6	<5.78	1,970

All results in milligrams per kilogram (mg/kg).

ft. BLS = Feet Below Land Surface

NCDENR = North Carolina Department of Environment and Natural Resources

< = Less than method detection limit

Bold results indicate concentration above the NCDENR Action Level.

TABLE 2
SUMMARY OF SOIL LABORATORY RESULTS FROM FEBRUARY 11, 24 AND MARCH 6, 2009

Incident Name and No.: TT-2084 - Pending

Sample ID	Contaminant of Concern →		EPA METHOD 8260B/5035								EPA METHOD 8270						MADEP VPH/EPH			
			n-Butylbenzene	sec-Butylbenzene	4-Isopropyltoluene	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	All Other EPA Method 8260B/5035 Compounds	Acenaphthene	Dibenzofuran	Fluorene	2-Methylnaphthalene	Naphthalene	All Other EPA Method 8270 Compounds	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected	Sample Depth (ft. BLS)																		
Residential MSCC (mg/kg)			626	626	NE	313	626	782	782	Varies	940	62	620	63	313	Varies	939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			16,350	16,350	NE	8,176	16,350	20,440	20,440	Varies	24,00	1,635	16,400	1,635	8,176	Varies	24,528	245,280	#	12,264
STGW MSCC (mg/kg)			4.3	3.3	NE	0.58	1.7	7.5	7.3	Varies	8.2	4.7	44	1.7	0.58	Varies	72	3,300	##	34
TT2084-S006	2/11/2009	8	<0.0643	0.113	<0.0643	0.291	0.107	<0.0643	<0.0643	BMDL	<0.444	<0.444	<0.444	0.83	<0.444	BMDL	<10.0	463.5	37.0	253.6
TT2084-S007	2/24/2009	9	0.00866	0.00930	0.00958	0.0659	0.00866	<0.00623	<0.00623	BMDL	0.624	0.645	0.595	0.658	0.477	BMDL	<10.0	<38.6 *	<10.0	<20.0
TT2084-S008	3/6/2009	11.5	<0.00625	0.00713	<0.00625	0.0233	<0.00625	0.0120	0.00761	BMDL	<0.381	<0.381	<0.381	<0.381	<0.381	BMDL	<10.0	<20.0	<10.0	<20.8 *
TT2084-S009	3/6/2009	11.5	<0.00539	<0.00539	<0.00539	0.0314	<0.00539	0.00552	<0.00539	BMDL	<0.448	<0.448	<0.448	<0.448	<0.448	BMDL	<10.0	<28.4 *	<10.0	<20.0
TT2084-S010	3/6/2009	11.5	<0.00577	<0.00577	<0.0057	0.0256	<0.00577	<0.00577	<0.00577	BMDL	<0.433	<0.433	<0.433	<0.433	<0.433	BMDL	<10.0	<20.0	<10.0	<20.0
TT2084-S011	3/6/2009	11.5	<0.00536	<0.00536	<0.00536	0.0487	<0.00536	<0.00536	<0.00536	BMDL	<0.421	<0.421	<0.421	<0.421	<0.421	BMDL	<10.0	<20.0	<10.0	<20.0

All results in milligrams per kilogram (mg/kg).
BMDL = Below Method Detection Limit
ft. BLS = Feet Below Land Surface
< = Less than method detection limit
STGW = Soil-to-Groundwater
MSCC = Maximum Soil Contaminant Concentration
= Health-Based Level (>100%)
= Considered Immobile
Bold results indicate concentration above the lowest MSCC.
* = The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.

TABLE 3
SUMMARY OF GROUNDWATER LABORATORY RESULTS FROM MARCH 25, 2009

Incident Name and No.: TT-2084 - Pending

Well ID	Contaminant of Concern →		EPA METHOD 602	EPA METHOD 625			MADEP VPH/EPH			
			All EPA 602 Compounds	Bis(2-ethylhexyl)phthalate	Naphthalene	All Other EPA Method 625 Compounds	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Sample ID	Date Collected								
	GCL (µg/L) 2L GWQS (µg/L)		Varies Varies	2,500 2.5	15,500 21	Varies Varies	NE 420	NE 4,200	NE 42,000	NE 210
TT2084-TW01	TT2084-TW01	3/25/2009	BMDL	0.522 J	4.41 J	BMDL	<100	<200	<100	<200

All results in micrograms per liter (µg/L).

BMDL = Below Method Detection Limit

< = Less than method detection limit

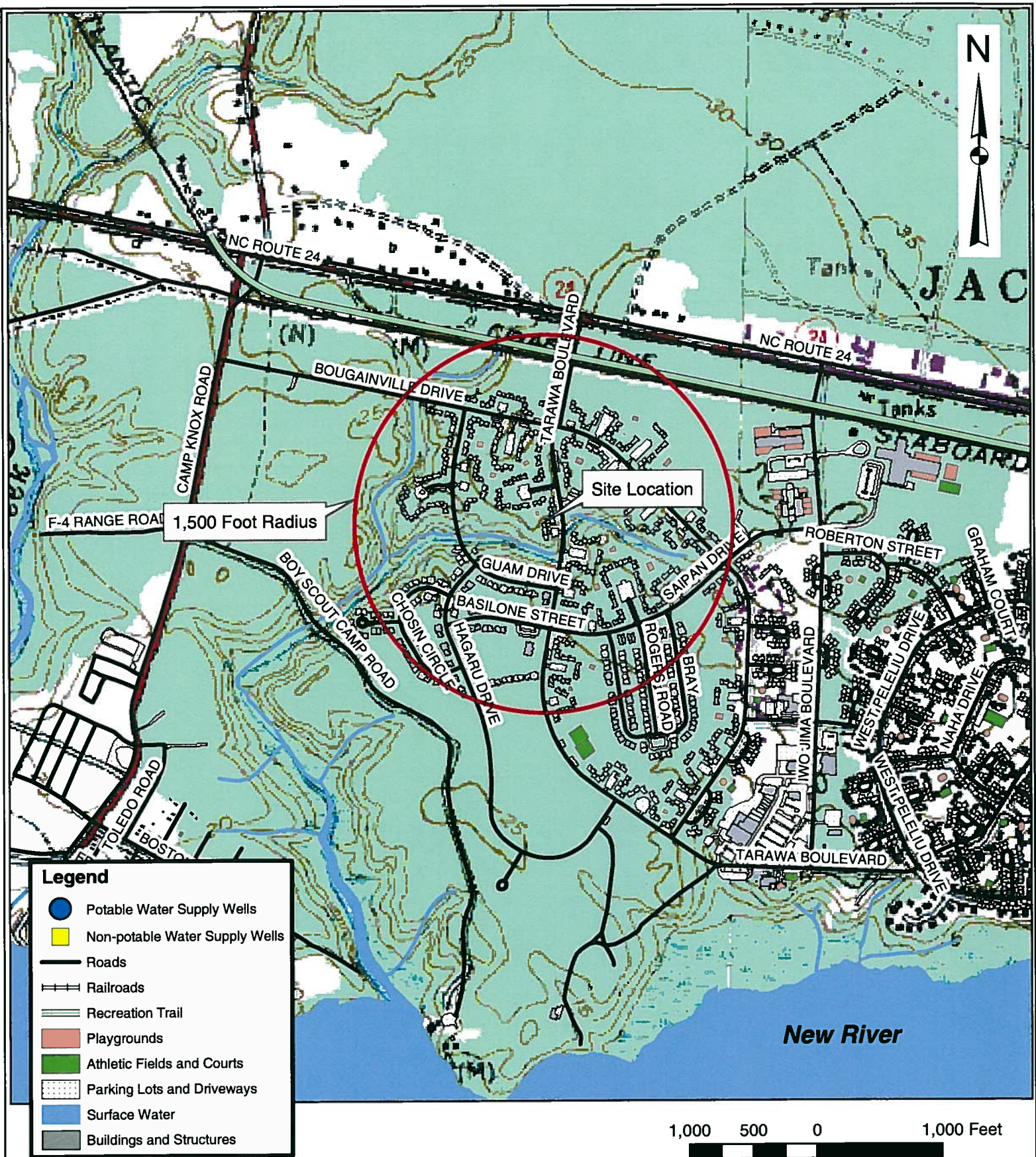
J = Estimated concentration, below calibration range and above MDL

GCL = Gross Contaminant Level

2L GWQS = NCAC T15A:02L Groundwater Quality Standards

NE = None Established

FIGURES



Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.



PROJECT
TANK CLOSURE REPORT
SITE TT-2084
MARINE CORPS BASE
CAMP LEJEUNE, NC

TITLE

**USGS TOPOGRAPHIC
SITE LOCATION MAP**

FIGURE

1

JOB NO. 209-022 DATE APR 2009

SCALE AS SHOWN

DRAWN BY SAC

CHECKED BY MEM

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS FROM FEBRUARY 6, 2009

Incident Name and No.: TT-2084 - Pending

Sample ID	Contaminant of Concern		Gasoline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR Action Level (mg/kg)			10	10
TT2084-S001	2/6/2009	3	<5.54	<6.65
TT2084-S002	2/6/2009	3	<7.31	<7.82
TT2084-S003	2/6/2009	3	<5.38	<6.75
TT2084-S004	2/6/2009	3	<5.32	<7.08
TT2084-S005	2/6/2009	6	<5.78	1,970

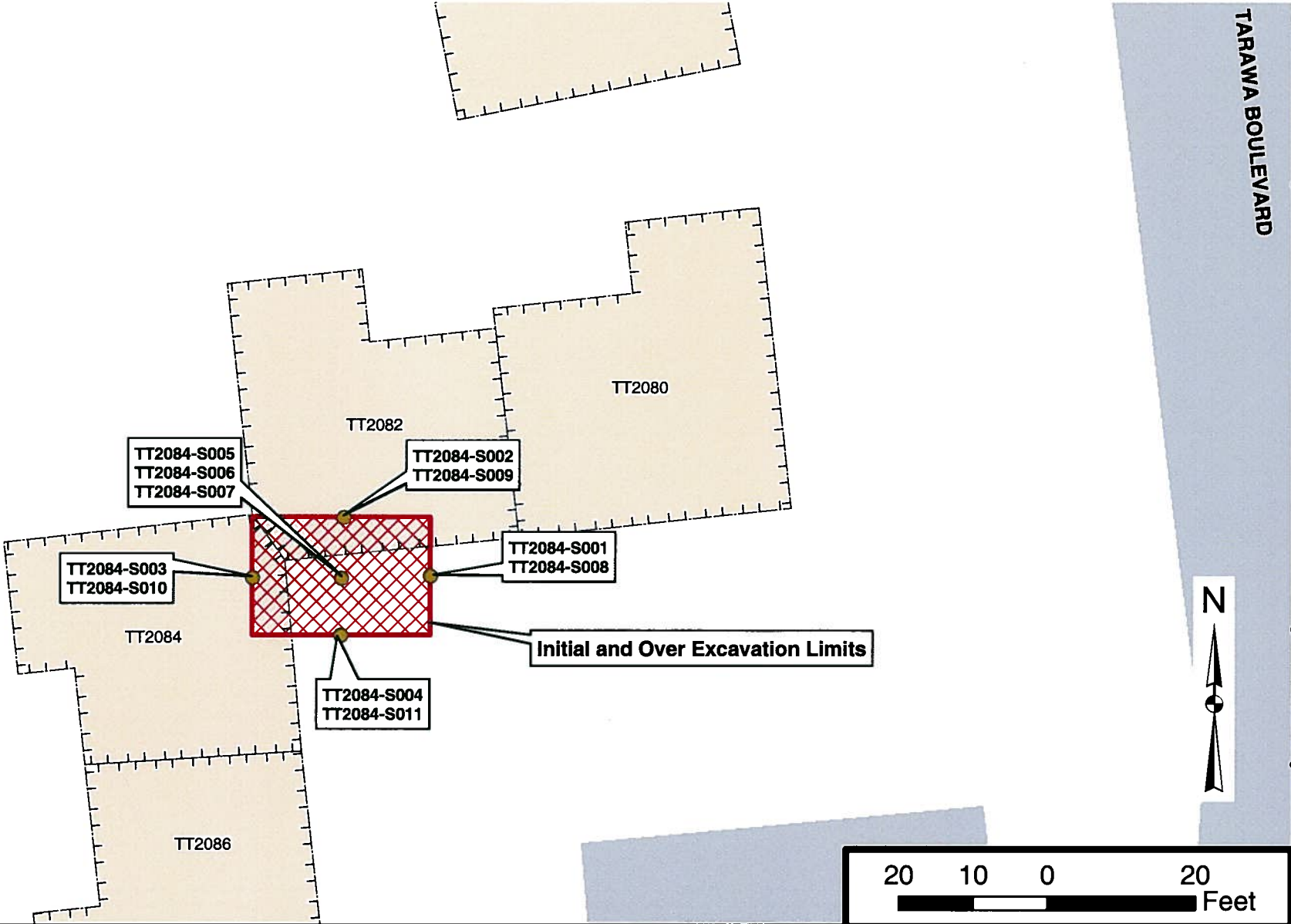
All results in milligrams per kilogram (mg/kg).
ft. BLS = Feet Below Land Surface
NCDENR = North Carolina Department of Environment and Natural Resources
< = Less than method detection limit
Bold results indicate concentration above the NCDENR Action Level.

TABLE 2
SUMMARY OF SOIL LABORATORY RESULTS FROM FEBRUARY 11, 24 AND MARCH 6, 2009

Incident Name and No.: TT-2084 - Pending

Sample ID	Contaminant of Concern		EPA METHOD 8260B/5035										EPA METHOD 8270					MADEP VPH/EPH			
			n-Butylbenzene	sec-Butylbenzene	4-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	All Other EPA Method 8260B/5035 Compounds	Acenaphthene	Dibenzofuran	Fluorene	2-Methylnaphthalene	Naphthalene	All Other EPA Method 8270 Compounds	C5-C9 Aliphatics	C9-C18 Aliphatics	C19-C26 Aliphatics	C9-C22 Aromatics	
	Date Collected	Sample Depth (ft. BLS)																			
Residential MSCC (mg/kg)			626	626	NE	313	626	782	782	Varies	940	62	620	63	313	Varies	939	9,386	93,860	469	
Industrial/Commercial MSCC (mg/kg)			16,350	16,350	NE	8,176	16,350	20,440	20,440	Varies	24,000	1,635	16,400	1,635	8,176	Varies	24,528	245,280	##	12,264	
STGW MSCC (mg/kg)			4.3	3.3	NE	0.58	1.7	7.5	7.3	Varies	8.2	4.7	44	1.7	0.58	Varies	72	3,300	##	34	
TT2084-S006	2/11/2009	8	<0.0643	0.113	<0.0643	0.291	0.107	<0.0643	<0.0643	BMDL	<0.444	<0.444	<0.444	0.83	<0.444	BMDL	<10.0	463.5	37.0	253.6	
TT2084-S007	2/24/2009	9	0.00866	0.00930	0.00958	0.0659	0.00866	<0.00623	<0.00623	BMDL	0.624	0.645	0.595	0.658	0.477	BMDL	<10.0	<38.6 *	<10.0	<20.0	
TT2084-S008	3/6/2009	11.5	<0.00625	0.00713	<0.00625	0.0233	<0.00625	0.0120	0.00761	BMDL	<0.381	<0.381	<0.381	<0.381	<0.381	BMDL	<10.0	<20.0	<10.0	<20.8 *	
TT2084-S009	3/6/2009	11.5	<0.00539	<0.00539	<0.00539	0.0314	<0.00539	0.00552	<0.00539	BMDL	<0.448	<0.448	<0.448	<0.448	<0.448	BMDL	<10.0	<28.4 *	<10.0	<20.0	
TT2084-S010	3/6/2009	11.5	<0.00577	<0.00577	<0.0057	0.0256	<0.00577	<0.00577	<0.00577	BMDL	<0.433	<0.433	<0.433	<0.433	<0.433	BMDL	<10.0	<20.0	<10.0	<20.0	
TT2084-S011	3/6/2009	11.5	<0.00536	<0.00536	<0.00536	0.0487	<0.00536	<0.00536	<0.00536	BMDL	<0.421	<0.421	<0.421	<0.421	<0.421	BMDL	<10.0	<20.0	<10.0	<20.0	

All results in milligrams per kilogram (mg/kg).
BMDL = Below Method Detection Limit
ft. BLS = Feet Below Land Surface
< = Less than method detection limit
STGW = Soil-to-Groundwater
MSCC = Maximum Soil Contaminant Concentration
= Health-Based Level (>100%)
= Considered Immobile
Bold results indicate concentration above the lowest MSCC
* = The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.



TANK REMOVAL
SITE TT-2084
MARINE CORPS BASE
CAMP LEJEUNE, NC



LEGEND

- Tank Excavation Area
- Soil Sample Location
- Demolished Buildings and Structures
- Slabs
- Driveways
- Parking Lots
- Woods

NOTES

- Data layers provided by MCB Camp Lejeune GIS office.
- Soil sample location TT2084-S005 provided by Lanier Surveying.
- Initial excavation limits were approximately 16' by 24' by 7' deep. Three subsequent over-excavations increased the final dimensions to 16' by 24' by 13' deep.



SITE MAP WITH SOIL
LABORATORY RESULTS

FIGURE

2

Job No.: 209-022 Date: APR 2009 Scale: AS SHOWN Drawn By: SAC Checked By: MEM

TABLE 3
SUMMARY OF GROUNDWATER LABORATORY RESULTS FROM MARCH 25, 2009

Incident Name and No.: TT-2084 - Pending

Well ID	Contaminant of Concern		EPA METHOD 602	EPA METHOD 625			MADEP VPH/EPH			
	Sample ID	Date Collected	All EPA 602 Compounds	Bis(2-ethylhexyl)phthalate	Naphthalene	All Other EPA Method 625 Compounds	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
GCL (µg/L)			Varies	2,500	15,500	Varies	NE	NE	NE	NE
2L GWQS (µg/L)			Varies	2.5	21	Varies	420	4,200	42,000	210
TT2084-TW01	TT2084-TW01	3/25/2009	BMDL	0.522 J	4.41 J	BMDL	<100	<200	<100	<200

All results in micrograms per liter (µg/L).
BMDL = Below Method Detection Limit
< = Less than method detection limit
J = Estimated concentration, below calibration range and above MDL
GCL = Gross Contaminant Level
2L GWQS = NCAC T15A-02L Groundwater Quality Standards
NE = None Established

TANK REMOVAL
SITE TT-2084
MARINE CORPS BASE
CAMP LEJEUNE, NC


Naval Facilities Engineering Command
ATLANTIC DIVISION

LEGEND

-  Tank Excavation Area
-  Groundwater Sample Location
-  Demolished Buildings and Structures
-  Slabs
-  Driveways
-  Parking Lots
-  Woods

NOTES

1. Data layers provided by MCB Camp Lejeune GIS office.
2. Groundwater sample collected from Temporary Monitoring Well TT2084-TW01.

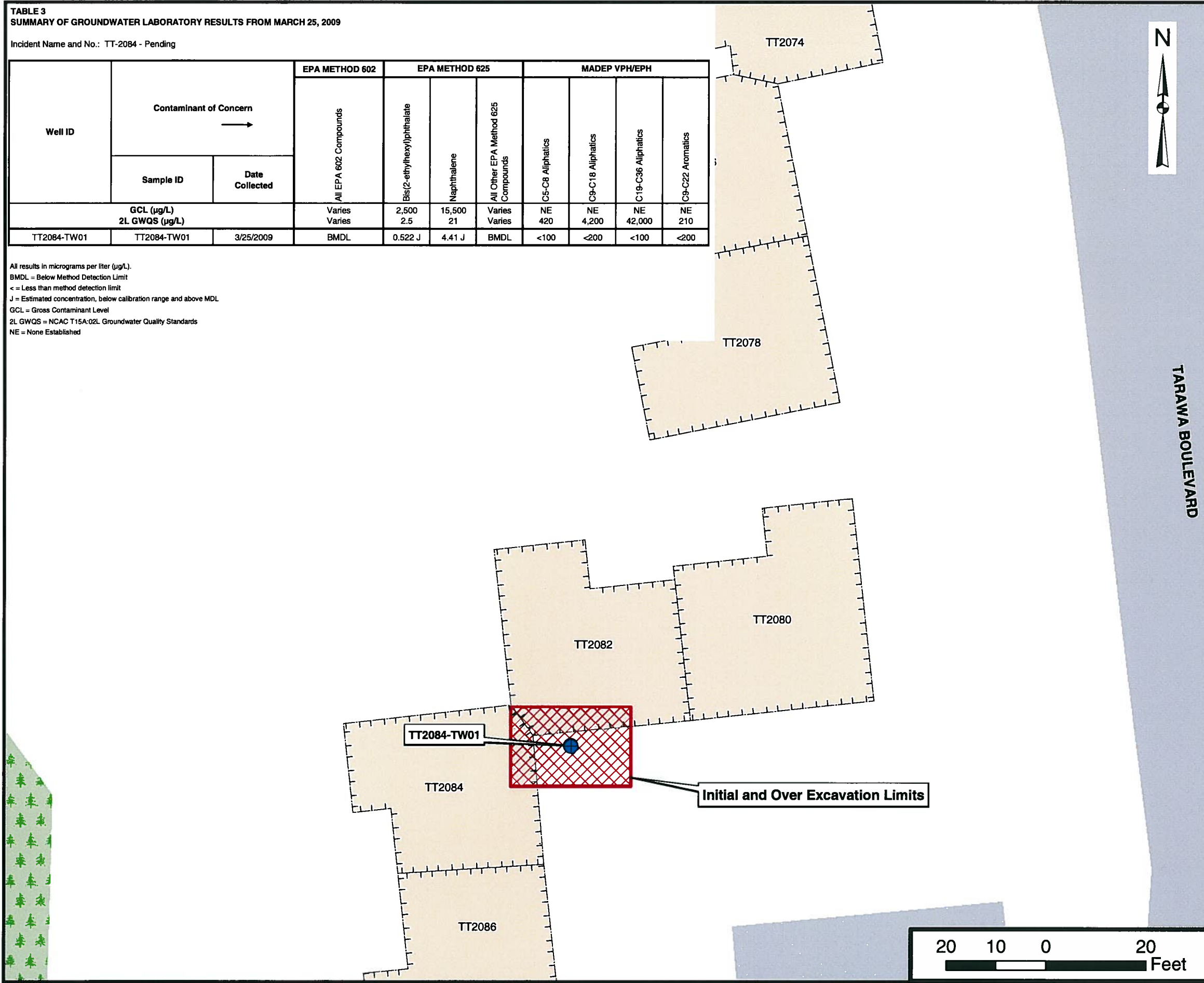

CATLIN
Engineers and Scientists

SITE MAP WITH GROUNDWATER
LABORATORY RESULTS

FIGURE

3

Job No.: 209-022	Date: APR 2009	Scale: AS SHOWN	Drawn By: SAC	Checked By: MEM
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APPENDICES

APPENDIX A

SITE INVESTIGATION REPORT FOR PERMANENT CLOSURE OR CHANGE-IN-SERVICE OF UST (UST-2)

UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

Return completed form to:

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY:

I.D. # _____

Date Received _____

INSTRUCTIONS (READ THIS FIRST)

For more than five UST systems you may attach additional forms as needed.

Permanent closure – For permanent closure, complete all sections of this form.

Change-in-service – For change-in-service where UST systems will be converted from containing a regulated substance to storing a non-regulated substance, complete sections I, II, III, IV, and VIII

Effective February 1, 1995, all UST closure/change-in-service reports must be submitted in the format provided in the UST-12 form. UST closure and change-in-services must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. A copy of the UST-12 form and the *Guidelines for Tank Closure* can be obtained at www.wastenotnc.org.

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

NOTE: If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
Commanding Officer, Marine Corps Base

Street Address
Bldg 1 Holcumb Blvd

City
Camp Lejeune

State
NC

Phone Number
(910) 451-9660

II. LOCATION OF TANKS

Facility Name or Company
Tarawa Terrace Housing

Facility ID # (if known)
N/A

Street Address
TT2084 Tarawa Blvd

City
Camp Lejeune

Phone Number

III. CONTACT PERSONNEL

Contact for Facility:
Bruce Markwick

Closure Contractor Name:
OSAGE of Virginia

Primary Consultant Name:
Catlin Engineers and scientist

Closure Contractor Company:

Primary Consultant Company:

Job Title:
Environmental Protection Specialist

Address:
2818A Colley Avenue Norfolk, Va

Address:
220 Old Dairy Rd, Wilmington, NC

Phone. No:
(910) 451-9660

Phone. No:
757 440-0400

Phone. No:
910 452-5861

IV. UST INFORMATION FOR REGISTERED UST SYSTEMS

V. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Change-in-Service Date	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS

VII. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
TT2084	500	4' X 6'	Heating Oil	Unknown		See Above	☒	☐	☐	☒	☒	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

* If the tank owner address is different from the one listed in Section I., then enter the street address, city, state, zip code and telephone no. below:

VIII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete.

Print name and official title of owner or owner's authorized representative
Bruce Markwick

Signature

Date Signed
4/22/2009

APPENDIX B

24 HOUR RELEASE AND UST LEAK REPORTING FORM (UST-61)

(A COMPUTER FAILURE ERASED CAMP LEJEUNE'S COPY OF UST -61 FORM.
HOWEVER, ORIGINAL UST-61 FORM ON FILE AT NCDENR WILMINGTON
REGIONAL OFFICE.)

APPENDIX C
CERTIFICATE OF UST DISPOSAL

Tank Disposal Manifest

Tank Owner: Commanding Officer, Marine Corps Base,
Camp Lejeune NC 28542

Tank/Owner Authorized Representative

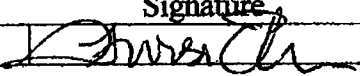
Contact: Bruce Markwick

Phone: (910) 451-9660

Description of Tank:

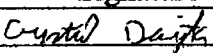
Tank ID	Capacity	Previous Contents	Comments/Dimensions
TT-2084	550 gal	Heating Oil	4 Ft X 6 Ft Dim

Transporter: Osage of Virginia
2618 Colley Ave Ste A
Norfolk, VA 23517
Phone: (757) 440-0400

Print Name	Signature	Month/Day/Year
Theresa Ellerman		2/18/09

The undersigned certifies that the above named storage tank(s) has been cut into scrap and accepted by the disposal facility.

Name of Receiving Facility: J&E Salvage
2012 Blue Creek Rd
Jacksonville NC 28540
Phone: (910) 347-5865

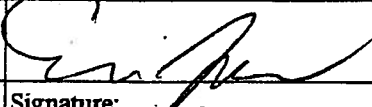
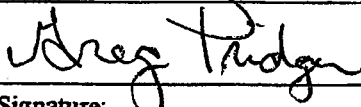
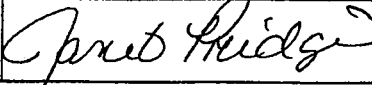
Print Name	Signature	Month/Day/Year
Crystal Darlington		2/18/09

APPENDIX D
DISPOSAL MANIFESTS

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 07196

OSDGE of VA (757) 274-4949

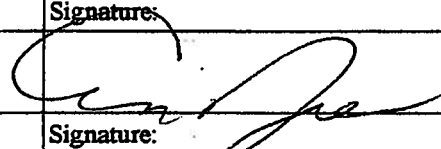
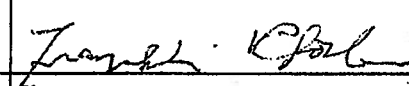
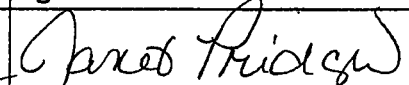
Site: <u>TT 2084 Tarawa Blvd CLNC (QTO 005)</u>			Page 1 of	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004			US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>P+F ENVIRONMENTAL</u> <u>8549 Mill Branch Rd Rocky Mount NC 27803 (252) 212-8012</u>			US EPA ID Number: <u>NCR 00008490</u>	
Destination's Name, Mailing Address & Telephone Number: <u>P+F Environmental</u> <u>Speights Chapel Rd Whitakers NC 27891 (252) 443-4083</u>			US EPA ID Number: <u>SR0500106</u>	
Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
<u>TPH Contaminated Soil</u>	<u>001</u>	<u>DT</u>	<u>52640</u>	<u>GROSS</u>
<u>NON HAZARDOUS</u>			<u>21600</u>	<u>TARE</u>
			<u>31040</u>	<u>NET</u>
			<u>15.52</u>	<u>TONS</u>
Container/Tag Number:		Profile #:		
Lab:				
Additional Information and Discrepancy Indication: <u>CDL # NC 3890292 TRK # P-105 TAG # ZB 35517</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name		Signature:		Date:
<u>EUGENE JONES</u>				<u>2/6/09</u>
Transporter's Name		Signature:		Date:
<u>GREG PRIDGEN</u>				<u>2/6/09</u>
Accepting Facility		Signature:		Date:
<u>P+F Environmental, Inc.</u>				<u>2/6/09</u>

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 07191

OSAGE OF VA (757) 274-4949

Site: <u>TT 2084 TARAWA BLVD CLNC (CTO 005)</u>		Page 1 of	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number: <u>P+F Environmental</u> <u>8549 Mill Branch RD Rocky Mount NC 27803 (252) 212-8012</u>		US EPA ID Number: <u>NCR00008490</u>	
Destination's Name, Mailing Address & Telephone Number: <u>P+F Environmental</u> <u>SPEIGHTS Chapel RD Whitakers NC 27891 (252) 443-4083</u>		US EPA ID Number: <u>SR05001001</u>	
Waste Shipping Name and Description	Containers Number Type	Total Quantity	Units
<u>TPH Contaminated Soil</u>	<u>001</u> <u>DT</u>	<u>526.20</u>	<u>GROSS</u>
<u>NON HAZARDOUS</u>		<u>235.60</u>	<u>TARE</u>
		<u>290.60</u>	<u>NET</u>
		<u>14.53</u>	<u>TONS</u>
Container/Tag Number: Lab:	Profile #:		
Additional Information and Discrepancy Indication: <u>COL# NC2806555</u> <u>TRK# P-101</u> <u>TAG# ZB12254</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>EUGENE M. JONES</u>		<u>2/6/09</u>	
Transporter's Name	Signature:	Date:	
<u>FRANK L. RIDGES</u>		<u>2/6/09</u>	
Accepting Facility	Signature:	Date:	
<u>P+F Environmental, Inc</u>		<u>2/6/09</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune

Non-Hazardous Waste Shipping Document

Document #: 071192

OSAGE OF VA (757) 274-4949

Site: TT 2084 TABAWA BND CLNC (CTO 005) Page 1 of

Generator's Name & Mailing Address: **COMMANDING GENERAL**
AC/S, I&E (EMD)
MARINE CORPS BASE
PSC BOX 20004
CAMP LEJEUNE, NC 28542-0004
US EPA ID Number: NC6170022580

Generator's Telephone #: (910) 451-1482

Transporter's Name, Mailing Address & Telephone Number: **P+F Environmental**
8549 Mill Branch RD Rocky Mount NC 27803 (252) 212-8012
US EPA ID Number: NCR000008490

Destination's Name, Mailing Address & Telephone Number: **P+F Environmental**
SPEIGHTS Chapel RD Whitakers NC 27891 (252) 443-4083
US EPA ID Number: SR0500106

Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
TPH Contaminated Soil	001	DT	65.720	GROSS
NON HAZARDOUS			23560	TARE
			42160	NET
			21.08	TONS

Container/Tag Number:

Profile #:

Lab:

Additional Information and Discrepancy Indication:

CDL # NC2806555

TRK # P.101

TAG # ZB12254

GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:

Printed/Typed Name

Signature:

Date:

Lub ENE J Orgs

[Signature]

2/6/09

Transporter's Name

Signature:

Date:

Franklin Rhodes

[Signature]

2/6/09

Accepting Facility

Signature:

Date:

P+F Environmental, INC

[Signature]

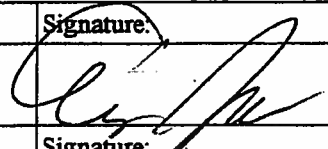
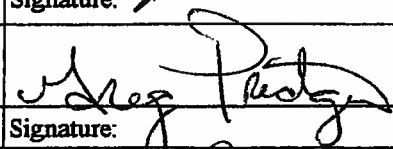
2/6/09

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 07193

OSAGE OF VA (757) 274-4949

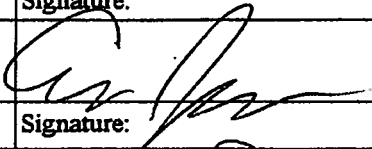
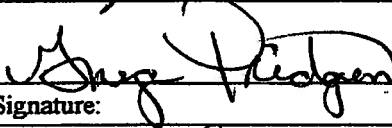
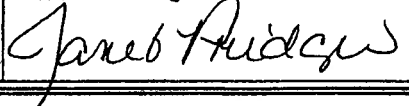
Site: <u>TT 2084 TAEAWA BLVD CLNC (Cto 005)</u>		Page 1 of		
Generator's Name & Mailing Address: <u>COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004</u>		US EPA ID Number: <u>NC6170022580</u>		
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>P+F ENVIRONMENTAL 8549 Mill Branch Rd Rocky Mount NC 27803 (252) 212-8012</u>		US EPA ID Number: <u>NCR000008440</u>		
Destination's Name, Mailing Address & Telephone Number: <u>P+F ENVIRONMENTAL SPEIGHTS Chapel Rd Whitakers NC 27891 (252) 443-4083</u>		US EPA ID Number: <u>SR05001016</u>		
Waste Shipping Name and Description	Containers		Total Quantity (lbs)	Units
	Number	Type		
TPH Contaminated Soil NON HAZARDOUS	001	DT	50040	GROSS
			21600	TARE
			28440	NET
			14.22	TONS
Container/Tag Number:		Profile #:		
Lab:				
Additional Information and Discrepancy Indication: <u>CDL # NC 389 0292 TRK # P-105 TAG # ZB35517</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name	Signature:	Date:		
<u>L. V. GENE Jones</u>		<u>2/6/09</u>		
Transporter's Name	Signature:	Date:		
<u>GREG Pridgen</u>		<u>2/6/09</u>		
Accepting Facility	Signature:	Date:		
<u>P+F ENVIRONMENTAL, Inc.</u>		<u>2/6/09</u>		

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 07194

OSAGE of VIRGINIA (757) 274-4949

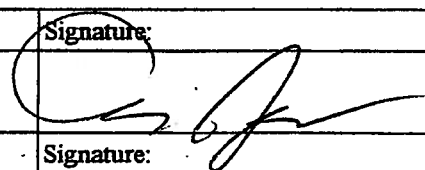
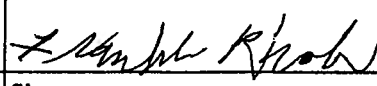
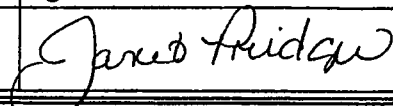
Site: <u>11 2084 Trawa Blvd CLK (Cto 005)</u>			Page 1 of 1	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004			US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>P+F Environmental</u> <u>8549 Mill Branch Rd Rocky Mount NC 27803 (252) 212-8012</u>			US EPA ID Number: <u>NCR00008490</u>	
Destination's Name, Mailing Address & Telephone Number: <u>P+F Environmental</u> <u>Speights Chapel Rd Whitakers NC 27891 (252) 443-4083</u>			US EPA ID Number: <u>SR0500106</u>	
Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
<u>TPH Contaminated Soil</u>	<u>001</u>	<u>DT</u>	<u>58180</u>	<u>GROSS (lbs)</u>
<u>NON HAZARDOUS</u>			<u>21600</u>	<u>TARE</u>
			<u>36580</u>	<u>NET</u>
			<u>18.29</u>	<u>TONS</u>
Container/Tag Number:		Profile #:		
Lab:				
Additional Information and Discrepancy Indication: <u>CDL # NC 3890292</u> <u>TRK # P-105</u> <u>Tag # ZB35517</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name		Signature:		Date:
<u>EUGENE JONES</u>				<u>2/9/09</u>
Transporter's Name		Signature:		Date:
<u>GREG PRIDGEN</u>				<u>2/9/09</u>
Accepting Facility		Signature:		Date:
<u>P+F Environmental, Inc</u>				<u>2/9/09</u>

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 0719

OSAGE OF VIRGINIA (757) 274-4449

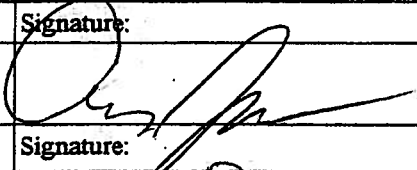
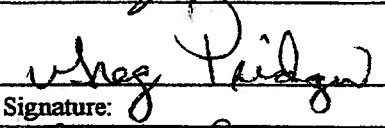
Site: <u>TT 2084 Tarawa Blvd CLNC (Cto 005)</u>		Page 1 of 1		
Generator's Name & Mailing Address: <u>COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004</u>		US EPA ID Number: <u>NC6170022580</u>		
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>P+F Environmental 8549 Mill Branch Rd Rocky Mount NC 27803 (252) 212-8012</u>		US EPA ID Number: <u>NCR00008490</u>		
Destination's Name, Mailing Address & Telephone Number: <u>P+F Environmental Speights Chapel Rd Whitakers NC 27891 (252) 443-4083</u>		US EPA ID Number: <u>SR0500106</u>		
Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
<u>TPH Contaminated Soil</u>	<u>001</u>	<u>DT</u>	<u>55860</u>	<u>GROSS</u>
<u>NON HAZARDOUS</u>			<u>23560</u>	<u>TARE</u>
			<u>32300</u>	<u>NET</u>
			<u>16.15</u>	<u>TONS</u>
Container/Tag Number: Lab:		Profile #:		
Additional Information and Discrepancy Indication: <u>CDL# NC2806555</u> <u>TRK# P-101</u> <u>TAG# ZB12254</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name		Signature:		Date:
<u>EYBENE J. Gies</u>				<u>2/9/09</u>
Transporter's Name		Signature:		Date:
<u>Franklin Rhodes</u>				<u>2/9/09</u>
Accepting Facility		Signature:		Date:
<u>P+F Environmental, Inc.</u>				<u>2/9/09</u>

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: 0712

OSAGE of VIRGINIA (757) 274-4949

Site: <u>11 2084 TARAW BLVD CUNC</u>		Page 1 of 1		
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		US EPA ID Number: <u>NC6170022580</u>		
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>P4F Environmental</u> <u>8549 Mill Branch RD Rocky Mount NC 27803 (252) 212-8012</u>		US EPA ID Number: <u>NC000008490</u>		
Destination's Name, Mailing Address & Telephone Number: <u>P4F Environmental</u> <u>SPEIGHTS Chapel RD Whitakers NC 27891 (252) 443-4083</u>		US EPA ID Number: <u>SR0500106</u>		
Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
<u>TPH Contaminated Soil</u>	<u>001</u>	<u>DT</u>	<u>58260</u>	<u>GROSS</u>
<u>NON HAZARDOUS</u>			<u>21600</u>	<u>TARE</u>
			<u>36660</u>	<u>NET</u>
			<u>18.33</u>	<u>TONS</u>
Container/Tag Number: Lab:		Profile #:		
Additional Information and Discrepancy Indication: <u>CDL# NC 3890292</u> <u>TRK # P-105</u> <u>TAG # ZB35517</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name	Signature:	Date:		
<u>EUGENE JONES</u>		<u>2/9/09</u>		
Transporter's Name	Signature:	Date:		
<u>GREG PRIDGEN</u>		<u>2/9/09</u>		
Accepting Facility	Signature:	Date:		
<u>P4F Environmental, Inc</u>		<u>2/9/09</u>		

Return Original form to Generator

P & F Environmental

4352 N. Old Carriage Road • Rocky Mount, NC 27804
Phone: (252) 443-4083 • Fax: (252) 443-4104

NON-HAZARDOUS WASTE MANIFEST

APPROVAL # _____

LOAD # 07264

GENERATOR

CG, AC/S I+E (EMD) MCB
PO Box 20004
CLNC 28542-0004

DESTINATION

Land Application Facility Permit No. SR0500106
Speights Chapel Road
Whitakers, NC 27891

PHONE: 910 451 1482

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION:

Taroma Blvd CT site 2084 CLNC 28542
OSAGE OF VA 757 274 4949

Transporter: P & F Environmental

Gross Weight (lbs.): 59660

Truck #: 101

Tare Weight (lbs.): 23560

Truck Tag #/State: NC ZB 12254

Net Weight (lbs.): 36100

Driver Name (Print): Greg Bridgen
CA # NC 389 0292

Net Weight (tons): 18.05

I hereby certify that the material stated herein
was received at the waste origination site listed.

Greg Bridgen 3-6-09
Driver Signature Date

I hereby certify that the material stated herein was
delivered without incident to the destination listed.

Greg Bridgen 3-6-09
Driver Signature Date

Inspected and Accepted By:

Greg Bridgen 3.6.09 Janet Bridgen

NOTICE TO TRANSPORTER

TRUCKS WILL NOT BE PERMITTED TO ENTER
THE FACILITY WITHOUT THIS ENTRANCE TICKET

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - P & F Environmental

P & F Environmental

4352 N. Old Carriage Road • Rocky Mount, NC 27804
Phone: (252) 443-4083 • Fax: (252) 443-4104

NON-HAZARDOUS WASTE MANIFEST

APPROVAL # _____

LOAD # 07265

GENERATOR

GG, AC/S, I & E (PMD) MCB
PO BOX 20004
CLNC 28542-0004

DESTINATION

Land Application Facility Permit No. SR0500106
Speights Chapel Road
Whitakers, NC 27891

PHONE: (910) 451-1482

PHONE: (252) 443-4083

WASTE DESCRIPTION: Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION: TI 2084 TI BIVD (TT AREAS)

OSAGE of VA (757) 274-4049

Transporter: P & F Environmental

Gross Weight (lbs.): 57260

Truck #: P-101

Tare Weight (lbs.): 23560

Truck Tag #/State: NC 2B12254

Net Weight (lbs.): 33700

Driver Name (Print): Tim Thorne
CDL# NC 2167392

Net Weight (tons): 16.85

I hereby certify that the material stated herein
was received at the waste origination site listed.

Tim Thorne 3/9/09
Driver Signature Date

I hereby certify that the material stated herein was
delivered without incident to the destination listed.

Tim Thorne 3-9-09
Driver Signature Date

Inspected and Accepted By: [Signature] 3/9/09 [Signature]

NOTICE TO TRANSPORTER

**TRUCKS WILL NOT BE PERMITTED TO ENTER
THE FACILITY WITHOUT THIS ENTRANCE TICKET**

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - P & F Environmental

APPENDIX E

**LABORATORY REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



Shaun Whitworth
Osage of Virginia
2618 A Colley Ave
Norfolk, VA 23517

Report Number: G649-108

Client Project: CTO 005

Dear Shaun Whitworth,

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS Environmental Services at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.


Project Manager _____ Date _____
Ashley Nifong

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S001
Client Project ID: CTO 005
Lab Sample ID: G649-108-1D
Lab Project ID: G649-108

Date Collected: 2/6/2009 12:45
Date Received: 2/7/2009
Matrix: Soil
Solids 82.21
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.65	mg/Kg	1	02/10/09 02:23
Surrogate Spike Results					
		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	29.7	74.1

Comments:

Batch Information

Analytical Batch: EP020909
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13614
Prep Method: 3541
Prep Date: 02/09/09
Initial Prep Wt/Vol: 36.56 G
Prep Final Vol: 10 mL

Analyst: 

NC Certification #481

N.C. Certification, #481

Reviewed By: 
DRO.XLS
Page 3 of 14

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S002

Client Project ID: CTO 005

Lab Sample ID: G649-108-2D

Lab Project ID: G649-108

Date Collected: 2/6/2009 14:30

Date Received: 2/7/2009

Matrix: Soil

Solids 81.31

Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	7.82	mg/Kg	1	02/10/09 02:51

Surrogate Spike Results

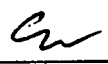
	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	30.8	76.9

Comments:

Batch Information

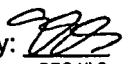
Analytical Batch: EP020909
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13614
Prep Method: 3541
Prep Date: 02/09/09
Initial Prep Wt/Vol: 31.44 G
Prep Final Vol: 10 mL

Analyst: 

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
Page 4 of 14

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID-8015

Client Sample ID: TT2084-S003
Client Project ID: CTO 005
Lab Sample ID: G649-108-3D
Lab Project ID: G649-108

Date Collected: 2/6/2009 14:15
Date Received: 2/7/2009
Matrix: Soil
Solids 87.13
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.75	mg/Kg	1	02/10/09 03:20

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	31.1	77.7

Comments:

Batch Information

Analytical Batch: EP020909
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13614
Prep Method: 3541
Prep Date: 02/09/09
Initial Prep Wt/Vol: 34.01 G
Prep Final Vol: 10 mL

Analyst: 

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
Page 5 of 14

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S004
Client Project ID: CTO 005
Lab Sample ID: G649-108-4D
Lab Project ID: G649-108

Date Collected: 2/6/2009 13:08
Date Received: 2/7/2009
Matrix: Soil
Solids 86.94
Report Basis: Dry Weight

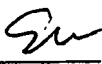
Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	7.08	mg/Kg	1	02/10/09 03:48
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	27.3	68.2

Comments:

Batch Information

Analytical Batch: EP020909
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13614
Prep Method: 3541
Prep Date: 02/09/09
Initial Prep Wt/Vol: 32.49 G
Prep Final Vol: 10 mL

Analyst: 

NC Certification #481
N.C. Certification #481

Reviewed By: 
DRO.XLS
Page 6 of 14

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S005
Client Project ID: CTO 005
Lab Sample ID: G649-108-5D
Lab Project ID: G649-108

Date Collected: 2/6/2009 8:54
Date Received: 2/7/2009
Matrix: Soil
Solids 80.27
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	1970	75.1	mg/Kg	10	02/10/09 10:25
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	NA	NA

Comments:

Batch Information

Analytical Batch: EP021009
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13614
Prep Method: 3541
Prep Date: 02/09/09
Initial Prep Wt/Vol: 33.16 G
Prep Final Vol: 10 mL

Analyst: 

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
Page 7 of 14

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S001
Client Project ID: CTO 005
Lab Sample ID: G649-108-1B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009 12:45
Date Received: 2/7/2009
Matrix: Soil
Solids 82.21

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.54	mg/Kg	1	02/09/09 11:17

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98	97.6		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.59 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By: [Signature]
Page 8 of 14^{RO}

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S002
Client Project ID: CTO 005
Lab Sample ID: G649-108-2B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009 14:30
Date Received: 2/7/2009
Matrix: Soil
Solids 81.31

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.31	mg/Kg	1	02/09/09 12:36

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	106	106		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.05 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S003
Client Project ID: CTO 005
Lab Sample ID: G649-108-3B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009 14:15
Date Received: 2/7/2009
Matrix: Soil
Solids 87.13

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.38	mg/Kg	1	02/09/09 13:30

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97	97		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.4 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By: [Signature]
Page 10 of 14

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S004
Client Project ID: CTO 005
Lab Sample ID: G649-108-4B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009 13:08
Date Received: 2/7/2009
Matrix: Soil
Solids 86.94

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.32	mg/Kg	1	02/09/09 13:56

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	96.3		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.49 g
Final Volume: 5 mL

DVG
Analyst: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2084-S005
Client Project ID: CTO 005
Lab Sample ID: G649-108-5B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009 8:54
Date Received: 2/7/2009
Matrix: Soil
Solids 80.27

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.78	mg/Kg	1	02/09/09 14:22

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	99	99.3		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.47 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: Trip Blank
Client Project ID: CTO 005
Lab Sample ID: G649-108-6B
Lab Project ID: G649-108
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 2/6/2009
Date Received: 2/7/2009
Matrix: Soil
Solids 100.00

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.00	mg/Kg	1	02/09/09 10:50

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	107	107		70-130

Comments:

Batch Information

Analytical Batch: VP020909
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5 g
Final Volume: 5 mL

Analyst: DVG



CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide
• Alaska • Hawaii
• Ohio • Maryland
• New Jersey • North Carolina
• West Virginia

www.us.sgs.com

090973

1 CLIENT: <u>OSAGE OF VIRGINIA</u>					SGS Reference: <u>6649-108</u>										PAGE <u>1</u> OF <u>1</u>					
CONTACT: <u>THEODORE ELLERMAN</u> PHONE NO.: <u>(757) 274-4949</u>																				
PROJECT: <u>CTO 005</u> SITE/PWSID#: <u>TT2084</u>																				
REPORTS TO: <u>Shaun Whitworth</u> E-MAIL: <u>swhitworth@osageva.com</u>																				
INVOICE TO: <u>MIKE CREE</u> QUOTE #																				
P.O. NUMBER <u>CTO 005</u>																				
2					3															
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Preservatives Used	NON	METH											REMARKS
	TT2084-S001	2/6/09	1245	S	3			X	X											
	TT2084-S002	2/6/09	1430	S	3			X	X											
	TT2084-S003	2/6/09	1415	S	3			X	X											
	TT2084-S004	2/6/09	1308	S	3			X	X											
	TT2084-S005	2/6/09	0854	S	3			X	X											
	TRIP BLANK	2/6/09	1500	-	1				X											
5					4															
Collected/Relinquished By: (1)		Date	Time	Received By:		Date	Time	Shipping Carrier:		Samples Received Cold? (Circle) YES NO										
<u>[Signature]</u>		2/6/09	1500	<u>[Signature]</u>		2/7/09	10:35	<u>FEDEX</u>		Temperature (C): <u>5.3</u>										
Relinquished By: (2)		Date	Time	Received By:		Date	Time	Shipping Ticket No:		Special Deliverable Requirements:										
										<u>EDD</u>										
Relinquished By: (3)		Date	Time	Received By:		Date	Time	Special Instructions:		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT										
								Email results to: <u>swhitworth@osageva.com</u> <u>tellerman@osageva.com</u>												
Relinquished By: (4)		Date	Time	Received By:		Date	Time	Requested Turnaround Time:												
								<u>RUSH</u> <u>ASAP</u> ☐ STD												
								Date Needed												



Shaun Whitworth
Osage of Virginia
2618 A Colley Ave
Norfolk, VA 23517

Report Number: G649-112

Client Project: CTO 005

Dear Shaun Whitworth,

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS Environmental Services at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.


Project Manager Date
Ashley Nifong

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: TT2084-S006
Client Project ID: CTO 005
Lab Sample ID: G649-112-1D
Lab Project ID: G649-112
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/11/2009 9:15
Date Received: 2/12/2009
Matrix: Soil
Sample Amount: 5.62 g
%Solids: 69.2

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	1610	50	2/13/2009
Benzene	BQL	64.3	50	2/13/2009
Bromobenzene	BQL	64.3	50	2/13/2009
Bromochloromethane	BQL	64.3	50	2/13/2009
Bromodichloromethane	BQL	64.3	50	2/13/2009
Bromoform	BQL	64.3	50	2/13/2009
Bromomethane	BQL	64.3	50	2/13/2009
2-Butanone	BQL	1610	50	2/13/2009
n-Butylbenzene	BQL	64.3	50	2/13/2009
sec-Butylbenzene	113	64.3	50	2/13/2009
tert-Butylbenzene	BQL	64.3	50	2/13/2009
Carbon disulfide	BQL	64.3	50	2/13/2009
Carbon tetrachloride	BQL	64.3	50	2/13/2009
Chlorobenzene	BQL	64.3	50	2/13/2009
Chloroethane	BQL	64.3	50	2/13/2009
Chloroform	BQL	64.3	50	2/13/2009
Chloromethane	BQL	64.3	50	2/13/2009
2-Chlorotoluene	BQL	64.3	50	2/13/2009
4-Chlorotoluene	BQL	64.3	50	2/13/2009
Dibromochloromethane	BQL	64.3	50	2/13/2009
1,2-Dibromo-3-chloropropane	BQL	321	50	2/13/2009
Dibromomethane	BQL	64.3	50	2/13/2009
1,2-Dibromoethane (EDB)	BQL	64.3	50	2/13/2009
1,2-Dichlorobenzene	BQL	64.3	50	2/13/2009
1,3-Dichlorobenzene	BQL	64.3	50	2/13/2009
1,4-Dichlorobenzene	BQL	64.3	50	2/13/2009
trans-1,4-Dichloro-2-butene	BQL	321	50	2/13/2009
1,1-Dichloroethane	BQL	64.3	50	2/13/2009
1,1-Dichloroethene	BQL	64.3	50	2/13/2009
1,2-Dichloroethane	BQL	64.3	50	2/13/2009
cis-1,2-Dichloroethene	BQL	64.3	50	2/13/2009
trans-1,2-dichloroethene	BQL	64.3	50	2/13/2009
1,2-Dichloropropane	BQL	64.3	50	2/13/2009
1,3-Dichloropropane	BQL	64.3	50	2/13/2009
2,2-Dichloropropane	BQL	64.3	50	2/13/2009
1,1-Dichloropropene	BQL	64.3	50	2/13/2009
cis-1,3-Dichloropropene	BQL	64.3	50	2/13/2009
trans-1,3-Dichloropropene	BQL	64.3	50	2/13/2009
Dichlorodifluoromethane	BQL	321	50	2/13/2009
Diisopropyl ether (DIPE)	BQL	64.3	50	2/13/2009
Ethylbenzene	BQL	64.3	50	2/13/2009
Hexachlorobutadiene	BQL	64.3	50	2/13/2009
2-Hexanone	BQL	321	50	2/13/2009
Iodomethane	BQL	64.3	50	2/13/2009
Isopropylbenzene	BQL	64.3	50	2/13/2009

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: TT2084-S006
 Client Project ID: CTO 005
 Lab Sample ID: G649-112-1D
 Lab Project ID: G649-112
 Report Basis: Dry Weight

Analyzed By: CLP
 Date Collected: 2/11/2009 9:15
 Date Received: 2/12/2009
 Matrix: Soil
 Sample Amount: 5.62 g
 %Solids: 69.2

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	64.3	50	2/13/2009
Methylene chloride	BQL	321	50	2/13/2009
4-Methyl-2-pentanone	BQL	321	50	2/13/2009
Methyl-tert-butyl ether (MTBE)	BQL	64.3	50	2/13/2009
Naphthalene	291	64.3	50	2/13/2009
n-Propyl benzene	107	64.3	50	2/13/2009
Styrene	BQL	64.3	50	2/13/2009
1,1,1,2-Tetrachloroethane	BQL	64.3	50	2/13/2009
1,1,2,2-Tetrachloroethane	BQL	64.3	50	2/13/2009
Tetrachloroethene	BQL	64.3	50	2/13/2009
Toluene	BQL	64.3	50	2/13/2009
1,2,3-Trichlorobenzene	BQL	64.3	50	2/13/2009
1,2,4-Trichlorobenzene	BQL	64.3	50	2/13/2009
Trichloroethene	BQL	64.3	50	2/13/2009
1,1,1-Trichloroethane	BQL	64.3	50	2/13/2009
1,1,2-Trichloroethane	BQL	64.3	50	2/13/2009
Trichlorofluoromethane	BQL	64.3	50	2/13/2009
1,2,3-Trichloropropane	BQL	64.3	50	2/13/2009
1,2,4-Trimethylbenzene	BQL	64.3	50	2/13/2009
1,3,5-Trimethylbenzene	BQL	64.3	50	2/13/2009
Vinyl chloride	BQL	64.3	50	2/13/2009
m-,p-Xylene	BQL	129	50	2/13/2009
o-Xylene	BQL	64.3	50	2/13/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	9.3	93
Toluene-d8	10	9.9	99
4-Bromofluorobenzene	10	10.3	103

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: Trip Blanks
Client Project ID: CTO 005
Lab Sample ID: G649-112-2B
Lab Project ID: G649-112
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/11/2009 0:00
Date Received: 2/12/2009
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	1250	50	2/13/2009
Benzene	BQL	50.0	50	2/13/2009
Bromobenzene	BQL	50.0	50	2/13/2009
Bromochloromethane	BQL	50.0	50	2/13/2009
Bromodichloromethane	BQL	50.0	50	2/13/2009
Bromoform	BQL	50.0	50	2/13/2009
Bromomethane	BQL	50.0	50	2/13/2009
2-Butanone	BQL	1250	50	2/13/2009
n-Butylbenzene	BQL	50.0	50	2/13/2009
sec-Butylbenzene	BQL	50.0	50	2/13/2009
tert-Butylbenzene	BQL	50.0	50	2/13/2009
Carbon disulfide	BQL	50.0	50	2/13/2009
Carbon tetrachloride	BQL	50.0	50	2/13/2009
Chlorobenzene	BQL	50.0	50	2/13/2009
Chloroethane	BQL	50.0	50	2/13/2009
Chloroform	BQL	50.0	50	2/13/2009
Chloromethane	BQL	50.0	50	2/13/2009
2-Chlorotoluene	BQL	50.0	50	2/13/2009
4-Chlorotoluene	BQL	50.0	50	2/13/2009
Dibromochloromethane	BQL	50.0	50	2/13/2009
1,2-Dibromo-3-chloropropane	BQL	250	50	2/13/2009
Dibromomethane	BQL	50.0	50	2/13/2009
1,2-Dibromoethane (EDB)	BQL	50.0	50	2/13/2009
1,2-Dichlorobenzene	BQL	50.0	50	2/13/2009
1,3-Dichlorobenzene	BQL	50.0	50	2/13/2009
1,4-Dichlorobenzene	BQL	50.0	50	2/13/2009
trans-1,4-Dichloro-2-butene	BQL	250	50	2/13/2009
1,1-Dichloroethane	BQL	50.0	50	2/13/2009
1,1-Dichloroethene	BQL	50.0	50	2/13/2009
1,2-Dichloroethane	BQL	50.0	50	2/13/2009
cis-1,2-Dichloroethene	BQL	50.0	50	2/13/2009
trans-1,2-dichloroethene	BQL	50.0	50	2/13/2009
1,2-Dichloropropane	BQL	50.0	50	2/13/2009
1,3-Dichloropropane	BQL	50.0	50	2/13/2009
2,2-Dichloropropane	BQL	50.0	50	2/13/2009
1,1-Dichloropropene	BQL	50.0	50	2/13/2009
cis-1,3-Dichloropropene	BQL	50.0	50	2/13/2009
trans-1,3-Dichloropropene	BQL	50.0	50	2/13/2009
Dichlorodifluoromethane	BQL	250	50	2/13/2009
Diisopropyl ether (DIPE)	BQL	50.0	50	2/13/2009
Ethylbenzene	BQL	50.0	50	2/13/2009
Hexachlorobutadiene	BQL	50.0	50	2/13/2009
2-Hexanone	BQL	250	50	2/13/2009
Iodomethane	BQL	50.0	50	2/13/2009
Isopropylbenzene	BQL	50.0	50	2/13/2009

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: Trip Blanks
Client Project ID: CTO 005
Lab Sample ID: G649-112-2B
Lab Project ID: G649-112
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/11/2009 0:00
Date Received: 2/12/2009
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

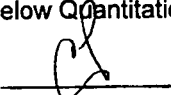
Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	50.0	50	2/13/2009
Methylene chloride	BQL	250	50	2/13/2009
4-Methyl-2-pentanone	BQL	250	50	2/13/2009
Methyl-tert-butyl ether (MTBE)	BQL	50.0	50	2/13/2009
Naphthalene	BQL	50.0	50	2/13/2009
n-Propyl benzene	BQL	50.0	50	2/13/2009
Styrene	BQL	50.0	50	2/13/2009
1,1,1,2-Tetrachloroethane	BQL	50.0	50	2/13/2009
1,1,2,2-Tetrachloroethane	BQL	50.0	50	2/13/2009
Tetrachloroethene	BQL	50.0	50	2/13/2009
Toluene	BQL	50.0	50	2/13/2009
1,2,3-Trichlorobenzene	BQL	50.0	50	2/13/2009
1,2,4-Trichlorobenzene	BQL	50.0	50	2/13/2009
Trichloroethene	BQL	50.0	50	2/13/2009
1,1,1-Trichloroethane	BQL	50.0	50	2/13/2009
1,1,2-Trichloroethane	BQL	50.0	50	2/13/2009
Trichlorofluoromethane	BQL	50.0	50	2/13/2009
1,2,3-Trichloropropane	BQL	50.0	50	2/13/2009
1,2,4-Trimethylbenzene	BQL	50.0	50	2/13/2009
1,3,5-Trimethylbenzene	BQL	50.0	50	2/13/2009
Vinyl chloride	BQL	50.0	50	2/13/2009
m-,p-Xylene	BQL	100	50	2/13/2009
o-Xylene	BQL	50.0	50	2/13/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	9.43	94
Toluene-d8	10	9.91	99
4-Bromofluorobenzene	10	10	100

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: TT2084-S006
 Client Project ID: CTO 005
 Lab Sample ID: G649-112-1J
 Lab Project ID: G649-112
 Report Basis: Dry weight
 Initial Weight: 32.58 g

Analyzed By: DCS
 Date Collected: 2/11/2009 9:15
 Date Received: 2/12/2009
 Date Extracted: 2/12/2008
 Matrix: Soil
 % Solids: 69.19

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	444	1	2/12/2009
Acenaphthylene	BQL	444	1	2/12/2009
Anthracene	BQL	444	1	2/12/2009
Benzo[a]anthracene	BQL	444	1	2/12/2009
Benzo[a]pyrene	BQL	444	1	2/12/2009
Benzo[b]fluoranthene	BQL	444	1	2/12/2009
Benzo[g,h,i]perylene	BQL	444	1	2/12/2009
Benzo[k]fluoranthene	BQL	444	1	2/12/2009
Benzoic Acid	BQL	887	1	2/12/2009
Bis(2-chloroethoxy)methane	BQL	444	1	2/12/2009
Bis(2-chloroethyl)ether	BQL	444	1	2/12/2009
Bis(2-chloroisopropyl)ether	BQL	444	1	2/12/2009
Bis(2-ethylhexyl)phthalate	BQL	444	1	2/12/2009
4-bromophenyl phenyl ether	BQL	444	1	2/12/2009
Butylbenzylphthalate	BQL	444	1	2/12/2009
2-Chloronaphthalene	BQL	444	1	2/12/2009
2-Chlorophenol	BQL	444	1	2/12/2009
4-Chloro-3-methylphenol	BQL	444	1	2/12/2009
4-Chloroaniline	BQL	2220	1	2/12/2009
4-Chlorophenyl phenyl ether	BQL	444	1	2/12/2009
Chrysene	BQL	444	1	2/12/2009
Dibenzo[a,h]anthracene	BQL	444	1	2/12/2009
Dibenzofuran	BQL	444	1	2/12/2009
Di-n-Butylphthalate	BQL	444	1	2/12/2009
1,2-Dichlorobenzene	BQL	444	1	2/12/2009
1,3-Dichlorobenzene	BQL	444	1	2/12/2009
1,4-Dichlorobenzene	BQL	444	1	2/12/2009
3,3'-Dichlorobenzidine	BQL	887	1	2/12/2009
2,4-Dichlorophenol	BQL	444	1	2/12/2009
Diethylphthalate	BQL	444	1	2/12/2009
Dimethylphthalate	BQL	444	1	2/12/2009
2,4-Dimethylphenol	BQL	444	1	2/12/2009
Di-n-octylphthalate	BQL	444	1	2/12/2009
4,6-Dinitro-2-methylphenol	BQL	2220	1	2/12/2009
2,4-Dinitrophenol	BQL	2220	1	2/12/2009
2,4-Dinitrotoluene	BQL	444	1	2/12/2009
2,6-Dinitrotoluene	BQL	444	1	2/12/2009
Fluoranthene	BQL	444	1	2/12/2009
Fluorene	BQL	444	1	2/12/2009
Hexachlorobenzene	BQL	444	1	2/12/2009
Hexachlorobutadiene	BQL	444	1	2/12/2009
Hexachlorocyclopentadiene	BQL	887	1	2/12/2009
Hexachloroethane	BQL	444	1	2/12/2009
Indeno(1,2,3-c,d)pyrene	BQL	444	1	2/12/2009
Isophorone	BQL	444	1	2/12/2009
2-Methylnaphthalene	830	444	1	2/12/2009
2-Methylphenol	BQL	444	1	2/12/2009

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: TT2084-S006
Client Project ID: CTO 005
Lab Sample ID: G649-112-1J
Lab Project ID: G649-112
Report Basis: Dry weight
Initial Weight: 32.58 g

Analyzed By: DCS
Date Collected: 2/11/2009 9:15
Date Received: 2/12/2009
Date Extracted: 2/12/2008
Matrix: Soil
% Solids: 69.19

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	444	1	2/12/2009
Naphthalene	BQL	444	1	2/12/2009
2-Nitroaniline	BQL	444	1	2/12/2009
3-Nitroaniline	BQL	2220	1	2/12/2009
4-Nitroaniline	BQL	2220	1	2/12/2009
Nitrobenzene	BQL	444	1	2/12/2009
2-Nitrophenol	BQL	444	1	2/12/2009
4-Nitrophenol	BQL	2220	1	2/12/2009
Diphenylamine *	BQL	444	1	2/12/2009
Pentachlorophenol	BQL	2220	1	2/12/2009
Phenanthrene	BQL	444	1	2/12/2009
Phenol	BQL	444	1	2/12/2009
Pyrene	BQL	444	1	2/12/2009
1,2,4-Trichlorobenzene	BQL	444	1	2/12/2009
2,4,5-Trichlorophenol	BQL	444	1	2/12/2009
2,4,6-Trichlorophenol	BQL	444	1	2/12/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	10.2	102
Nitrobenzene-d5	10	10.1	101
Phenol-d6	10	10	99
2,4,6-Tribromophenol	10	8.8	88
4-Terphenyl-d14	10	10.3	103

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S006
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/11/09
Date Received	02/12/09
Date Extracted	02/13/09
Date Analyzed	02/14/09 14:21 - 02/14/09 14:21
Dry Weight	69.2
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	24.5	10.0		
C ₉ -C ₁₀ Aromatics**	41.6	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	101		70	130
Surrogate % Recovery - FID	105		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-112-1e	Lab Info: g649-112-1e
FID Info: VP021409/015F0101.D	PID Info: VP021409/015R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	Trip Blanks
Sample Matrix	Soil
Collection Option (for Soil)*	NA
Date Collected	02/11/09
Date Received	02/12/09
Date Extracted	
Date Analyzed	02/14/09 11:15 - 02/14/09 11:15
Dry Weight	100
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits	
			Lower	Upper
Surrogate % Recovery - PID	94.3		70	130
Surrogate % Recovery - FID	95.0		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-112-2b	Lab Info: g649-112-2b
FID Info: VP021409/008F0101.D	PID Info: VP021409/008R0101.D

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date:

02/13/09

PID Initial Calibration Date:

02/13/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	3.35	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.92	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date:

02/14/09

Filename:

VP021409/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	4.7	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-3.9	±25%
C ₉ -C ₁₀ Aromatics	200	16	-2.9	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 02/13/09PID Initial Calibration Date: 02/13/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	($\mu\text{g/L}$)	(mg/Kg)	($\mu\text{g/L}$)	(mg/Kg)	($\mu\text{g/L}$)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels ($\mu\text{g/L}$)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	3.35	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.92	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 02/14/09Filename: VP021409/017F0101.d

Calibration Check

Range	Levels ($\mu\text{g/L}$)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	-20.8	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-14.9	±25%
C ₉ -C ₁₀ Aromatics	200	16	-14.2	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

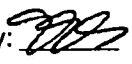
Sample Information	
Sample Identification	TT2084-S006
Sample Matrix	SOIL
Date Collected	02/11/09
Date Received	02/12/09
Date Extracted	02/12/08
Date Analyzed	02/12/09 20:38 - 02/12/09 21:06
Dry Weight	69.2
Dilution Factor	1 - 1
Initial weight (g)	12.47
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	439	10.0	
C19-C36 Aliphatics	37.0	10.0	
C11-C22 Aromatics	212	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	107		40	140
Aromatic (ortho-terphenyl)	97.8		40	140
Fractionation 1 (2-bromonaphthalene)	107		40	140
Fractionation 2 (2-fluorobiphenyl)	102		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-112-1G	Lab Info: G649-112-1G
Aliphatic: EP021209/021F2301.D	Aromatic: EP021209/022F2401.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 10/22/08

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	17.73	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	10.65	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	10.39	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 02/12/09
02/12/09Filenames: ep021209/001f1301.d
ep021209/002f1401.d

Calibration Check

Range	Levels (µg/L) (mg/Kg)		%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	8.6	±25%
C19-C36 Aliphatics	100	16.7	6.9	±25%
C11-C22 Aromatics	100	16.7	9.6	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

SGS Environmental Services, Inc.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 10/22/08

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	17.73	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	10.65	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	10.39	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 02/13/09
02/13/09

Filenames: ep021309/001f0101.d
ep021309/002f0201.d

Calibration Check

Range	Levels		%Difference if CF %Drift if LR	Limits
	(µg/L)	(mg/Kg)		
C9-C18 Aliphatics	100	16.7	5.7	±25%
C19-C36 Aliphatics	100	16.7	0.7	±25%
C11-C22 Aromatics	100	16.7	5.1	±25%

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit

RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide

- Alaska
- Ohio
- New Jersey
- West Virginia
- Hawaii
- Maryland
- North Carolina

WWW.US.SGS.COM

090974

[illegible]



Shaun Whitworth
Osage of Virginia
2618 A Colley Ave
Norfolk, VA 23517

Report Number: G649-118

Client Project: CTO 005

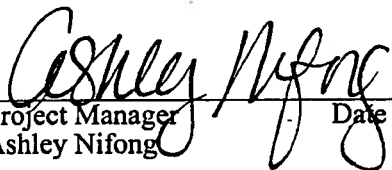
Dear Shaun Whitworth,

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS Environmental Services at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.

 2/27/09
Project Manager Date
Ashley Nifong

SGS Environmental Services, Inc.

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S007
 Client Project ID: CTO 005
 Lab Sample ID G649-118-1A
 Lab Project ID: G649-118
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 02-24-2009 10:35
 Date Received: 2/25/2009
 Matrix: Soil
 Sample Amount: 5.76 g
 %Solids: 69.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	62.3	1	2/26/2009
Benzene	BQL	6.23	1	2/26/2009
Bromobenzene	BQL	6.23	1	2/26/2009
Bromochloromethane	BQL	6.23	1	2/26/2009
Bromodichloromethane	BQL	6.23	1	2/26/2009
Bromoform	BQL	6.23	1	2/26/2009
Bromomethane	BQL	6.23	1	2/26/2009
2-Butanone	BQL	31.2	1	2/26/2009
n-Butylbenzene	8.66	6.23	1	2/26/2009
sec-Butylbenzene	9.30	6.23	1	2/26/2009
tert-Butylbenzene	BQL	6.23	1	2/26/2009
Carbon disulfide	BQL	6.23	1	2/26/2009
Carbon tetrachloride	BQL	6.23	1	2/26/2009
Chlorobenzene	BQL	6.23	1	2/26/2009
Chloroethane	BQL	6.23	1	2/26/2009
Chloroform	BQL	6.23	1	2/26/2009
Chloromethane	BQL	6.23	1	2/26/2009
2-Chlorotoluene	BQL	6.23	1	2/26/2009
4-Chlorotoluene	BQL	6.23	1	2/26/2009
Dibromochloromethane	BQL	6.23	1	2/26/2009
1,2-Dibromo-3-chloropropane	BQL	31.2	1	2/26/2009
Dibromomethane	BQL	6.23	1	2/26/2009
1,2-Dibromoethane (EDB)	BQL	6.23	1	2/26/2009
1,2-Dichlorobenzene	BQL	6.23	1	2/26/2009
1,3-Dichlorobenzene	BQL	6.23	1	2/26/2009
1,4-Dichlorobenzene	BQL	6.23	1	2/26/2009
trans-1,4-Dichloro-2-butene	BQL	31.2	1	2/26/2009
1,1-Dichloroethane	BQL	6.23	1	2/26/2009
1,1-Dichloroethene	BQL	6.23	1	2/26/2009
1,2-Dichloroethane	BQL	6.23	1	2/26/2009
cis-1,2-Dichloroethene	BQL	6.23	1	2/26/2009
trans-1,2-dichloroethene	BQL	6.23	1	2/26/2009
1,2-Dichloropropane	BQL	6.23	1	2/26/2009
1,3-Dichloropropane	BQL	6.23	1	2/26/2009
2,2-Dichloropropane	BQL	6.23	1	2/26/2009
1,1-Dichloropropene	BQL	6.23	1	2/26/2009
cis-1,3-Dichloropropene	BQL	6.23	1	2/26/2009
trans-1,3-Dichloropropene	BQL	6.23	1	2/26/2009
Dichlorodifluoromethane	BQL	6.23	1	2/26/2009
Diisopropyl ether (DIPE)	BQL	6.23	1	2/26/2009
Ethylbenzene	BQL	6.23	1	2/26/2009
Hexachlorobutadiene	BQL	6.23	1	2/26/2009
2-Hexanone	BQL	15.6	1	2/26/2009
Iodomethane	BQL	6.23	1	2/26/2009

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: TT2084-S007
Client Project ID: CTO 005
Lab Sample ID G649-118-1A
Lab Project ID: G649-118
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 02-24-2009 10:35
Date Received: 2/25/2009
Matrix: Soil
Sample Amount: 5.76 g
%Solids: 69.7

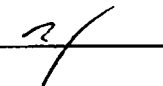
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	6.23	1	2/26/2009
4-Isopropyltoluene	9.58	6.23	1	2/26/2009
Methylene chloride	BQL	24.9	1	2/26/2009
4-Methyl-2-pentanone	BQL	15.6	1	2/26/2009
Methyl-tert-butyl ether (MTBE)	BQL	6.23	1	2/26/2009
Naphthalene	65.9	6.23	1	2/26/2009
n-Propyl benzene	8.66	6.23	1	2/26/2009
Styrene	BQL	6.23	1	2/26/2009
1,1,1,2-Tetrachloroethane	BQL	6.23	1	2/26/2009
1,1,2,2-Tetrachloroethane	BQL	6.23	1	2/26/2009
Tetrachloroethene	BQL	6.23	1	2/26/2009
Toluene	BQL	6.23	1	2/26/2009
1,2,3-Trichlorobenzene	BQL	6.23	1	2/26/2009
1,2,4-Trichlorobenzene	BQL	6.23	1	2/26/2009
Trichloroethene	BQL	6.23	1	2/26/2009
1,1,1-Trichloroethane	BQL	6.23	1	2/26/2009
1,1,2-Trichloroethane	BQL	6.23	1	2/26/2009
Trichlorofluoromethane	BQL	6.23	1	2/26/2009
1,2,3-Trichloropropane	BQL	6.23	1	2/26/2009
1,2,4-Trimethylbenzene	BQL	6.23	1	2/26/2009
1,3,5-Trimethylbenzene	BQL	6.23	1	2/26/2009
Vinyl chloride	BQL	6.23	1	2/26/2009
m-,p-Xylene	BQL	12.5	1	2/26/2009
o-Xylene	BQL	6.23	1	2/26/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	60.1	120
Toluene-d8	50	48.8	98
4-Bromofluorobenzene	50	48.6	97

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Trip Blank
 Client Project ID: CTO 005
 Lab Sample ID G649-118-2A
 Lab Project ID: G649-118
 Report Basis: 0.0

Analyzed By: MJC
 Date Collected: 02-24-2009 00:00
 Date Received: 2/25/2009
 Matrix: Soil
 Sample Amount: 5 g
 %Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	50.0	1	2/26/2009
Benzene	BQL	5.00	1	2/26/2009
Bromobenzene	BQL	5.00	1	2/26/2009
Bromochloromethane	BQL	5.00	1	2/26/2009
Bromodichloromethane	BQL	5.00	1	2/26/2009
Bromoform	BQL	5.00	1	2/26/2009
Bromomethane	BQL	5.00	1	2/26/2009
2-Butanone	BQL	25.0	1	2/26/2009
n-Butylbenzene	BQL	5.00	1	2/26/2009
sec-Butylbenzene	BQL	5.00	1	2/26/2009
tert-Butylbenzene	BQL	5.00	1	2/26/2009
Carbon disulfide	BQL	5.00	1	2/26/2009
Carbon tetrachloride	BQL	5.00	1	2/26/2009
Chlorobenzene	BQL	5.00	1	2/26/2009
Chloroethane	BQL	5.00	1	2/26/2009
Chloroform	BQL	5.00	1	2/26/2009
Chloromethane	BQL	5.00	1	2/26/2009
2-Chlorotoluene	BQL	5.00	1	2/26/2009
4-Chlorotoluene	BQL	5.00	1	2/26/2009
Dibromochloromethane	BQL	5.00	1	2/26/2009
1,2-Dibromo-3-chloropropane	BQL	25.0	1	2/26/2009
Dibromomethane	BQL	5.00	1	2/26/2009
1,2-Dibromoethane (EDB)	BQL	5.00	1	2/26/2009
1,2-Dichlorobenzene	BQL	5.00	1	2/26/2009
1,3-Dichlorobenzene	BQL	5.00	1	2/26/2009
1,4-Dichlorobenzene	BQL	5.00	1	2/26/2009
trans-1,4-Dichloro-2-butene	BQL	25.0	1	2/26/2009
1,1-Dichloroethane	BQL	5.00	1	2/26/2009
1,1-Dichloroethene	BQL	5.00	1	2/26/2009
1,2-Dichloroethane	BQL	5.00	1	2/26/2009
cis-1,2-Dichloroethene	BQL	5.00	1	2/26/2009
trans-1,2-dichloroethene	BQL	5.00	1	2/26/2009
1,2-Dichloropropane	BQL	5.00	1	2/26/2009
1,3-Dichloropropane	BQL	5.00	1	2/26/2009
2,2-Dichloropropane	BQL	5.00	1	2/26/2009
1,1-Dichloropropene	BQL	5.00	1	2/26/2009
cis-1,3-Dichloropropene	BQL	5.00	1	2/26/2009
trans-1,3-Dichloropropene	BQL	5.00	1	2/26/2009
Dichlorodifluoromethane	BQL	5.00	1	2/26/2009
Diisopropyl ether (DIPE)	BQL	5.00	1	2/26/2009
Ethylbenzene	BQL	5.00	1	2/26/2009
Hexachlorobutadiene	BQL	5.00	1	2/26/2009
2-Hexanone	BQL	12.5	1	2/26/2009
Iodomethane	BQL	5.00	1	2/26/2009

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: Trip Blank
Client Project ID: CTO 005
Lab Sample ID G649-118-2A
Lab Project ID: G649-118
Report Basis: 0.0

Analyzed By: MJC
Date Collected: 02-24-2009 00:00
Date Received: 2/25/2009
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

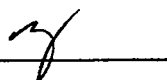
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.00	1	2/26/2009
4-Isopropyltoluene	BQL	5.00	1	2/26/2009
Methylene chloride	BQL	20.0	1	2/26/2009
4-Methyl-2-pentanone	BQL	12.5	1	2/26/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1	2/26/2009
Naphthalene	BQL	5.00	1	2/26/2009
n-Propyl benzene	BQL	5.00	1	2/26/2009
Styrene	BQL	5.00	1	2/26/2009
1,1,1,2-Tetrachloroethane	BQL	5.00	1	2/26/2009
1,1,2,2-Tetrachloroethane	BQL	5.00	1	2/26/2009
Tetrachloroethene	BQL	5.00	1	2/26/2009
Toluene	BQL	5.00	1	2/26/2009
1,2,3-Trichlorobenzene	BQL	5.00	1	2/26/2009
1,2,4-Trichlorobenzene	BQL	5.00	1	2/26/2009
Trichloroethene	BQL	5.00	1	2/26/2009
1,1,1-Trichloroethane	BQL	5.00	1	2/26/2009
1,1,2-Trichloroethane	BQL	5.00	1	2/26/2009
Trichlorofluoromethane	BQL	5.00	1	2/26/2009
1,2,3-Trichloropropane	BQL	5.00	1	2/26/2009
1,2,4-Trimethylbenzene	BQL	5.00	1	2/26/2009
1,3,5-Trimethylbenzene	BQL	5.00	1	2/26/2009
Vinyl chloride	BQL	5.00	1	2/26/2009
m-,p-Xylene	BQL	10.0	1	2/26/2009
o-Xylene	BQL	5.00	1	2/26/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.6	119
Toluene-d8	50	48	96
4-Bromofluorobenzene	50	40.1	80

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: TT2084-S007
 Client Project ID: CTO 005
 Lab Sample ID: G649-118-1H
 Lab Project ID: G649-118
 Report Basis: Dry weight
 Initial Weight: 34.03 g

Analyzed By: DCS
 Date Collected: 2/24/2009 10:35
 Date Received: 2/25/2009
 Date Extracted: 2/25/2009
 Matrix: Soil
 % Solids: 69.66

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	624	422	1	2/26/2009
Acenaphthylene	BQL	422	1	2/26/2009
Anthracene	BQL	422	1	2/26/2009
Benzo[a]anthracene	BQL	422	1	2/26/2009
Benzo[a]pyrene	BQL	422	1	2/26/2009
Benzo[b]fluoranthene	BQL	422	1	2/26/2009
Benzo[g,h,i]perylene	BQL	422	1	2/26/2009
Benzo[k]fluoranthene	BQL	422	1	2/26/2009
Benzoic Acid	BQL	844	1	2/26/2009
Bis(2-chloroethoxy)methane	BQL	422	1	2/26/2009
Bis(2-chloroethyl)ether	BQL	422	1	2/26/2009
Bis(2-chloroisopropyl)ether	BQL	422	1	2/26/2009
Bis(2-ethylhexyl)phthalate	BQL	422	1	2/26/2009
4-bromophenyl phenyl ether	BQL	422	1	2/26/2009
Butylbenzylphthalate	BQL	422	1	2/26/2009
2-Chloronaphthalene	BQL	422	1	2/26/2009
2-Chlorophenol	BQL	422	1	2/26/2009
4-Chloro-3-methylphenol	BQL	422	1	2/26/2009
4-Chloroaniline	BQL	2110	1	2/26/2009
4-Chlorophenyl phenyl ether	BQL	422	1	2/26/2009
Chrysene	BQL	422	1	2/26/2009
Dibenzo[a,h]anthracene	BQL	422	1	2/26/2009
Dibenzofuran	645	422	1	2/26/2009
Di-n-Butylphthalate	BQL	422	1	2/26/2009
1,2-Dichlorobenzene	BQL	422	1	2/26/2009
1,3-Dichlorobenzene	BQL	422	1	2/26/2009
1,4-Dichlorobenzene	BQL	422	1	2/26/2009
3,3'-Dichlorobenzidine	BQL	844	1	2/26/2009
2,4-Dichlorophenol	BQL	422	1	2/26/2009
Diethylphthalate	BQL	422	1	2/26/2009
Dimethylphthalate	BQL	422	1	2/26/2009
2,4-Dimethylphenol	BQL	422	1	2/26/2009
Di-n-octylphthalate	BQL	422	1	2/26/2009
4,6-Dinitro-2-methylphenol	BQL	2110	1	2/26/2009
2,4-Dinitrophenol	BQL	2110	1	2/26/2009
2,4-Dinitrotoluene	BQL	422	1	2/26/2009
2,6-Dinitrotoluene	BQL	422	1	2/26/2009
Fluoranthene	BQL	422	1	2/26/2009
Fluorene	595	422	1	2/26/2009
Hexachlorobenzene	BQL	422	1	2/26/2009
Hexachlorobutadiene	BQL	422	1	2/26/2009
Hexachlorocyclopentadiene	BQL	844	1	2/26/2009
Hexachloroethane	BQL	422	1	2/26/2009
Indeno(1,2,3-c,d)pyrene	BQL	422	1	2/26/2009
Isophorone	BQL	422	1	2/26/2009
2-Methylnaphthalene	658	422	1	2/26/2009
2-Methylphenol	BQL	422	1	2/26/2009

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: TT2084-S007
Client Project ID: CTO 005
Lab Sample ID: G649-118-1H
Lab Project ID: G649-118
Report Basis: Dry weight
Initial Weight: 34.03 g

Analyzed By: DCS
Date Collected: 2/24/2009 10:35
Date Received: 2/25/2009
Date Extracted: 2/25/2009
Matrix: Soil
% Solids: 69.66

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	422	1	2/26/2009
Naphthalene	477	422	1	2/26/2009
2-Nitroaniline	BQL	422	1	2/26/2009
3-Nitroaniline	BQL	2110	1	2/26/2009
4-Nitroaniline	BQL	2110	1	2/26/2009
Nitrobenzene	BQL	422	1	2/26/2009
2-Nitrophenol	BQL	422	1	2/26/2009
4-Nitrophenol	BQL	2110	1	2/26/2009
Diphenylamine *	BQL	422	1	2/26/2009
Pentachlorophenol	BQL	2110	1	2/26/2009
Phenanthrene	BQL	422	1	2/26/2009
Phenol	BQL	422	1	2/26/2009
Pyrene	BQL	422	1	2/26/2009
1,2,4-Trichlorobenzene	BQL	422	1	2/26/2009
2,4,5-Trichlorophenol	BQL	422	1	2/26/2009
2,4,6-Trichlorophenol	BQL	422	1	2/26/2009

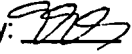
	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.5	65
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	8.7	87
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	10	7.2	72
4-Terphenyl-d14	4	3	75

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

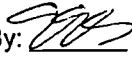
Sample Information	
Sample Identification	TT2084-S007
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/24/09
Date Received	02/25/09
Date Extracted	02/25/09
Date Analyzed	02/25/09 18:11 - 02/25/09 18:11
Dry Weight	69.7
Dilution Factor	1 - 1

Analytical Results			
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags
C ₅ -C ₈ Aliphatics**	BQL	10.0	
C ₉ -C ₁₂ Aliphatics**	BQL	10.0	
C ₉ -C ₁₀ Aromatics**	BQL	10.0	
	Percent Recovery	Flags	Limits Lower Upper
Surrogate % Recovery - PID	90.1		70 130
Surrogate % Recovery - FID	93.7		70 130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-118-1e	Lab Info: g649-118-1e
FID Info: VP022509/025F0101.D	PID Info: VP022509/025R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

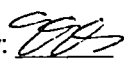
Sample Information	
Sample Identification	Trip Blank
Sample Matrix	Soil
Collection Option (for Soil)*	NA
Date Collected	02/24/09
Date Received	02/25/09
Date Extracted	02/25/09
Date Analyzed	02/25/09 17:44 - 02/25/09 17:44
Dry Weight	100
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	91.0		70	130
Surrogate % Recovery - FID	93.8		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-118-2b	Lab Info: g649-118-2b
FID Info: VP022509/024F0101.D	PID Info: VP022509/024R0101.D

Reviewed By: 

SGS Environmental Services, Inc.

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 02/13/09

PID Initial Calibration Date: 02/13/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	3.35	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.92	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 02/25/09

Filename: VP022509/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C ₅ -C ₈ Aliphatics	200	16	-21.7	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-12.3	±25%
C ₉ -C ₁₀ Aromatics	200	16	-1.8	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

SGS Environmental Services, Inc.

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 02/13/09

PID Initial Calibration Date: 02/13/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	3.35	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.92	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 02/25/09

Filename: VP022509/038F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C ₅ -C ₈ Aliphatics	200	16	-18.6	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-12.8	±25%
C ₉ -C ₁₀ Aromatics	200	16	-3.6	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

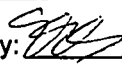
Sample Information	
Sample Identification	TT2084-S007
Sample Matrix	SOIL
Date Collected	02/24/09
Date Received	02/25/09
Date Extracted	02/25/09
Date Analyzed	02/26/09 11:23 - 02/26/09 11:51
Dry Weight	69.7
Dilution Factor	1 - 1
Initial weight (g)	11.96
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	28.6	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	96.3		40	140
Aromatic (ortho-terphenyl)	64.5		40	140
Fractionation 1 (2-bromonaphthalene)	60.4		40	140
Fractionation 2 (2-fluorobiphenyl)	61.7		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-118-1G	Lab Info: G649-118-1G
Aliphatic: EP022609/004F0101.D	Aromatic: EP022609/005F0201.D

Reviewed By: 

SGS Environmental Services, Inc.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF / r if LR	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 02/26/09
02/26/09

Filenames: ep022609/002f0201.d
ep022609/003f0301.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF / %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	5.3	±25%
C19-C36 Aliphatics	100	16.7	6.5	±25%
C11-C22 Aromatics	100	16.7	2.6	±25%

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit

RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 02/27/09
02/27/09Filenames: ep022709/001f0101.d
ep022709/002f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C9-C18 Aliphatics	100	16.7	4.6	±25%
C19-C36 Aliphatics	100	16.7	6.4	±25%
C11-C22 Aromatics	100	16.7	4.9	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



Mr. Shaun Whitworth
Osage of Virginia
2618 A Colley Ave
Norfolk VA 23517

Report Number: G649-124

Client Project: CTO 005

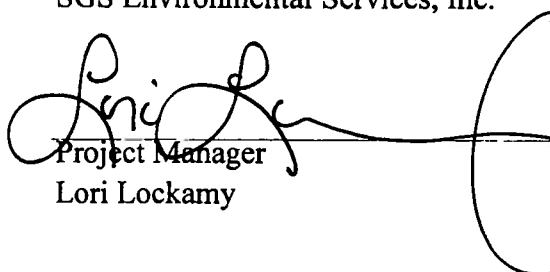
Dear Mr. Whitworth:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.

A handwritten signature in black ink, appearing to read 'Lori Lockamy', written over a horizontal line. To the right of the signature, the date '3/11/09' is handwritten above another horizontal line.

Project Manager
Lori Lockamy

Date

Case Narrative
Osage of Virginia
SGS Project: **G649-124**
Project Name: **CTO 005**

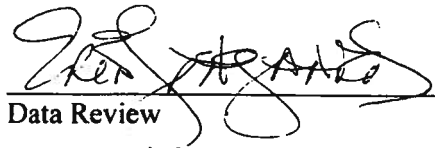
SGS Environmental Services Inc.

March 11, 2009

- Four soil samples and a trip blank were accepted into the laboratory on March 6, 2009 at 1600 for analyses as indicated on the chain of custody. The samples were received in good condition, with a temperature of 6.0°C.
- All extractions and analyses were completed within holding time limits, with the following quality control exceptions.

8260 Analysis

- Chloroethane did not pass quality control criteria in the initial instrument calibration and recovered below acceptance criteria in the associated LCS and LCSD. Therefore, Chloroethane has been removed for the reportable target analyte list. However, this compound was not detected in the associated samples.

 Date 11/11/09
Data Review

**List of Reporting Abbreviations
And Data Qualifiers**

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.**
- 2) Uncertainty for all reported data is less than or equal to 30 percent.**

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S008
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/09 09:50
Date Received	03/06/09
Date Extracted	03/06/09
Date Analyzed	03/10/09 22:25 - 03/10/09 22:25
Dry Weight	78.0
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	10.8	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	103		70	130
Surrogate % Recovery - FID	104		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-124-1e	Lab Info: g649-124-1e
FID Info: VP031009/031F0101.D	PID Info: VP031009/031R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S009
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/09 10:00
Date Received	03/06/09
Date Extracted	03/06/09
Date Analyzed	03/10/09 22:52 - 03/10/09 22:52
Dry Weight	71.5
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	92.1		70	130
Surrogate % Recovery - FID	93.6		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-124-2e	Lab Info: g649-124-2e
FID Info: VP031009/032F0101.D	PID Info: VP031009/032R0101.D

Reviewed By: 2242

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S010
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/09 10:06
Date Received	03/06/09
Date Extracted	03/06/09
Date Analyzed	03/10/09 23:19 - 03/10/09 23:19
Dry Weight	71.7
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	95.7		70	130
Surrogate % Recovery - FID	97.9		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-124-3e	Lab Info: g649-124-3e
FID Info: VP031009/033F0101.D	PID Info: VP031009/033R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S011
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/09 10:10
Date Received	03/06/09
Date Extracted	03/06/09
Date Analyzed	03/10/09 23:46 - 03/10/09 23:46
Dry Weight	74.8
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	102		70	130
Surrogate % Recovery - FID	103		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-124-4e	Lab Info: g649-124-4e
FID Info: VP031009/034F0101.D	PID Info: VP031009/034R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	Trip Blanks
Sample Matrix	Soil
Collection Option (for Soil)*	NA
Date Collected	03/06/09 09:00
Date Received	03/06/09
Date Extracted	03/06/09
Date Analyzed	03/10/09 21:31 - 03/10/09 21:31
Dry Weight	100
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C ₅ -C ₈ Aliphatics**	BQL	10.0		
C ₉ -C ₁₂ Aliphatics**	BQL	10.0		
C ₉ -C ₁₀ Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	95.2		70	130
Surrogate % Recovery - FID	97.1		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g649-124-5b	Lab Info: g649-124-5b
FID Info: VP031009/029F0101.D	PID Info: VP031009/029R0101.D

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/09/09PID Initial Calibration Date: 03/09/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	6.98	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	6.63	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 03/10/09Filename: VP031009/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	9.7	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-13.4	±25%
C ₉ -C ₁₀ Aromatics	200	16	-5.1	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/09/09PID Initial Calibration Date: 03/09/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	6.98	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	6.63	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 03/10/09Filename: VP031009/040F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	-11.5	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-10.7	±25%
C ₉ -C ₁₀ Aromatics	200	16	-2.4	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S008
Sample Matrix	Soil
Date Collected	03/06/09 09:50
Date Received	03/06/09
Date Extracted	03/07/09
Date Analyzed	03/08/09 17:26 - 03/08/09 17:55
Dry Weight	78.0
Dilution Factor	1 - 1
Initial weight (g)	13.24
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	105		40	140
Aromatic (ortho-terphenyl)	101		40	140
Fractionation 1 (2-bromonaphthalene)	96.1		40	140
Fractionation 2 (2-fluorobiphenyl)	99.0		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-124-1H	Lab Info: G649-124-1H
Aliphatic: EP030809/011F1101.D	Aromatic: EP030809/012F1201.D

Reviewed By: MA

EPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S009
Sample Matrix	Soil
Date Collected	03/06/09 10:00
Date Received	03/06/09
Date Extracted	03/07/09
Date Analyzed	03/08/09 18:24 - 03/08/09 18:53
Dry Weight	71.5
Dilution Factor	1 - 1
Initial weight (g)	11.24
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	18.4	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	94.7		40	140
Aromatic (ortho-terphenyl)	93.2		40	140
Fractionation 1 (2-bromonaphthalene)	99.6		40	140
Fractionation 2 (2-fluorobiphenyl)	102		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-124-2H	Lab Info: G649-124-2H
Aliphatic: EP030809/013F1301.D	Aromatic: EP030809/014F1401.D

Reviewed By: 671

EPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S010
Sample Matrix	Soil
Date Collected	03/06/09 10:06
Date Received	03/06/09
Date Extracted	03/07/09
Date Analyzed	03/08/09 19:21 - 03/08/09 19:50
Dry Weight	71.7
Dilution Factor	1 - 1
Initial weight (g)	12.16
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	93.1		40	140
Aromatic (ortho-terphenyl)	86.7		40	140
Fractionation 1 (2-bromonaphthalene)	94.6		40	140
Fractionation 2 (2-fluorobiphenyl)	97.4		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-124-3H	Lab Info: G649-124-3H
Aliphatic: EP030809/015F1501.D	Aromatic: EP030809/016F1601.D

Reviewed By: 1122

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 005

Sample Information	
Sample Identification	TT2084-S011
Sample Matrix	Soil
Date Collected	03/06/09 10:10
Date Received	03/06/09
Date Extracted	03/07/09
Date Analyzed	03/08/09 20:19 - 03/08/09 20:47
Dry Weight	74.8
Dilution Factor	1 - 1
Initial weight (g)	13.30
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	81.3		40	140
Aromatic (ortho-terphenyl)	78.5		40	140
Fractionation 1 (2-bromonaphthalene)	94.9		40	140
Fractionation 2 (2-fluorobiphenyl)	97.5		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G649-124-4H	Lab Info: G649-124-4H
Aliphatic: EP030809/017F1701.D	Aromatic: EP030809/018F1801.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 03/08/09
03/08/09Filenames: ep030809/001f0101.d
ep030809/002f0201.d

Calibration Check

Range	Levels		%Difference if CF %Drift if LR	Limits
	(µg/L)	(mg/Kg)		
C9-C18 Aliphatics	100	16.7	14.8	±25%
C19-C36 Aliphatics	100	16.7	14.9	±25%
C11-C22 Aromatics	100	16.7	8.6	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 03/08/09
03/09/09Filenames: ep030809/027f2701.d
ep030809/028f2801.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	18.1	±25%
C19-C36 Aliphatics	100	16.7	18.7	±25%
C11-C22 Aromatics	100	16.7	19.4	±25%

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable LimitRPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S008
 Client Project ID: CTO 005
 Lab Sample ID G649-124-1A
 Lab Project ID: G649-124
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 03-06-2009 09:50
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 5.13 g
 %Solids: 78.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	62.5	1	3/9/2009
Benzene	BQL	6.25	1	3/9/2009
Bromobenzene	BQL	6.25	1	3/9/2009
Bromochloromethane	BQL	6.25	1	3/9/2009
Bromodichloromethane	BQL	6.25	1	3/9/2009
Bromoform	BQL	6.25	1	3/9/2009
Bromomethane	BQL	6.25	1	3/9/2009
2-Butanone	BQL	31.3	1	3/9/2009
n-Butylbenzene	BQL	6.25	1	3/9/2009
sec-Butylbenzene	7.13	6.25	1	3/9/2009
tert-Butylbenzene	BQL	6.25	1	3/9/2009
Carbon disulfide	BQL	6.25	1	3/9/2009
Carbon tetrachloride	BQL	6.25	1	3/9/2009
Chlorobenzene	BQL	6.25	1	3/9/2009
Chloroform	BQL	6.25	1	3/9/2009
Chloromethane	BQL	6.25	1	3/9/2009
2-Chlorotoluene	BQL	6.25	1	3/9/2009
4-Chlorotoluene	BQL	6.25	1	3/9/2009
Dibromochloromethane	BQL	6.25	1	3/9/2009
1,2-Dibromo-3-chloropropane	BQL	31.3	1	3/9/2009
Dibromomethane	BQL	6.25	1	3/9/2009
1,2-Dibromoethane (EDB)	BQL	6.25	1	3/9/2009
1,2-Dichlorobenzene	BQL	6.25	1	3/9/2009
1,3-Dichlorobenzene	BQL	6.25	1	3/9/2009
1,4-Dichlorobenzene	BQL	6.25	1	3/9/2009
trans-1,4-Dichloro-2-butene	BQL	31.3	1	3/9/2009
1,1-Dichloroethane	BQL	6.25	1	3/9/2009
1,1-Dichloroethene	BQL	6.25	1	3/9/2009
1,2-Dichloroethane	BQL	6.25	1	3/9/2009
cis-1,2-Dichloroethene	BQL	6.25	1	3/9/2009
trans-1,2-dichloroethene	BQL	6.25	1	3/9/2009
1,2-Dichloropropane	BQL	6.25	1	3/9/2009
1,3-Dichloropropane	BQL	6.25	1	3/9/2009
2,2-Dichloropropane	BQL	6.25	1	3/9/2009
1,1-Dichloropropene	BQL	6.25	1	3/9/2009
cis-1,3-Dichloropropene	BQL	6.25	1	3/9/2009
trans-1,3-Dichloropropene	BQL	6.25	1	3/9/2009
Dichlorodifluoromethane	BQL	6.25	1	3/9/2009
Diisopropyl ether (DIPE)	BQL	6.25	1	3/9/2009
Ethylbenzene	BQL	6.25	1	3/9/2009
Hexachlorobutadiene	BQL	6.25	1	3/9/2009
2-Hexanone	BQL	15.6	1	3/9/2009
Iodomethane	BQL	6.25	1	3/9/2009
Isopropylbenzene	BQL	6.25	1	3/9/2009

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S008
Client Project ID: CTO 005
Lab Sample ID G649-124-1A
Lab Project ID: G649-124
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2009 09:50
Date Received: 3/6/2009
Matrix: Soil
Sample Amount: 5.13 g
%Solids: 78.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	6.25	1	3/9/2009
Methylene chloride	BQL	25.0	1	3/9/2009
4-Methyl-2-pentanone	BQL	15.6	1	3/9/2009
Methyl-tert-butyl ether (MTBE)	BQL	6.25	1	3/9/2009
Naphthalene	23.3	6.25	1	3/9/2009
n-Propyl benzene	BQL	6.25	1	3/9/2009
Styrene	BQL	6.25	1	3/9/2009
1,1,1,2-Tetrachloroethane	BQL	6.25	1	3/9/2009
1,1,2,2-Tetrachloroethane	BQL	6.25	1	3/9/2009
Tetrachloroethene	BQL	6.25	1	3/9/2009
Toluene	BQL	6.25	1	3/9/2009
1,2,3-Trichlorobenzene	BQL	6.25	1	3/9/2009
1,2,4-Trichlorobenzene	BQL	6.25	1	3/9/2009
Trichloroethene	BQL	6.25	1	3/9/2009
1,1,1-Trichloroethane	BQL	6.25	1	3/9/2009
1,1,2-Trichloroethane	BQL	6.25	1	3/9/2009
Trichlorofluoromethane	BQL	6.25	1	3/9/2009
1,2,3-Trichloropropane	BQL	6.25	1	3/9/2009
1,2,4-Trimethylbenzene	12.0	6.25	1	3/9/2009
1,3,5-Trimethylbenzene	7.61	6.25	1	3/9/2009
Vinyl chloride	BQL	6.25	1	3/9/2009
m-,p-Xylene	BQL	12.5	1	3/9/2009
o-Xylene	BQL	6.25	1	3/9/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	61.1	122
Toluene-d8	50	47.5	95
4-Bromofluorobenzene	50	49.8	100

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S009
 Client Project ID: CTO 005
 Lab Sample ID G649-124-2A
 Lab Project ID: G649-124
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 03-06-2009 10:00
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 6.48 g
 %Solids: 71.5

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	53.9	1	3/9/2009
Benzene	BQL	5.39	1	3/9/2009
Bromobenzene	BQL	5.39	1	3/9/2009
Bromochloromethane	BQL	5.39	1	3/9/2009
Bromodichloromethane	BQL	5.39	1	3/9/2009
Bromoform	BQL	5.39	1	3/9/2009
Bromomethane	BQL	5.39	1	3/9/2009
2-Butanone	BQL	26.9	1	3/9/2009
n-Butylbenzene	BQL	5.39	1	3/9/2009
sec-Butylbenzene	BQL	5.39	1	3/9/2009
tert-Butylbenzene	BQL	5.39	1	3/9/2009
Carbon disulfide	BQL	5.39	1	3/9/2009
Carbon tetrachloride	BQL	5.39	1	3/9/2009
Chlorobenzene	BQL	5.39	1	3/9/2009
Chloroform	BQL	5.39	1	3/9/2009
Chloromethane	BQL	5.39	1	3/9/2009
2-Chlorotoluene	BQL	5.39	1	3/9/2009
4-Chlorotoluene	BQL	5.39	1	3/9/2009
Dibromochloromethane	BQL	5.39	1	3/9/2009
1,2-Dibromo-3-chloropropane	BQL	26.9	1	3/9/2009
Dibromomethane	BQL	5.39	1	3/9/2009
1,2-Dibromoethane (EDB)	BQL	5.39	1	3/9/2009
1,2-Dichlorobenzene	BQL	5.39	1	3/9/2009
1,3-Dichlorobenzene	BQL	5.39	1	3/9/2009
1,4-Dichlorobenzene	BQL	5.39	1	3/9/2009
trans-1,4-Dichloro-2-butene	BQL	26.9	1	3/9/2009
1,1-Dichloroethane	BQL	5.39	1	3/9/2009
1,1-Dichloroethene	BQL	5.39	1	3/9/2009
1,2-Dichloroethane	BQL	5.39	1	3/9/2009
cis-1,2-Dichloroethene	BQL	5.39	1	3/9/2009
trans-1,2-dichloroethene	BQL	5.39	1	3/9/2009
1,2-Dichloropropane	BQL	5.39	1	3/9/2009
1,3-Dichloropropane	BQL	5.39	1	3/9/2009
2,2-Dichloropropane	BQL	5.39	1	3/9/2009
1,1-Dichloropropene	BQL	5.39	1	3/9/2009
cis-1,3-Dichloropropene	BQL	5.39	1	3/9/2009
trans-1,3-Dichloropropene	BQL	5.39	1	3/9/2009
Dichlorodifluoromethane	BQL	5.39	1	3/9/2009
Diisopropyl ether (DIPE)	BQL	5.39	1	3/9/2009
Ethylbenzene	BQL	5.39	1	3/9/2009
Hexachlorobutadiene	BQL	5.39	1	3/9/2009
2-Hexanone	BQL	13.5	1	3/9/2009
Iodomethane	BQL	5.39	1	3/9/2009
Isopropylbenzene	BQL	5.39	1	3/9/2009

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: TT2084-S009
Client Project ID: CTO 005
Lab Sample ID G649-124-2A
Lab Project ID: G649-124
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2009 10:00
Date Received: 3/6/2009
Matrix: Soil
Sample Amount: 6.48 g
%Solids: 71.5

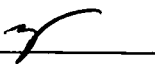
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	5.39	1	3/9/2009
Methylene chloride	BQL	21.6	1	3/9/2009
4-Methyl-2-pentanone	BQL	13.5	1	3/9/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.39	1	3/9/2009
Naphthalene	31.4	5.39	1	3/9/2009
n-Propyl benzene	BQL	5.39	1	3/9/2009
Styrene	BQL	5.39	1	3/9/2009
1,1,1,2-Tetrachloroethane	BQL	5.39	1	3/9/2009
1,1,2,2-Tetrachloroethane	BQL	5.39	1	3/9/2009
Tetrachloroethene	BQL	5.39	1	3/9/2009
Toluene	BQL	5.39	1	3/9/2009
1,2,3-Trichlorobenzene	BQL	5.39	1	3/9/2009
1,2,4-Trichlorobenzene	BQL	5.39	1	3/9/2009
Trichloroethene	BQL	5.39	1	3/9/2009
1,1,1-Trichloroethane	BQL	5.39	1	3/9/2009
1,1,2-Trichloroethane	BQL	5.39	1	3/9/2009
Trichlorofluoromethane	BQL	5.39	1	3/9/2009
1,2,3-Trichloropropane	BQL	5.39	1	3/9/2009
1,2,4-Trimethylbenzene	5.52	5.39	1	3/9/2009
1,3,5-Trimethylbenzene	BQL	5.39	1	3/9/2009
Vinyl chloride	BQL	5.39	1	3/9/2009
m-,p-Xylene	BQL	10.8	1	3/9/2009
o-Xylene	BQL	5.39	1	3/9/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.3	119
Toluene-d8	50	50.8	102
4-Bromofluorobenzene	50	48	96

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S010
Client Project ID: CTO 005
Lab Sample ID G649-124-3A
Lab Project ID: G649-124
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2009 10:06
Date Received: 3/6/2009
Matrix: Soil
Sample Amount: 6.03 g
%Solids: 71.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	57.7	1	3/9/2009
Benzene	BQL	5.77	1	3/9/2009
Bromobenzene	BQL	5.77	1	3/9/2009
Bromochloromethane	BQL	5.77	1	3/9/2009
Bromodichloromethane	BQL	5.77	1	3/9/2009
Bromoform	BQL	5.77	1	3/9/2009
Bromomethane	BQL	5.77	1	3/9/2009
2-Butanone	BQL	28.9	1	3/9/2009
n-Butylbenzene	BQL	5.77	1	3/9/2009
sec-Butylbenzene	BQL	5.77	1	3/9/2009
tert-Butylbenzene	BQL	5.77	1	3/9/2009
Carbon disulfide	BQL	5.77	1	3/9/2009
Carbon tetrachloride	BQL	5.77	1	3/9/2009
Chlorobenzene	BQL	5.77	1	3/9/2009
Chloroform	BQL	5.77	1	3/9/2009
Chloromethane	BQL	5.77	1	3/9/2009
2-Chlorotoluene	BQL	5.77	1	3/9/2009
4-Chlorotoluene	BQL	5.77	1	3/9/2009
Dibromochloromethane	BQL	5.77	1	3/9/2009
1,2-Dibromo-3-chloropropane	BQL	28.9	1	3/9/2009
Dibromomethane	BQL	5.77	1	3/9/2009
1,2-Dibromoethane (EDB)	BQL	5.77	1	3/9/2009
1,2-Dichlorobenzene	BQL	5.77	1	3/9/2009
1,3-Dichlorobenzene	BQL	5.77	1	3/9/2009
1,4-Dichlorobenzene	BQL	5.77	1	3/9/2009
trans-1,4-Dichloro-2-butene	BQL	28.9	1	3/9/2009
1,1-Dichloroethane	BQL	5.77	1	3/9/2009
1,1-Dichloroethene	BQL	5.77	1	3/9/2009
1,2-Dichloroethane	BQL	5.77	1	3/9/2009
cis-1,2-Dichloroethene	BQL	5.77	1	3/9/2009
trans-1,2-dichloroethene	BQL	5.77	1	3/9/2009
1,2-Dichloropropane	BQL	5.77	1	3/9/2009
1,3-Dichloropropane	BQL	5.77	1	3/9/2009
2,2-Dichloropropane	BQL	5.77	1	3/9/2009
1,1-Dichloropropene	BQL	5.77	1	3/9/2009
cis-1,3-Dichloropropene	BQL	5.77	1	3/9/2009
trans-1,3-Dichloropropene	BQL	5.77	1	3/9/2009
Dichlorodifluoromethane	BQL	5.77	1	3/9/2009
Diisopropyl ether (DIPE)	BQL	5.77	1	3/9/2009
Ethylbenzene	BQL	5.77	1	3/9/2009
Hexachlorobutadiene	BQL	5.77	1	3/9/2009
2-Hexanone	BQL	14.4	1	3/9/2009
Iodomethane	BQL	5.77	1	3/9/2009
Isopropylbenzene	BQL	5.77	1	3/9/2009

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S010
 Client Project ID: CTO 005
 Lab Sample ID G649-124-3A
 Lab Project ID: G649-124
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 03-06-2009 10:06
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 6.03 g
 %Solids: 71.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	5.77	1	3/9/2009
Methylene chloride	BQL	23.1	1	3/9/2009
4-Methyl-2-pentanone	BQL	14.4	1	3/9/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.77	1	3/9/2009
Naphthalene	25.6	5.77	1	3/9/2009
n-Propyl benzene	BQL	5.77	1	3/9/2009
Styrene	BQL	5.77	1	3/9/2009
1,1,1,2-Tetrachloroethane	BQL	5.77	1	3/9/2009
1,1,2,2-Tetrachloroethane	BQL	5.77	1	3/9/2009
Tetrachloroethene	BQL	5.77	1	3/9/2009
Toluene	BQL	5.77	1	3/9/2009
1,2,3-Trichlorobenzene	BQL	5.77	1	3/9/2009
1,2,4-Trichlorobenzene	BQL	5.77	1	3/9/2009
Trichloroethene	BQL	5.77	1	3/9/2009
1,1,1-Trichloroethane	BQL	5.77	1	3/9/2009
1,1,2-Trichloroethane	BQL	5.77	1	3/9/2009
Trichlorofluoromethane	BQL	5.77	1	3/9/2009
1,2,3-Trichloropropane	BQL	5.77	1	3/9/2009
1,2,4-Trimethylbenzene	BQL	5.77	1	3/9/2009
1,3,5-Trimethylbenzene	BQL	5.77	1	3/9/2009
Vinyl chloride	BQL	5.77	1	3/9/2009
m-,p-Xylene	BQL	11.5	1	3/9/2009
o-Xylene	BQL	5.77	1	3/9/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	61.3	123
Toluene-d8	50	50.9	102
4-Bromofluorobenzene	50	47.5	95

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S011
 Client Project ID: CTO 005
 Lab Sample ID G649-124-4A
 Lab Project ID: G649-124
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 03-06-2009 10:10
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 6.23 g
 %Solids: 74.8

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	53.6	1	3/9/2009
Benzene	BQL	5.36	1	3/9/2009
Bromobenzene	BQL	5.36	1	3/9/2009
Bromochloromethane	BQL	5.36	1	3/9/2009
Bromodichloromethane	BQL	5.36	1	3/9/2009
Bromoform	BQL	5.36	1	3/9/2009
Bromomethane	BQL	5.36	1	3/9/2009
2-Butanone	BQL	26.8	1	3/9/2009
n-Butylbenzene	BQL	5.36	1	3/9/2009
sec-Butylbenzene	BQL	5.36	1	3/9/2009
tert-Butylbenzene	BQL	5.36	1	3/9/2009
Carbon disulfide	BQL	5.36	1	3/9/2009
Carbon tetrachloride	BQL	5.36	1	3/9/2009
Chlorobenzene	BQL	5.36	1	3/9/2009
Chloroform	BQL	5.36	1	3/9/2009
Chloromethane	BQL	5.36	1	3/9/2009
2-Chlorotoluene	BQL	5.36	1	3/9/2009
4-Chlorotoluene	BQL	5.36	1	3/9/2009
Dibromochloromethane	BQL	5.36	1	3/9/2009
1,2-Dibromo-3-chloropropane	BQL	26.8	1	3/9/2009
Dibromomethane	BQL	5.36	1	3/9/2009
1,2-Dibromoethane (EDB)	BQL	5.36	1	3/9/2009
1,2-Dichlorobenzene	BQL	5.36	1	3/9/2009
1,3-Dichlorobenzene	BQL	5.36	1	3/9/2009
1,4-Dichlorobenzene	BQL	5.36	1	3/9/2009
trans-1,4-Dichloro-2-butene	BQL	26.8	1	3/9/2009
1,1-Dichloroethane	BQL	5.36	1	3/9/2009
1,1-Dichloroethene	BQL	5.36	1	3/9/2009
1,2-Dichloroethane	BQL	5.36	1	3/9/2009
cis-1,2-Dichloroethene	BQL	5.36	1	3/9/2009
trans-1,2-dichloroethene	BQL	5.36	1	3/9/2009
1,2-Dichloropropane	BQL	5.36	1	3/9/2009
1,3-Dichloropropane	BQL	5.36	1	3/9/2009
2,2-Dichloropropane	BQL	5.36	1	3/9/2009
1,1-Dichloropropene	BQL	5.36	1	3/9/2009
cis-1,3-Dichloropropene	BQL	5.36	1	3/9/2009
trans-1,3-Dichloropropene	BQL	5.36	1	3/9/2009
Dichlorodifluoromethane	BQL	5.36	1	3/9/2009
Diisopropyl ether (DIPE)	BQL	5.36	1	3/9/2009
Ethylbenzene	BQL	5.36	1	3/9/2009
Hexachlorobutadiene	BQL	5.36	1	3/9/2009
2-Hexanone	BQL	13.4	1	3/9/2009
Iodomethane	BQL	5.36	1	3/9/2009
Isopropylbenzene	BQL	5.36	1	3/9/2009

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: TT2084-S011
 Client Project ID: CTO 005
 Lab Sample ID G649-124-4A
 Lab Project ID: G649-124
 Report Basis: Dry Weight

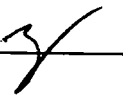
Analyzed By: MJC
 Date Collected: 03-06-2009 10:10
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 6.23 g
 %Solids: 74.8

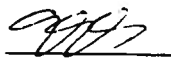
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	5.36	1	3/9/2009
Methylene chloride	BQL	21.5	1	3/9/2009
4-Methyl-2-pentanone	BQL	13.4	1	3/9/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.36	1	3/9/2009
Naphthalene	48.7	5.36	1	3/9/2009
n-Propyl benzene	BQL	5.36	1	3/9/2009
Styrene	BQL	5.36	1	3/9/2009
1,1,1,2-Tetrachloroethane	BQL	5.36	1	3/9/2009
1,1,2,2-Tetrachloroethane	BQL	5.36	1	3/9/2009
Tetrachloroethene	BQL	5.36	1	3/9/2009
Toluene	BQL	5.36	1	3/9/2009
1,2,3-Trichlorobenzene	BQL	5.36	1	3/9/2009
1,2,4-Trichlorobenzene	BQL	5.36	1	3/9/2009
Trichloroethene	BQL	5.36	1	3/9/2009
1,1,1-Trichloroethane	BQL	5.36	1	3/9/2009
1,1,2-Trichloroethane	BQL	5.36	1	3/9/2009
Trichlorofluoromethane	BQL	5.36	1	3/9/2009
1,2,3-Trichloropropane	BQL	5.36	1	3/9/2009
1,2,4-Trimethylbenzene	BQL	5.36	1	3/9/2009
1,3,5-Trimethylbenzene	BQL	5.36	1	3/9/2009
Vinyl chloride	BQL	5.36	1	3/9/2009
m-,p-Xylene	BQL	10.7	1	3/9/2009
o-Xylene	BQL	5.36	1	3/9/2009

Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	61.4
Toluene-d8	50	50.9
4-Bromofluorobenzene	50	48.1

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS Environmental Services, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: Trip Blanks
Client Project ID: CTO 005
Lab Sample ID G649-124-5A
Lab Project ID: G649-124
Report Basis: 0.0

Analyzed By: MJC
Date Collected: 03-06-2009 09:00
Date Received: 3/6/2009
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	50.0	1	3/9/2009
Benzene	BQL	5.00	1	3/9/2009
Bromobenzene	BQL	5.00	1	3/9/2009
Bromochloromethane	BQL	5.00	1	3/9/2009
Bromodichloromethane	BQL	5.00	1	3/9/2009
Bromoform	BQL	5.00	1	3/9/2009
Bromomethane	BQL	5.00	1	3/9/2009
2-Butanone	BQL	25.0	1	3/9/2009
n-Butylbenzene	BQL	5.00	1	3/9/2009
sec-Butylbenzene	BQL	5.00	1	3/9/2009
tert-Butylbenzene	BQL	5.00	1	3/9/2009
Carbon disulfide	BQL	5.00	1	3/9/2009
Carbon tetrachloride	BQL	5.00	1	3/9/2009
Chlorobenzene	BQL	5.00	1	3/9/2009
Chloroform	BQL	5.00	1	3/9/2009
Chloromethane	BQL	5.00	1	3/9/2009
2-Chlorotoluene	BQL	5.00	1	3/9/2009
4-Chlorotoluene	BQL	5.00	1	3/9/2009
Dibromochloromethane	BQL	5.00	1	3/9/2009
1,2-Dibromo-3-chloropropane	BQL	25.0	1	3/9/2009
Dibromomethane	BQL	5.00	1	3/9/2009
1,2-Dibromoethane (EDB)	BQL	5.00	1	3/9/2009
1,2-Dichlorobenzene	BQL	5.00	1	3/9/2009
1,3-Dichlorobenzene	BQL	5.00	1	3/9/2009
1,4-Dichlorobenzene	BQL	5.00	1	3/9/2009
trans-1,4-Dichloro-2-butene	BQL	25.0	1	3/9/2009
1,1-Dichloroethane	BQL	5.00	1	3/9/2009
1,1-Dichloroethene	BQL	5.00	1	3/9/2009
1,2-Dichloroethane	BQL	5.00	1	3/9/2009
cis-1,2-Dichloroethene	BQL	5.00	1	3/9/2009
trans-1,2-dichloroethene	BQL	5.00	1	3/9/2009
1,2-Dichloropropane	BQL	5.00	1	3/9/2009
1,3-Dichloropropane	BQL	5.00	1	3/9/2009
2,2-Dichloropropane	BQL	5.00	1	3/9/2009
1,1-Dichloropropene	BQL	5.00	1	3/9/2009
cis-1,3-Dichloropropene	BQL	5.00	1	3/9/2009
trans-1,3-Dichloropropene	BQL	5.00	1	3/9/2009
Dichlorodifluoromethane	BQL	5.00	1	3/9/2009
Diisopropyl ether (DIPE)	BQL	5.00	1	3/9/2009
Ethylbenzene	BQL	5.00	1	3/9/2009
Hexachlorobutadiene	BQL	5.00	1	3/9/2009
2-Hexanone	BQL	12.5	1	3/9/2009
Iodomethane	BQL	5.00	1	3/9/2009
Isopropylbenzene	BQL	5.00	1	3/9/2009

SGS Environmental Services, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Trip Blanks
 Client Project ID: CTO 005
 Lab Sample ID G649-124-5A
 Lab Project ID: G649-124
 Report Basis: 0.0

Analyzed By: MJC
 Date Collected: 03-06-2009 09:00
 Date Received: 3/6/2009
 Matrix: Soil
 Sample Amount: 5 g
 %Solids: 100.0

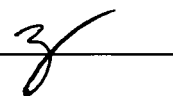
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	5.00	1	3/9/2009
Methylene chloride	BQL	20.0	1	3/9/2009
4-Methyl-2-pentanone	BQL	12.5	1	3/9/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1	3/9/2009
Naphthalene	BQL	5.00	1	3/9/2009
n-Propyl benzene	BQL	5.00	1	3/9/2009
Styrene	BQL	5.00	1	3/9/2009
1,1,1,2-Tetrachloroethane	BQL	5.00	1	3/9/2009
1,1,2,2-Tetrachloroethane	BQL	5.00	1	3/9/2009
Tetrachloroethene	BQL	5.00	1	3/9/2009
Toluene	BQL	5.00	1	3/9/2009
1,2,3-Trichlorobenzene	BQL	5.00	1	3/9/2009
1,2,4-Trichlorobenzene	BQL	5.00	1	3/9/2009
Trichloroethene	BQL	5.00	1	3/9/2009
1,1,1-Trichloroethane	BQL	5.00	1	3/9/2009
1,1,2-Trichloroethane	BQL	5.00	1	3/9/2009
Trichlorofluoromethane	BQL	5.00	1	3/9/2009
1,2,3-Trichloropropane	BQL	5.00	1	3/9/2009
1,2,4-Trimethylbenzene	BQL	5.00	1	3/9/2009
1,3,5-Trimethylbenzene	BQL	5.00	1	3/9/2009
Vinyl chloride	BQL	5.00	1	3/9/2009
m-,p-Xylene	BQL	10.0	1	3/9/2009
o-Xylene	BQL	5.00	1	3/9/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.5	119
Toluene-d8	50	50.2	100
4-Bromofluorobenzene	50	47.2	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S008
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-1G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 33.67 g

Analyzed By: DCS
 Date Collected: 3/6/2009 9:50
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 77.96

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	381	1	3/8/2009
Acenaphthylene	BQL	381	1	3/8/2009
Anthracene	BQL	381	1	3/8/2009
Benzo[a]anthracene	BQL	381	1	3/8/2009
Benzo[a]pyrene	BQL	381	1	3/8/2009
Benzo[b]fluoranthene	BQL	381	1	3/8/2009
Benzo[g,h,i]perylene	BQL	381	1	3/8/2009
Benzo[k]fluoranthene	BQL	381	1	3/8/2009
Benzoic Acid	BQL	762	1	3/8/2009
Bis(2-chloroethoxy)methane	BQL	381	1	3/8/2009
Bis(2-chloroethyl)ether	BQL	381	1	3/8/2009
Bis(2-chloroisopropyl)ether	BQL	381	1	3/8/2009
Bis(2-ethylhexyl)phthalate	BQL	381	1	3/8/2009
4-bromophenyl phenyl ether	BQL	381	1	3/8/2009
Butylbenzylphthalate	BQL	381	1	3/8/2009
2-Chloronaphthalene	BQL	381	1	3/8/2009
2-Chlorophenol	BQL	381	1	3/8/2009
4-Chloro-3-methylphenol	BQL	381	1	3/8/2009
4-Chloroaniline	BQL	1900	1	3/8/2009
4-Chlorophenyl phenyl ether	BQL	381	1	3/8/2009
Chrysene	BQL	381	1	3/8/2009
Dibenzo[a,h]anthracene	BQL	381	1	3/8/2009
Dibenzofuran	BQL	381	1	3/8/2009
Di-n-Butylphthalate	BQL	381	1	3/8/2009
1,2-Dichlorobenzene	BQL	381	1	3/8/2009
1,3-Dichlorobenzene	BQL	381	1	3/8/2009
1,4-Dichlorobenzene	BQL	381	1	3/8/2009
3,3'-Dichlorobenzidine	BQL	762	1	3/8/2009
2,4-Dichlorophenol	BQL	381	1	3/8/2009
Diethylphthalate	BQL	381	1	3/8/2009
Dimethylphthalate	BQL	381	1	3/8/2009
2,4-Dimethylphenol	BQL	381	1	3/8/2009
Di-n-octylphthalate	BQL	381	1	3/8/2009
4,6-Dinitro-2-methylphenol	BQL	1900	1	3/8/2009
2,4-Dinitrophenol	BQL	1900	1	3/8/2009
2,4-Dinitrotoluene	BQL	381	1	3/8/2009
2,6-Dinitrotoluene	BQL	381	1	3/8/2009
Fluoranthene	BQL	381	1	3/8/2009
Fluorene	BQL	381	1	3/8/2009
Hexachlorobenzene	BQL	381	1	3/8/2009
Hexachlorobutadiene	BQL	381	1	3/8/2009
Hexachlorocyclopentadiene	BQL	762	1	3/8/2009
Hexachloroethane	BQL	381	1	3/8/2009
Indeno(1,2,3-c,d)pyrene	BQL	381	1	3/8/2009
Isophorone	BQL	381	1	3/8/2009
2-Methylnaphthalene	BQL	381	1	3/8/2009
2-Methylphenol	BQL	381	1	3/8/2009

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S008
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-1G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 33.67 g

Analyzed By: DCS
 Date Collected: 3/6/2009 9:50
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 77.96

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	381	1	3/8/2009
Naphthalene	BQL	381	1	3/8/2009
2-Nitroaniline	BQL	381	1	3/8/2009
3-Nitroaniline	BQL	1900	1	3/8/2009
4-Nitroaniline	BQL	1900	1	3/8/2009
Nitrobenzene	BQL	381	1	3/8/2009
2-Nitrophenol	BQL	381	1	3/8/2009
4-Nitrophenol	BQL	1900	1	3/8/2009
Diphenylamine *	BQL	381	1	3/8/2009
Pentachlorophenol	BQL	1900	1	3/8/2009
Phenanthrene	BQL	381	1	3/8/2009
Phenol	BQL	381	1	3/8/2009
Pyrene	BQL	381	1	3/8/2009
1,2,4-Trichlorobenzene	BQL	381	1	3/8/2009
2,4,5-Trichlorophenol	BQL	381	1	3/8/2009
2,4,6-Trichlorophenol	BQL	381	1	3/8/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	8.9	89
Phenol-d6	10	10	99
2,4,6-Tribromophenol	10	8.2	82
4-Terphenyl-d14	4	3.5	86

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: MA

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S009
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-2G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 31.22 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:00
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 71.49

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	448	1	3/8/2009
Acenaphthylene	BQL	448	1	3/8/2009
Anthracene	BQL	448	1	3/8/2009
Benzo[a]anthracene	BQL	448	1	3/8/2009
Benzo[a]pyrene	BQL	448	1	3/8/2009
Benzo[b]fluoranthene	BQL	448	1	3/8/2009
Benzo[g,h,i]perylene	BQL	448	1	3/8/2009
Benzo[k]fluoranthene	BQL	448	1	3/8/2009
Benzoic Acid	BQL	896	1	3/8/2009
Bis(2-chloroethoxy)methane	BQL	448	1	3/8/2009
Bis(2-chloroethyl)ether	BQL	448	1	3/8/2009
Bis(2-chloroisopropyl)ether	BQL	448	1	3/8/2009
Bis(2-ethylhexyl)phthalate	BQL	448	1	3/8/2009
4-bromophenyl phenyl ether	BQL	448	1	3/8/2009
Butylbenzylphthalate	BQL	448	1	3/8/2009
2-Chloronaphthalene	BQL	448	1	3/8/2009
2-Chlorophenol	BQL	448	1	3/8/2009
4-Chloro-3-methylphenol	BQL	448	1	3/8/2009
4-Chloroaniline	BQL	2240	1	3/8/2009
4-Chlorophenyl phenyl ether	BQL	448	1	3/8/2009
Chrysene	BQL	448	1	3/8/2009
Dibenzo[a,h]anthracene	BQL	448	1	3/8/2009
Dibenzofuran	BQL	448	1	3/8/2009
Di-n-Butylphthalate	BQL	448	1	3/8/2009
1,2-Dichlorobenzene	BQL	448	1	3/8/2009
1,3-Dichlorobenzene	BQL	448	1	3/8/2009
1,4-Dichlorobenzene	BQL	448	1	3/8/2009
3,3'-Dichlorobenzidine	BQL	896	1	3/8/2009
2,4-Dichlorophenol	BQL	448	1	3/8/2009
Diethylphthalate	BQL	448	1	3/8/2009
Dimethylphthalate	BQL	448	1	3/8/2009
2,4-Dimethylphenol	BQL	448	1	3/8/2009
Di-n-octylphthalate	BQL	448	1	3/8/2009
4,6-Dinitro-2-methylphenol	BQL	2240	1	3/8/2009
2,4-Dinitrophenol	BQL	2240	1	3/8/2009
2,4-Dinitrotoluene	BQL	448	1	3/8/2009
2,6-Dinitrotoluene	BQL	448	1	3/8/2009
Fluoranthene	BQL	448	1	3/8/2009
Fluorene	BQL	448	1	3/8/2009
Hexachlorobenzene	BQL	448	1	3/8/2009
Hexachlorobutadiene	BQL	448	1	3/8/2009
Hexachlorocyclopentadiene	BQL	896	1	3/8/2009
Hexachloroethane	BQL	448	1	3/8/2009
Indeno(1,2,3-c,d)pyrene	BQL	448	1	3/8/2009
Isophorone	BQL	448	1	3/8/2009
2-Methylnaphthalene	BQL	448	1	3/8/2009
2-Methylphenol	BQL	448	1	3/8/2009

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S009
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-2G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 31.22 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:00
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 71.49

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	448	1	3/8/2009
Naphthalene	BQL	448	1	3/8/2009
2-Nitroaniline	BQL	448	1	3/8/2009
3-Nitroaniline	BQL	2240	1	3/8/2009
4-Nitroaniline	BQL	2240	1	3/8/2009
Nitrobenzene	BQL	448	1	3/8/2009
2-Nitrophenol	BQL	448	1	3/8/2009
4-Nitrophenol	BQL	2240	1	3/8/2009
Diphenylamine *	BQL	448	1	3/8/2009
Pentachlorophenol	BQL	2240	1	3/8/2009
Phenanthrene	BQL	448	1	3/8/2009
Phenol	BQL	448	1	3/8/2009
Pyrene	BQL	448	1	3/8/2009
1,2,4-Trichlorobenzene	BQL	448	1	3/8/2009
2,4,5-Trichlorophenol	BQL	448	1	3/8/2009
2,4,6-Trichlorophenol	BQL	448	1	3/8/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	9.2	92
Phenol-d6	10	9.7	97
2,4,6-Tribromophenol	10	8.4	84
4-Terphenyl-d14	4	3.6	89

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: WA

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S010
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-3G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 32.18 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:06
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 71.72

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	433	1	3/8/2009
Acenaphthylene	BQL	433	1	3/8/2009
Anthracene	BQL	433	1	3/8/2009
Benzo[a]anthracene	BQL	433	1	3/8/2009
Benzo[a]pyrene	BQL	433	1	3/8/2009
Benzo[b]fluoranthene	BQL	433	1	3/8/2009
Benzo[g,h,i]perylene	BQL	433	1	3/8/2009
Benzo[k]fluoranthene	BQL	433	1	3/8/2009
Benzoic Acid	BQL	867	1	3/8/2009
Bis(2-chloroethoxy)methane	BQL	433	1	3/8/2009
Bis(2-chloroethyl)ether	BQL	433	1	3/8/2009
Bis(2-chloroisopropyl)ether	BQL	433	1	3/8/2009
Bis(2-ethylhexyl)phthalate	BQL	433	1	3/8/2009
4-bromophenyl phenyl ether	BQL	433	1	3/8/2009
Butylbenzylphthalate	BQL	433	1	3/8/2009
2-Chloronaphthalene	BQL	433	1	3/8/2009
2-Chlorophenol	BQL	433	1	3/8/2009
4-Chloro-3-methylphenol	BQL	433	1	3/8/2009
4-Chloroaniline	BQL	2170	1	3/8/2009
4-Chlorophenyl phenyl ether	BQL	433	1	3/8/2009
Chrysene	BQL	433	1	3/8/2009
Dibenzo[a,h]anthracene	BQL	433	1	3/8/2009
Dibenzofuran	BQL	433	1	3/8/2009
Di-n-Butylphthalate	BQL	433	1	3/8/2009
1,2-Dichlorobenzene	BQL	433	1	3/8/2009
1,3-Dichlorobenzene	BQL	433	1	3/8/2009
1,4-Dichlorobenzene	BQL	433	1	3/8/2009
3,3'-Dichlorobenzidine	BQL	867	1	3/8/2009
2,4-Dichlorophenol	BQL	433	1	3/8/2009
Diethylphthalate	BQL	433	1	3/8/2009
Dimethylphthalate	BQL	433	1	3/8/2009
2,4-Dimethylphenol	BQL	433	1	3/8/2009
Di-n-octylphthalate	BQL	433	1	3/8/2009
4,6-Dinitro-2-methylphenol	BQL	2170	1	3/8/2009
2,4-Dinitrophenol	BQL	2170	1	3/8/2009
2,4-Dinitrotoluene	BQL	433	1	3/8/2009
2,6-Dinitrotoluene	BQL	433	1	3/8/2009
Fluoranthene	BQL	433	1	3/8/2009
Fluorene	BQL	433	1	3/8/2009
Hexachlorobenzene	BQL	433	1	3/8/2009
Hexachlorobutadiene	BQL	433	1	3/8/2009
Hexachlorocyclopentadiene	BQL	867	1	3/8/2009
Hexachloroethane	BQL	433	1	3/8/2009
Indeno(1,2,3-c,d)pyrene	BQL	433	1	3/8/2009
Isophorone	BQL	433	1	3/8/2009
2-Methylnaphthalene	BQL	433	1	3/8/2009
2-Methylphenol	BQL	433	1	3/8/2009

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S010
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-3G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 32.18 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:06
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 71.72

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	433	1	3/8/2009
Naphthalene	BQL	433	1	3/8/2009
2-Nitroaniline	BQL	433	1	3/8/2009
3-Nitroaniline	BQL	2170	1	3/8/2009
4-Nitroaniline	BQL	2170	1	3/8/2009
Nitrobenzene	BQL	433	1	3/8/2009
2-Nitrophenol	BQL	433	1	3/8/2009
4-Nitrophenol	BQL	2170	1	3/8/2009
Diphenylamine *	BQL	433	1	3/8/2009
Pentachlorophenol	BQL	2170	1	3/8/2009
Phenanthrene	BQL	433	1	3/8/2009
Phenol	BQL	433	1	3/8/2009
Pyrene	BQL	433	1	3/8/2009
1,2,4-Trichlorobenzene	BQL	433	1	3/8/2009
2,4,5-Trichlorophenol	BQL	433	1	3/8/2009
2,4,6-Trichlorophenol	BQL	433	1	3/8/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.8	88
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	9.5	95
2,4,6-Tribromophenol	10	8.3	83
4-Terphenyl-d14	4	3.5	87

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: ME

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S011
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-4G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 31.77 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:10
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 74.82

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	421	1	3/8/2009
Acenaphthylene	BQL	421	1	3/8/2009
Anthracene	BQL	421	1	3/8/2009
Benzo[a]anthracene	BQL	421	1	3/8/2009
Benzo[a]pyrene	BQL	421	1	3/8/2009
Benzo[b]fluoranthene	BQL	421	1	3/8/2009
Benzo[g,h,i]perylene	BQL	421	1	3/8/2009
Benzo[k]fluoranthene	BQL	421	1	3/8/2009
Benzoic Acid	BQL	841	1	3/8/2009
Bis(2-chloroethoxy)methane	BQL	421	1	3/8/2009
Bis(2-chloroethyl)ether	BQL	421	1	3/8/2009
Bis(2-chloroisopropyl)ether	BQL	421	1	3/8/2009
Bis(2-ethylhexyl)phthalate	BQL	421	1	3/8/2009
4-bromophenyl phenyl ether	BQL	421	1	3/8/2009
Butylbenzylphthalate	BQL	421	1	3/8/2009
2-Chloronaphthalene	BQL	421	1	3/8/2009
2-Chlorophenol	BQL	421	1	3/8/2009
4-Chloro-3-methylphenol	BQL	421	1	3/8/2009
4-Chloroaniline	BQL	2100	1	3/8/2009
4-Chlorophenyl phenyl ether	BQL	421	1	3/8/2009
Chrysene	BQL	421	1	3/8/2009
Dibenzo[a,h]anthracene	BQL	421	1	3/8/2009
Dibenzofuran	BQL	421	1	3/8/2009
Di-n-Butylphthalate	BQL	421	1	3/8/2009
1,2-Dichlorobenzene	BQL	421	1	3/8/2009
1,3-Dichlorobenzene	BQL	421	1	3/8/2009
1,4-Dichlorobenzene	BQL	421	1	3/8/2009
3,3'-Dichlorobenzidine	BQL	841	1	3/8/2009
2,4-Dichlorophenol	BQL	421	1	3/8/2009
Diethylphthalate	BQL	421	1	3/8/2009
Dimethylphthalate	BQL	421	1	3/8/2009
2,4-Dimethylphenol	BQL	421	1	3/8/2009
Di-n-octylphthalate	BQL	421	1	3/8/2009
4,6-Dinitro-2-methylphenol	BQL	2100	1	3/8/2009
2,4-Dinitrophenol	BQL	2100	1	3/8/2009
2,4-Dinitrotoluene	BQL	421	1	3/8/2009
2,6-Dinitrotoluene	BQL	421	1	3/8/2009
Fluoranthene	BQL	421	1	3/8/2009
Fluorene	BQL	421	1	3/8/2009
Hexachlorobenzene	BQL	421	1	3/8/2009
Hexachlorobutadiene	BQL	421	1	3/8/2009
Hexachlorocyclopentadiene	BQL	841	1	3/8/2009
Hexachloroethane	BQL	421	1	3/8/2009
Indeno(1,2,3-c,d)pyrene	BQL	421	1	3/8/2009
Isophorone	BQL	421	1	3/8/2009
2-Methylnaphthalene	BQL	421	1	3/8/2009
2-Methylphenol	BQL	421	1	3/8/2009

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2084-S011
 Client Project ID: CTO 005
 Lab Sample ID: G649-124-4G
 Lab Project ID: G649-124
 Report Basis: Dry weight
 Initial Weight: 31.77 g

Analyzed By: DCS
 Date Collected: 3/6/2009 10:10
 Date Received: 3/6/2009
 Date Extracted: 3/7/2009
 Matrix: Soil
 % Solids: 74.82

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	421	1	3/8/2009
Naphthalene	BQL	421	1	3/8/2009
2-Nitroaniline	BQL	421	1	3/8/2009
3-Nitroaniline	BQL	2100	1	3/8/2009
4-Nitroaniline	BQL	2100	1	3/8/2009
Nitrobenzene	BQL	421	1	3/8/2009
2-Nitrophenol	BQL	421	1	3/8/2009
4-Nitrophenol	BQL	2100	1	3/8/2009
Diphenylamine *	BQL	421	1	3/8/2009
Pentachlorophenol	BQL	2100	1	3/8/2009
Phenanthrene	BQL	421	1	3/8/2009
Phenol	BQL	421	1	3/8/2009
Pyrene	BQL	421	1	3/8/2009
1,2,4-Trichlorobenzene	BQL	421	1	3/8/2009
2,4,5-Trichlorophenol	BQL	421	1	3/8/2009
2,4,6-Trichlorophenol	BQL	421	1	3/8/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.5	85
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	8.5	85
Phenol-d6	10	9.3	93
2,4,6-Tribromophenol	10	7.9	79
4-Terphenyl-d14	4	3.4	84

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

SGS Environmental Services, Inc.

Shane Chasteen
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

Report Number: G128-2344

Client Project: TT2084

Dear Shane Chasteen,

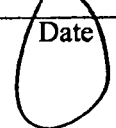
Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS Environmental Services at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.


Project Manager
Ashley Nifong

Date 4/6/09

SGS Environmental Services, Inc.

List of Reporting Abbreviations And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

SGS Environmental Services, Inc.

Results for Volatiles

by GC 602

Client Sample ID: TT2084-TW01

Analyzed By: RSB

Client Project ID: TT2084

Date Collected: 3/25/2009 13:00

Lab Sample ID: G128-2344-1D

Date Received: 3/25/2009

Lab Project ID: G128-2344

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.177	1	3/31/2009	
Diisopropyl ether (DIPE)	BQL	1.00	0.253	1	3/31/2009	
Ethylbenzene	BQL	1.00	0.19	1	3/31/2009	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.306	1	3/31/2009	
Toluene	BQL	1.00	0.313	1	3/31/2009	
m/p-Xylene	BQL	2.00	0.481	1	3/31/2009	
o-Xylene	BQL	2.00	0.405	1	3/31/2009	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	41.2	103

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 625

Client Sample ID: TT2084-TW01
 Client Project ID: TT2084
 Lab Sample ID: G128-2344-1K
 Lab Project ID: G128-2344

Analyzed By: DCS
 Date Collected: 3/25/2009 13:00
 Date Received: 3/25/2009
 Date Extracted: 3/25/2009
 Matrix: Water

Initial/Final Amt: 862 mL / 5.0 mL

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	5.80	0.864	1	3/26/2009	
Acenaphthylene	BQL	5.80	0.864	1	3/26/2009	
Anthracene	BQL	5.80	1.02	1	3/26/2009	
Benzo[a]anthracene	BQL	5.80	0.789	1	3/26/2009	
Benzo[a]pyrene	BQL	5.80	0.737	1	3/26/2009	
Benzo[b]fluoranthene	BQL	5.80	0.829	1	3/26/2009	
Benzo[g,h,i]perylene	BQL	5.80	0.713	1	3/26/2009	
Benzo[k]fluoranthene	BQL	5.80	0.638	1	3/26/2009	
Bis(2-chloroethoxy)methane	BQL	5.80	1.19	1	3/26/2009	
Bis(2-chloroethyl)ether	BQL	5.80	1.21	1	3/26/2009	
Bis(2-chloroisopropyl)ether	BQL	5.80	1.13	1	3/26/2009	
Bis(2-ethylhexyl)phthalate	0.522	5.80	0.476	1	3/26/2009	J
4-bromophenyl phenyl ether	BQL	5.80	0.905	1	3/26/2009	
Butylbenzylphthalate	BQL	5.80	0.516	1	3/26/2009	
2-Chloronaphthalene	BQL	5.80	1.00	1	3/26/2009	
2-Chlorophenol	BQL	5.80	1.36	1	3/26/2009	
4-Chloro-3-methylphenol	BQL	5.80	0.922	1	3/26/2009	
4-Chlorophenyl phenyl ether	BQL	5.80	3.78	1	3/26/2009	
Chrysene	BQL	5.80	0.644	1	3/26/2009	
Dibenzo[a,h]anthracene	BQL	5.80	0.510	1	3/26/2009	
Di-n-Butylphthalate	BQL	5.80	0.957	1	3/26/2009	
3,3'-Dichlorobenzidine	BQL	11.6	1.42	1	3/26/2009	
2,4-Dichlorophenol	BQL	5.80	1.30	1	3/26/2009	
Diethylphthalate	BQL	5.80	0.858	1	3/26/2009	
Dimethylphthalate	BQL	5.80	0.644	1	3/26/2009	
2,4-Dimethylphenol	BQL	5.80	1.88	1	3/26/2009	
Di-n-octylphthalate	BQL	5.80	0.673	1	3/26/2009	
4,6-Dinitro-2-methylphenol	BQL	29.0	0.638	1	3/26/2009	
2,4-Dinitrophenol	BQL	29.0	0.742	1	3/26/2009	
2,4-Dinitrotoluene	BQL	5.80	0.621	1	3/26/2009	
2,6-Dinitrotoluene	BQL	5.80	0.754	1	3/26/2009	
Diphenylamine *	BQL	5.80	0.661	1	3/26/2009	
Fluoranthene	BQL	5.80	0.818	1	3/26/2009	
Fluorene	BQL	5.80	0.841	1	3/26/2009	
Hexachlorobenzene	BQL	5.80	0.586	1	3/26/2009	
Hexachlorobutadiene	BQL	5.80	0.882	1	3/26/2009	
Hexachlorocyclopentadiene	BQL	11.6	11.6	1	3/26/2009	
Hexachloroethane	BQL	5.80	0.864	1	3/26/2009	
Indeno(1,2,3-c,d)pyrene	BQL	5.80	2.65	1	3/26/2009	
Isophorone	BQL	5.80	1.03	1	3/26/2009	
Naphthalene	4.41	5.80	1.06	1	3/26/2009	J
Nitrobenzene	BQL	5.80	1.22	1	3/26/2009	
2-Nitrophenol	BQL	5.80	1.43	1	3/26/2009	
4-Nitrophenol	BQL	29.0	1.25	1	3/26/2009	
N-Nitrosodi-n-propylamine	BQL	5.80	1.74	1	3/26/2009	
Pentachlorophenol	BQL	29.0	1.64	1	3/26/2009	
Phenanthrene	BQL	5.80	0.516	1	3/26/2009	

SGS Environmental Services, Inc.

Results for Semivolatiles
by GCMS 625

Client Sample ID: TT2084-TW01
Client Project ID: TT2084
Lab Sample ID: G128-2344-1K
Lab Project ID: G128-2344

Analyzed By: DCS
Date Collected: 3/25/2009 13:00
Date Received: 3/25/2009
Date Extracted: 3/25/2009
Matrix: Water

Initial/Final Amt: 862 mL / 5.0 mL

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Phenol	BQL	5.80	1.23	1	3/26/2009	
Pyrene	BQL	5.80	2.40	1	3/26/2009	
1,2,4-Trichlorobenzene	BQL	5.80	0.835	1	3/26/2009	
2,4,6-Trichlorophenol	BQL	5.80	1.07	1	3/26/2009	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	9.1	91		
2-Fluorophenol		10	8.6	86		
Nitrobenzene-d5		10	9.8	98		
Phenol-d6		10	9.2	92		
2,4,6-Tribromophenol		10	11.2	112		
4-Terphenyl-d14		10	9.1	91		

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: TT2084-TW01
Client Project ID: TT2084
Lab Sample ID: G128-2344-1K
Lab Project ID: G128-2344
Sample Wt/Vol: 862 ML
Dilution: 1

Analyzed By: DES
Date Collected: 3/25/2009 13:00
Date Received: 3/25/2009
Date Extracted: 3/25/2009
Date Analyzed: 3/26/2009
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result ug/L
	No TICs present				

Comment:

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak area of the compound compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: 

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: TT2084

Sample Information	
Sample Identification	TT2084-TW01
Sample Matrix	Water
Date Collected	03/25/09 13:00
Date Received	03/25/09
Date Extracted	03/26/09
Date Analyzed	03/27/09 15:39 - 03/27/09 16:07
Dry Weight	NA
Dilution Factor	1 - 1
Initial Volume (mL)	800
Final Volume (mL)	5.0

Analytical Results			
Analytes**	Result µg/L	Report Limit µg/L	Flags
C9-C18 Aliphatics	BQL	100	
C19-C36 Aliphatics	BQL	100	
C11-C22 Aromatics	BQL	100	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	112		40	140
Aromatic (ortho-terphenyl)	108		40	140
Fractionation 1 (2-bromonaphthalene)	118		40	140
Fractionation 2 (2-fluorobiphenyl)	120		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G128-2344-1M	Lab Info: G128-2344-1M
Aliphatic: EP032709/015F1301.D	Aromatic: EP032709/016F1401.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 03/27/09
03/27/09Filenames: ep032709/001f0101.d
ep032709/002f0201.d

Calibration Check

Range	Levels		%Difference if CF %Drift if LR ✓	Limits
	(µg/L)	(mg/Kg)		
C9-C18 Aliphatics	100	16.7	-5.3	≤±25%
C19-C36 Aliphatics	100	16.7	-6.1	≤±25%
C11-C22 Aromatics	100	16.7	2.6	≤±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/24/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	200	33.3	6.70	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	4.67	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	2.55	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 03/27/09
03/27/09Filenames: ep032709/001f1501.d
ep032709/002f1601.d

Calibration Check

Range	Levels (µg/L) (mg/Kg)		%Difference if CF %Drift if LR ✓	Limits
C9-C18 Aliphatics	100	16.7	1.3	±25%
C19-C36 Aliphatics	100	16.7	2.8	±25%
C11-C22 Aromatics	100	16.7	2.3	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: TT2084

Sample Information	
Sample Identification	TT2084-TW01
Sample Matrix	Water
Collection Option (for Soil)*	NA
Date Collected	03/25/09 13:00
Date Received	03/25/09
Date Extracted	03/31/09 19:02 - 03/31/09 19:02
Date Analyzed	03/31/09 19:02 - 03/31/09 19:02
Dry Weight	NA
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result µg/L	Report Limit µg/L	Flags	
C ₅ -C ₈ Aliphatics**	BQL	100		
C ₉ -C ₁₂ Aliphatics**	BQL	100		
C ₉ -C ₁₀ Aromatics**	BQL	100		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	99.0		70	130
Surrogate % Recovery - FID	98.9		70	130

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g128-2344-1a	Lab Info: g128-2344-1a
FID Info: VP033109/025F0101.D	PID Info: VP033109/025R0101.D

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/28/09PID Initial Calibration Date: 03/28/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	7.11	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	0.99	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.28	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 03/31/09Filename: VP033109/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C ₅ -C ₈ Aliphatics	200	16	-0.5	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-7.4	±25%
C ₉ -C ₁₀ Aromatics	200	16	7.5	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/28/09PID Initial Calibration Date: 03/28/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C ₅ -C ₈ Aliphatics	2.02	0.175	6.42	0.557	100	10
C ₉ -C ₁₂ Aliphatics	1.51	0.118	4.80	0.375	100	10
C ₉ -C ₁₀ Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR ✓	Method of Quantitation
C ₅ -C ₈ Aliphatics	10	0.8	7.11	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₂ Aliphatics	10	0.8	0.99	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C ₉ -C ₁₀ Aromatics	10	0.8	11.28	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 03/31/09Filename: VP033109/038F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C ₅ -C ₈ Aliphatics	200	16	-10.6	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-10.7	±25%
C ₉ -C ₁₀ Aromatics	200	16	3.9	±25%

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



SGS Environmental Services Inc.
CHAIN OF CUSTODY RECORD

Locations Nationwide
• Alaska • Maryland
• New Jersey • New York
• North Carolina • Ohio
• West Virginia
www.us.sgs.com

1 CLIENT: <u>CATLIN Eng. & Sci</u> CONTACT: <u>SHANE CHASTAIN</u> PHONE NO: _____ PROJECT: <u>TT2084</u> SITE/PWSID#: _____ REPORTS TO: <u>CATLIN ATTN.</u> EMAIL: _____ INVOICE TO: <u>CATLIN</u> QUOTE #: <u>DOD 101</u> P.O. #: _____					SGS Reference #: <u>G128-2344</u> page <u>1</u> of <u>1</u>												
2					# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	3 Preservatives Used Analysis Required <u>EPA 602</u> <u>EPA 625-TICS</u> <u>MADEP EPA</u> <u>MADEP VPH</u>										REMARKS/ LOC ID <u>EDD FORM</u> <u>PWS RPT</u> <u>LOW RUNS</u>
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE													
<u>4/2</u>	<u>TT2084 - TMD1</u>	<u>3-25-09</u>	<u>1300</u>	<u>GW</u>													
5 Collected/Relinquished By: (1) <u>[Signature]</u> Date <u>3/25/09</u> Time <u>1600</u> Relinquished By: (2) _____ Date _____ Time _____ Relinquished By: (3) _____ Date _____ Time _____ Relinquished By: (4) _____ Date <u>3/25/09</u> Time <u>1600</u>					4 DOD Project? YES NO Cooler ID _____ Requested Turnaround Time and-or Special Instructions: <u>STANDARD</u> Samples Received Cold? <u>YES</u> NO Cooler TB Temperature °C: <u>11.6 °C. on ice can down to 5 °C</u> Chain of Custody Seal: (Circle) INTACT BROKEN <u>ABSENT</u>												

N.C. Certification #481

Page 13 of 13

APPENDIX F
PHOTOGRAPHS



Excavation after removal of UST TT-2084



Final depth of excavation at UST TT-2084

APPENDIX G

WELL CONSTRUCTION/ABANDONMENT RECORD



Non RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources - Division of Water Quality

WELL CONTRACTOR CERTIFICATION #: 2927

1. WELL CONTRACTOR:

William J. Miller

Well Contractor (Individual) Name

CATLIN Engineers and Scientists

Well Contractor Company Name

STREET ADDRESS 220 Old Dairy Road

Wilmington North Carolina 28405

City or Town State Zip Code

(910) - 452-5861

Area code - Phone number

2. WELL INFORMATION

SITE WELL ID #(if applicable): TT2084-TW01

STATE WELL PERMIT #(if applicable): N/A

DWQ or OTHER PERMIT #(if applicable): N/A

WELL USE (Check Applicable Box): Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use):

DATE DRILLED: 03/24/2009

TIME COMPLETED:

AM ☐ PM ☐

3. WELL LOCATION:

CITY: Jacksonville

COUNTY: Onslow

(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING

Slope ☐ Valley ☐ Flat ☒ Ridge ☐ Other: _____

NORTHING: 3,846,605.6

EASTING: 282,144.7

UTM NAD83 (m)

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topo. map

(Location of well must be shown on a USGS topo map and attached to this form if not using a GPS.)

4. FACILITY - is the name of the business where the well is located.

FACILITY ID #(if applicable) N/A

NAME OF FACILITY:

STREET ADDRESS:

Jacksonville NC

City or Town State Zip Code

CONTACT PERSON: Dr. Johanna Arnold

STREET ADDRESS: Attn: I&E/ EMD/ EQB/ PSC Box 20004

Camp Lejeune NC

City or Town State Zip Code

(910)- 451-9017

Area code - Phone number

5. WELL DETAILS:

a. TOTAL DEPTH: 14.25

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

c. WATER LEVEL Below Top of Casing: 8.06 FT.

(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 0.75 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118

e. YIELD (gpm): N/A METHOD OF TEST: N/A

f. DISINFECTION: Type N/A Amount: N/A

g. WATER ZONES (depth):

From _____ To _____ From _____ To _____

From _____ To _____ From _____ To _____

From _____ To _____ From _____ To _____

6. CASING:

From	To	Depth	Diameter	Thickness/Weight	Material
0	4	ft.	1"	Sch. 40	PVC
_____	_____	ft.	"	_____	_____
_____	_____	ft.	"	_____	_____

7. GROUT:

From	To	Depth	Material	Method
0.5	1.5	Ft.	Bent. Pellets	Surface Pour
_____	_____	Ft.	_____	_____

8. SCREEN:

From	To	Depth	Diameter	Slot Size	Material
4	14	Ft.	1 in.	Slot .010in.	PVC
_____	_____	Ft.	in.	in.	_____
_____	_____	Ft.	in.	in.	_____

9. SAND/GRAVEL PACK:

From	To	Depth	Size	Material
1.5	14.25	Ft.	#2 Medium	Torpedo Sand
_____	_____	Ft.	_____	_____
_____	_____	Ft.	_____	_____

10. DRILLING LOG

From To Formation Description

SEE ATTACHED

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR

DATE

William J. Miller

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

SHEET 1 OF 1

 Bentonite Pellets  #2 Medium Sand



WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources - Division of Water Quality

WELL CONTRACTOR CERTIFICATION #: 2927

CATLIN PROJECT NO.: 209-022

1. WELL CONTRACTOR:

William J. Miller

Well Contractor (Individual) Name

CATLIN Engineers and Scientists

Well Contractor Company Name

STREET ADDRESS 220 Old Dairy Road

Wilmington

North Carolina

28405

City or Town

State

Zip Code

(910) - 452-5861

Area code - Phone number

2. WELL INFORMATION

SITE WELL ID # (if applicable): TT2084-TW01

STATE WELL PERMIT # (if applicable): N.A.

COUNTY WELL PERMIT # (if applicable): N.A.

DWQ or OTHER PERMIT # (if applicable):

WELL USE (Check Applicable Box): Monitoring ☒ Residential ☐
Municipal/Public ☐ Industrial/Commercial ☐ Agricultural ☐
Recovery ☐ Injection ☐ Irrigation ☐

Other (list use):

3. WELL LOCATION:

COUNTY: Onslow QUADRANGLE:

NEAREST TOWN: Jacksonville

(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING

Slope ☐ Valley ☐ Flat ☒ Ridge ☐ Other: _____

NORTHING: 3,846,605.6

EASTING: 282,144.7

UTM NAD83 (m)

May be in degrees, minutes, seconds, or in a decimal

Latitude/longitude source: GPS Topo. map

(Location of well must be shown on a USGS topo map and attached to this form if not using a GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b.
(If a residential well, skip 4a, complete 4b, well owner information only)

FACILITY ID # (if applicable)

NAME OF FACILITY:

STREET ADDRESS:

Jacksonville

North Carolina

City or Town

State

Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME: Dr. Johanna Arnold

STREET ADDRESS: Attn: I&E/ EMD/ EQB/ PSC Box 20004

Camp Lejeune

NC

28542-0004

City or Town

State

Zip Code

(910) 451-9017

Area code - Phone number

5. WELL DETAILS:

a. Total Depth: 14.25 ft. Diameter: 1 in.

b. Water Level (Below Measuring Point): 8.06 ft.

Measuring point is 0.8 ft. above land surface

6. CASING:

Length

Diameter

a. Casing Depth (if known): 4 ft. 1 in.

b. Casing Removed: 4 ft. 1 in.

7. DISINFECTION: N/A

(Amount of 70% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement _____ lb.

Water _____ gal.

Sand Cement

Cement _____ lb.

Water _____ gal.

Bentonite

Bentonite 5 lb.

Type: Slurry _____ Pellets ☒

Water 5 gal.

Other

Type material _____

Amount _____

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Well and casing removed. Hole backfilled with Benseal.

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 3/25/2009

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[Signature]
SIGNATURE OF CERTIFIED WELL CONTRACTOR

4-3-09
DATE

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C. 0113)

DATE

William J. Miller

PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center - Raleigh, NC 27699167, Phone No. (919) 733-7015 ext 568.

Modified from
Form GW-30
Rev. 5/06