

**UNDERGROUND STORAGE TANK
CLOSURE REPORT**

**UST TT-2361
Tarawa Terrace**

**Marine Corps Base
Camp Lejeune, North Carolina**

October 15, 2008



**Contract No. N40085-08-D-1401
CTO No. 0002**

**UST-12
UNDERGROUND STORAGE TANK CLOSURE REPORT
BUILDING TT-2361
TARAWA TERRACE
MCB CAMP LEJEUNE, NORTH CAROLINA**

A. GENERAL INFORMATION

1. Facility Information

a. Facility Name:

Building TT-2361
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
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, Environmental Management
Division
MCB Camp Lejeune, North Carolina 28542
(910) 451-5068

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

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

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

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

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-2361	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 aboard Marine Corps Base Camp Lejeune within the Tarawa Terrace Housing Area. The construction area, where existing housing sites are being 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 10 feet below ground surface.

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

The nearest surface water body is an unnamed tributary of the New River, which is approximately 2,221 feet southwest of the site. Groundwater flow direction in the surficial aquifer is estimated to flow toward the river. 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.

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:

The tank was discovered by Actus Lend Lease on August 26, 2008 while personnel were clearing land as part of a housing demolition. The top of the UST was visible and had been lightly damaged by heavy equipment. On August 26, 2008, approximately 500 gallons of contaminated water was pumped from the tank. The tank was removed and transported to EMD, Resource Conservation and Recovery Section (RCRS) Building 977 for cleaning.

Once removed, Osage was tasked with tank cleaning and disposal. The tank was cleaned with water. Purge water was disposed of at EMD, Resource Conservation and Recovery Section (RCRS) Building 977.

The tank was transported to Jacksonville Scrap Iron and Metal Company for disposal on September 2, 2008. The disposal manifest is in Appendix D.

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

Approximately 500 gallons of contaminated water was pumped from the tank.

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

500 gallons of contaminated water was pumped from the tank. Approximately 150 gallons of rinsate water was collected during the cleaning of the tank and was disposed at EMD/RCRS 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:

EMD contacted Osage on Friday August 26, 2008 about the discovery of the tank. A site visit was conducted to inspect the tank area. Osage mobilized to the site on August 26, 2008 to remove the UST. Once the UST was removed, petroleum odor and staining were encountered. A Mini Rae photo ionization detector (PID) was used to scan soils in the tank basin where readings exceeded 50 ppm. The excavation limits measured approximately 8' (Length) x 12' (Width) x 9' (Depth).

An over excavation was performed at the site on September 4, 2008 in an attempt to remove contaminated soil. The final excavation dimensions were 13' (Length) x 16' (Width) x 11' (Depth). The excavation was backfilled on September 15, 2008.

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 55.25 tons of soil was excavated from the tank basin – 28.54 tons of contaminated soil was excavated on August 26, 2008, and 26.71 tons was removed during over excavation activities on September 4, 2008.

d. Describe the soil type(s) encountered:
Based on field observation of the tank excavation, the following soil types were noted:

Feet Below Land Surface (BLS)	Description
0.0-2.5	Light brown silty sand with intervals of dark silty sand
2.5-6.5	Light brown silty clay with sand
6.5-9.0	Light brown to tan clayey sand
9.0-11.0	Tan to white fine sand

e. Describe the type and source of backfill used:
Common fill (sand) was used as backfill material. Backfilling of the excavation area took place on September 15, 2008. 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:
No water, free product, or bedrock was encountered during the excavation process.

5. Contaminated soil

During UST removal activities and over excavation, a total of 55.25 tons of contaminated soil were excavated. The contaminated soil was transported to a lay down facility at the Base (Building TP-467) to await disposal via contract N62470-08-D-1007, CTO 056.

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 exceeded 50 ppm. The MiniRae 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 TT-2361-S001 through S005) were collected from the tank basin on August 26, 2008 immediately following excavation of the tank and associated soils. Soil samples TT-2361-S001 through S004 were collected from the sidewalls at a depth of 3.0 feet. Soil sample TT-2361-S005 was obtained from the bottom of the tank basin at approximately 9 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 Total Petroleum Hydrocarbons (TPH) Gasoline and Diesel Range Organics (GRO/DRO) via EPA Method 8015/5030 and 3550.

On September 4, 2008, Osage returned to the site to over excavate soil sample locations S001, S002, S003, and S005 due to the presence of TPH DRO concentrations above the 10 mg/kg NCDENR Action Level. An additional 26.71 tons of contaminated soil was excavated from the tank basin resulting in a total removal of 55.25 tons. After over excavation, four confirmation soil samples were collected (soil samples TT2361-S006, TT2361-S007, TT2361-S008, and TT2361-S009). Soil samples S006, S007, and S008 were collected at a depth of 3.0 feet BLS to correspond to the previous samples S001, S002, and S003, respectively. Soil sample S009 was obtained from the bottom of the excavation at 11 feet BLS. Samples were again placed into laboratory provided glassware, properly labeled, and transported directly to SGS under proper chain of custody. Samples were analyzed using EPA Methods 8260, 8270, and MADEP VPH/EPH.

3. Document groundwater sampling information:

Groundwater was not encountered during this investigation; therefore, no groundwater samples were collected.

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 for the samples collected on August 26, 2008 and September 4, 2008.

5. Describe investigation results:

Some 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.

Once the tank was removed from the subsurface on August 26, 2008, Osage collected five soil samples as shown on Figure 2. Soil samples S001-S004 were taken from the sidewalls, and sample S005 was taken from the bottom of the excavation. Soil samples were analyzed for TPH GRO and DRO via EPA Method 8015/5030 and 3550. None of the soil samples exhibited detectable TPH GRO concentrations. Laboratory analysis, however, indicated the presence of TPH DRO above the NCDENR Action Level of 10 ppm. Sample S001, S002, S003, and S005 contained noncompliant TPH DRO concentrations of 771 mg/kg, 312 mg/kg, 525 mg/kg, and 32.7 mg/kg, respectively.

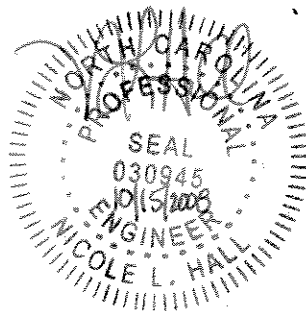
Osage returned to the site on September 4, 2008 to over excavate soil in locations S001, S002, S003, and S005 as a result of the exceedences. Once over-excavation was complete, Osage obtained additional confirmation soil samples S006 - S009. These samples were sent to SGS for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Only Acetone (13.6 $\mu\text{g}/\text{kg}$) was detected in soil sample TT2361-S007 at a concentration less than the lowest Maximum Soil Contaminant Concentration (STGW MSCC, 2,800 $\mu\text{g}/\text{kg}$). All other compounds in each soil sample were reported as below the method detection limit.

D. Conclusions and Recommendation

A total of 55.25 tons of contaminated soil was removed from the Building TT-2361 site as a result of two excavation events. Final confirmation soil sample results showed that all soil contaminants were either below method detection limits or less than the lowest MSCC; therefore, this site meets the criteria to receive No Further Action.

Signature and seal of certifying Professional Engineer or Licensed Geologist

Nicole L. Hall



F. Enclosures

1. Figures

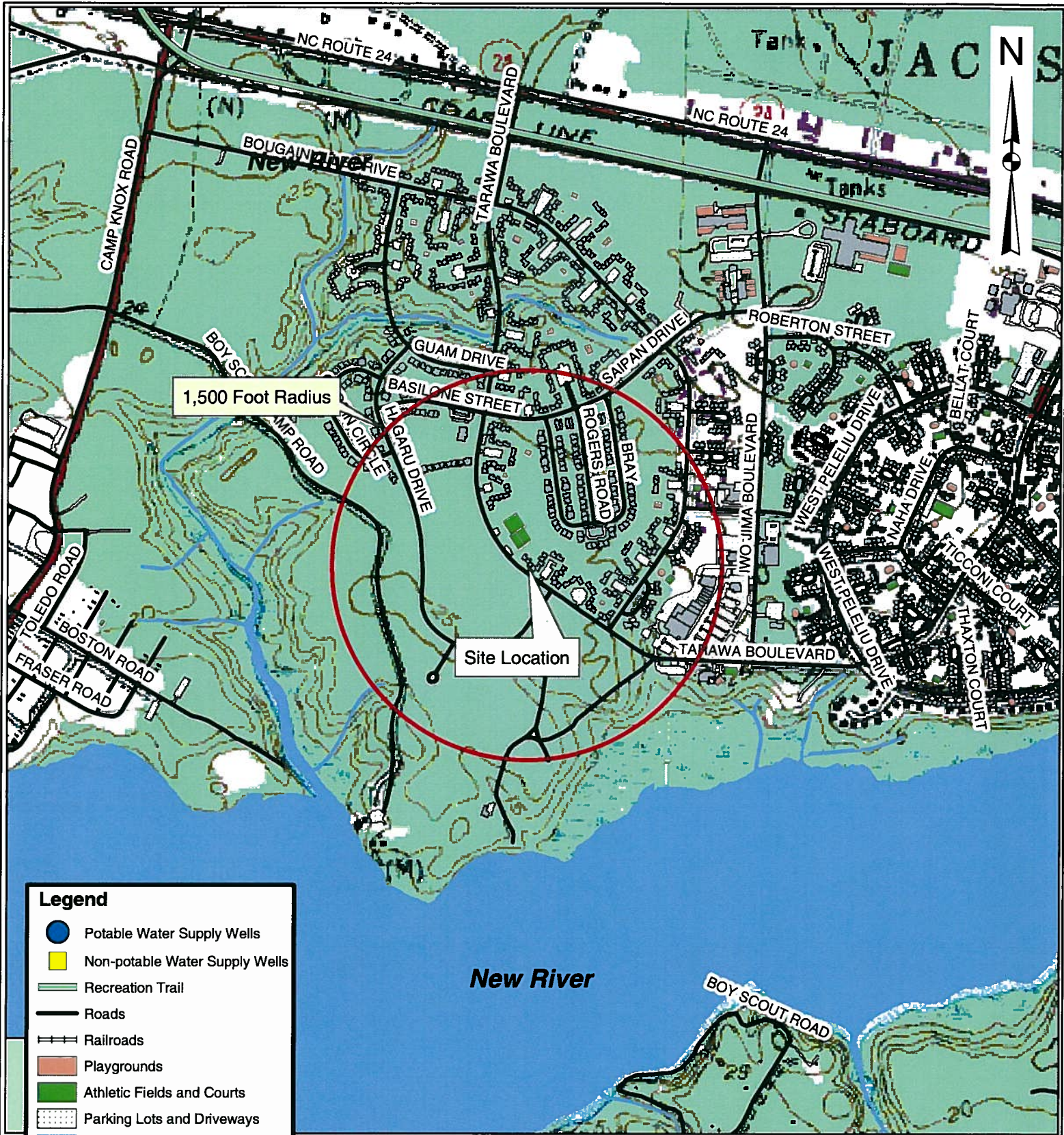
- a. USGS Topographic Map**
- b. Site Map**

2. Tables

- a. Summary of Soil Laboratory Results – Event on August 26, 2008**
- b. Summary of Soil Laboratory Results – Event on September 4, 2008**

3. Appendices

- Appendix A: Site Investigation Report for Permanent Closure or Change-in-Service of UST (UST-2)**
- Appendix B: 24 Hour Release and UST Leak Reporting Form (UST-61)**
- Appendix C: Certificate of UST disposal**
- Appendix D: Disposal Manifests**
- Appendix E: Laboratory Analytical Reports**
- Appendix F: Photographs**



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

	PROJECT TANK REMOVAL BUILDING TT-2361 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SITE LOCATION MAP		FIGURE 1
	JOB NO. 206-094	DATE SEPT 2008	SCALE AS SHOWN	DRAWN BY SAC	

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS
 EPA Method 8015 (GRO and DRO)
 Excavation/Sampling Event on 8/26/2008

Sample ID	Contaminant of Concern →		Gasoline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR ACTION LEVEL (mg/kg)			10	10
TT-2361-S001	8/26/2008	3.0	<5.86	771
TT-2361-S002	8/26/2008	3.0	<5.47	312
TT-2361-S003	8/26/2008	3.0	<5.78	525
TT-2361-S004	8/26/2008	3.0	<6.01	7.48
TT-2361-S005	8/26/2008	9.0	<7.04	32.7

All results in milligrams per kilogram (mg/kg).
 ft. BLS = Feet Below Land Surface.
 <# = Less than method detection limit
 Bold results indicate concentrations above NCDENR Action Level.

TABLE 2
SUMMARY OF SOIL LABORATORY RESULTS
 EPA METHODS 8260, 8270, and MADEP VPH/EPH
 Excavation/Sampling Event on 9/04/2008

Sample ID	Contaminant of Concern →		EPA 8260	MADEP VPH/EPH				
	Date Collected	Sample Depth (ft. BLS)		Acetone	All 8270 Compounds	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics
Residential MSCC (mg/kg)			1,564	Varies	939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			40,880	Varies	24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			2.8	Varies	72	3,300	##	34
TT2361-S006	9/4/2008	3.0	<0.0484	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S007	9/4/2008	3.0	0.0136	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S008	9/4/2008	3.0	<0.0586	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S009	9/4/2008	11.0	<0.0557	BMDL	<10.0	<20.0	<10.0	<20.0

All results in milligram per Kilogram (mg/kg)
 BMDL = Below Method Detection Limit
 ft. BLS = Feet Below Land Surface.
 MSCC = Maximum Soil Contaminant Concentrations
 # = Health based level > 100%
 ## = Considered Immobile
 <# = Less than method detection limit
 Bold result indicates concentration above lowest MSCC.

**TANK REMOVAL
 BUILDING TT-2361
 MARINE CORPS BASE
 CAMP LEJEUNE, NC**



LEGEND

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

NOTES

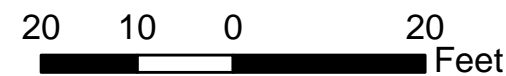
- Data layers provided by MCB Camp Lejeune GIS office.
- Soil sample locations TT-2361-S001 through TT-2361-S005 provided by Lanier Surveying. Soil sample locations TT2361-S006 through TT2361-S009 were not surveyed.
- Initial excavation limits were approximately 8' by 12' by 9' deep. Over-excavation increased dimensions to 13' by 16' by 11' deep.



**SITE MAP WITH
 SOIL SAMPLE RESULTS**

FIGURE

2



Job No.: 206-094	Date: SEPT 2008	Scale: AS SHOWN	Drawn By: SAC	Checked By: NLH
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3

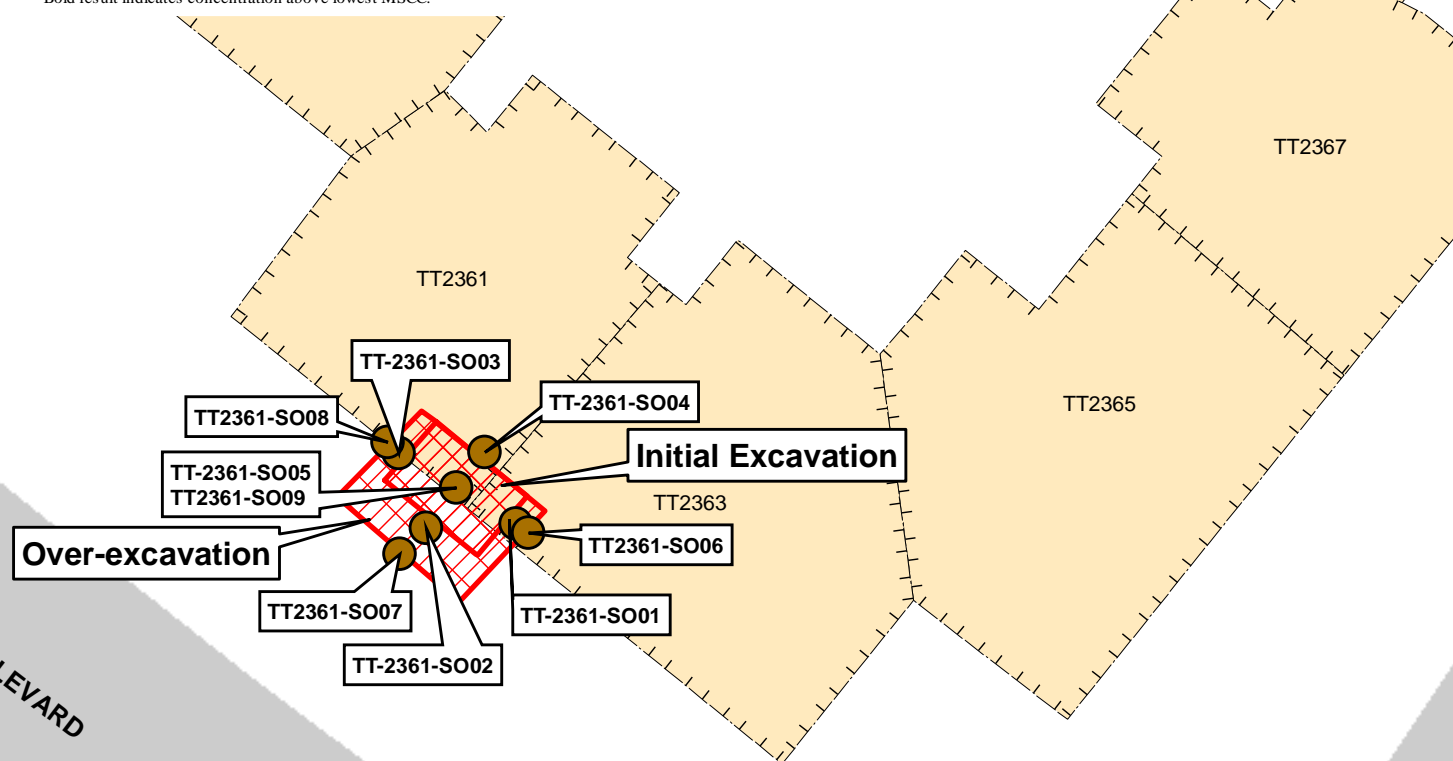


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TT-2361-S005	8/26/2008	9.0	<7.04	32.7

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

ft. BLS = Feet Below Land Surface.

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Bold results indicate concentrations above NCDENR Action Level.

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Sample ID	Contaminant of Concern →		EPA 8260	EPA 8270	MADEP VPH/EPH			
	Date Collected	Sample Depth (ft. BLS)	Acetone	All 8270 Compounds	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₆ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
Residential MSCC (mg/kg)			1,564	Varies	939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			40,880	Varies	24,528	245,280	#	12,264
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TT2361-S006	9/4/2008	3.0	<0.0484	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S007	9/4/2008	3.0	0.0136	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S008	9/4/2008	3.0	<0.0586	BMDL	<10.0	<20.0	<10.0	<20.0
TT2361-S009	9/4/2008	11.0	<0.0557	BMDL	<10.0	<20.0	<10.0	<20.0

All results in milligram per Kilogram (mg/kg)

BMDL = Below Method Detection Limit

ft. BLS = Feet Below Land Surface.

MSCC = Maximum Soil Contaminant Concentrations

= Health based level > 100%

= Considered Immobile

<# = Less than method detection limit

Bold result indicates concentration above lowest MSCC.

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				II. LOCATION OF TANKS			
Owner Name (Corporation, Individual, Public Agency, or Other Entity) Commanding Officer, MCB Camp Lejeune				Facility Name or Company TT Housing, ACTUS LEND Lease			
Street Address PSC Box 20004				Facility ID # (If known) N/A			
City MCB Camp Lejeune		County Onslow		Street Address TT2361 Tarawa Blvd			
State NC		Zip Code 28542		City MCB Camp Lejeune		County Onslow	Zip Code 28542
Phone Number 910-451-9660				Phone Number 910-451-9660			

III. CONTACT PERSONNEL

Contact for Facility: Mr. Bruce Markwick		Job Title: Env Protection Specialist		Phone. No: 910-451-9660	
Closure Contractor Name: N/A	Closure Contractor Company: N/A	Address: N/A		Phone. No: N/A	
Primary Consultant Name: Osage of Virginia	Primary Consultant Company: Osage of Virginia	Address: 2618A Colley Avenue Norfolk, VA		Phone. No: 757-440-0400	

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
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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
TT-2361	550	4 ft dia X 6ft length	Heating Oil	early 1970s		See above	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* 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 Environmental Protection Specialist

Signature


Date Signed
10/23/08

APPENDIX B
24 Hour Release and UST Leak Reporting Form (UST-61)

UST-61 **24-Hour Release and UST Leak Reporting Form.**

For Releases in NC This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release

Incident # _____ Received On _____ Reported by (circle one): Phone, Fax or Report _____ Region _____	(DWM USE ONLY) Risk (H,I,L,U) _____ Received By _____	Suspected Contamination? (Y/N) _____ Confirmed GW Contamination? (Y/N) _____ Confirmed Soil Contamination? (Y/N) _____ Samples Taken? (Y/N) _____ Free Product? (Y/N) _____ If Yes, State Greatest Thickness _____	Facility ID Number _____ Date Leak Discovered _____ Comm/Non-Commercial? _____ Reg/Non-regulated? _____
---	---	--	--

INCIDENT DESCRIPTION

Incident Name: TT2361 heating oil tank

Address: TT2361, Tarawa Terrace Blvd County: Onslow

City/Town: Camp Lejeune Zip Code: 28542 Regional Office (circle one): Asheville, Mooresville, Fayetteville, Raleigh, Washington, Wilmington, Winston-Salem

Latitude (decimal degrees): 34 43 58.524 N Longitude (decimal degrees): 77 22 41.988 W

Briefly describe suspected or confirmed release: (including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)

On 26 August 2008, OSAGE of Virginia was removing a home heating oil tank at the Tarawa Terrace housing area. The tank was about 1/2 full of a mixture of water and fuel. The tank was cut open and the fuel and water removed from the tank. During excavation and removal of the tank staining of the soil was present on the bottom of the excavated area. The tank was an old abandoned heating oil tank that has not been used since the early 1970's and the amount of fuel released is not known. The tank bottom had small holes rusted through. Samples were taken and results are pending. A UST-12 will be completed and sent to the regional office.

Obtained by:

GPS
 Topographic map
 GIS Address matching
 Other
 Unknown

Describe location:

HOW RELEASE WAS DISCOVERED (Release Code)
(Check one)

<input type="checkbox"/> Release Detection Equipment or Methods	<input type="checkbox"/> Visual/Odor	<input type="checkbox"/> Groundwater Contamination
<input checked="" type="checkbox"/> During UST Closure/Removal	<input type="checkbox"/> Water in Tank	<input type="checkbox"/> Surface Water Contamination
<input type="checkbox"/> Property Transfer	<input type="checkbox"/> Water Supply Well Contamination	<input type="checkbox"/> Other (specify) _____

SOURCE OF CONTAMINATION

Source of Release (Check one to indicate primary source)	Cause of Release (Check one to indicate primary cause)	Type of Release (Check one)	Product Type Released (Check one to indicate primary product type released)
<input checked="" type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Dispenser <input type="checkbox"/> Submersible Turbine Pump <input type="checkbox"/> Delivery Problem <input type="checkbox"/> Other <input type="checkbox"/> Unknown	<input type="checkbox"/> Spill <input type="checkbox"/> Overfill <input type="checkbox"/> Corrosion <input type="checkbox"/> Physical or Mechanical Damage <input type="checkbox"/> Install Problem <input checked="" type="checkbox"/> Other <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Petroleum <input type="checkbox"/> Non-Petroleum <input type="checkbox"/> Both Location (Check one) <input type="checkbox"/> Facility <input checked="" type="checkbox"/> Residence <input type="checkbox"/> Other	<input type="checkbox"/> Gasoline/ Diesel/ Kerosene <input checked="" type="checkbox"/> Heating Oil <input type="checkbox"/> Other Petroleum Products <input type="checkbox"/> Metals <input type="checkbox"/> Other Inorganics <input type="checkbox"/> Other Organics
			<input type="checkbox"/> Diesel/Veg. Oil Blend <input type="checkbox"/> Vegetable Oil 100% <input type="checkbox"/> E10 - E20 <input type="checkbox"/> E21 - E84 <input type="checkbox"/> E85 - E99 <input type="checkbox"/> Ethanol 100% <input type="checkbox"/> E01 - E09

Definitions presented on reverse

Ownership
 1. Municipal 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

Operation Type
 1. Public Service 2. Agricultural 3. Residential 4. Education/Relig. 5. Industrial 6. Commercial 7. Mining

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes 2. No 3. Unknown

Number of Water Supply Wells Affected _____

Water Supply Wells Contaminated: *(Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary)*

- 1.
- 2.
- 3.

UST SYSTEM OWNER

UST Owner/Company Commanding Officer, Marine Corps Base

Point of Contact <p style="text-align: center;">Bruce Markwick</p>		Address <p style="text-align: center;">Bldg 12, Post Lane</p>	
City <p style="text-align: center;">Camp Lejeune</p>	State <p style="text-align: center;">NC</p>	Zip Code <p style="text-align: center;">28542</p>	Telephone Number <p style="text-align: center;">910 451-9660</p>

UST SYSTEM OPERATOR

UST Operator/Company <p style="text-align: center;">None</p>		Address	
City	State	Zip Code	Telephone Number

LANDOWNER AT LOCATION OF UST INCIDENT

Landowner <p style="text-align: center;">Same as UST Owner</p>		Address	
City	State	Zip Code	Telephone Number

Draw Sketch of Area (showing two major road intersections) or Attach Map

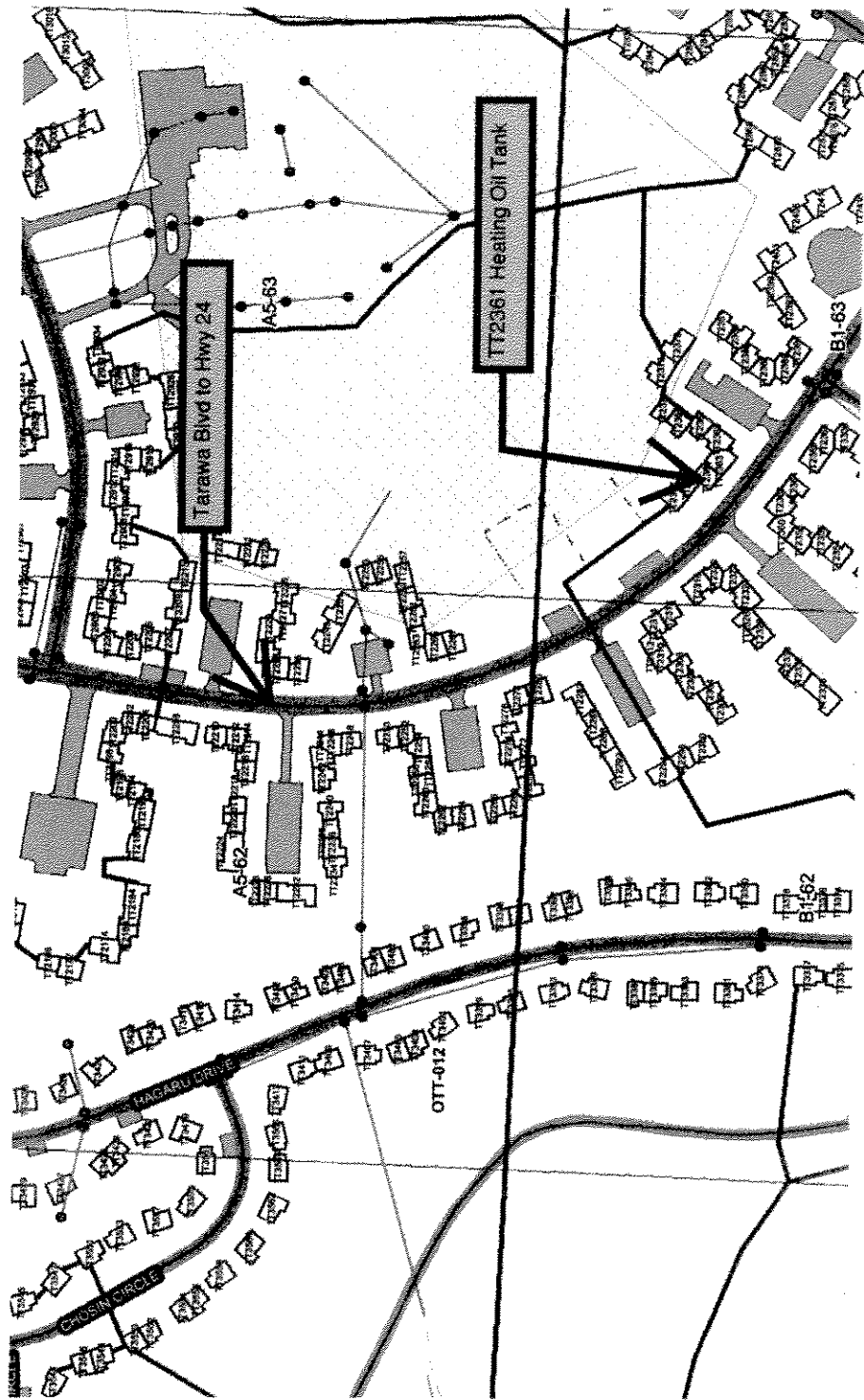
Person Reporting Incident Bruce Markwick	Company USMC	Telephone Number 910 451-9660
Title Environmental Protection Specialist	Address Bldg 12, Post Lane, Camp Lejeune, NC 28542	Date 27 August 2008

Definitions of Sources

- Tank: means the tank that stores the product and is part of the underground storage tank system
- Piping: means the piping and connectors running from the tank or submersible turbine pump to the dispenser or other end-use equipment (Vent, vapor recovery, or fill lines are excluded.)
- Dispenser: includes the dispenser and the equipment used to connect the dispenser to the piping (e.g., a release from a suction pump or from components located above the shear valve)
- Submersible Turbine Pump (STP) Area: includes the submersible turbine pump head (typically located in the tank sump), the line leak detector, and the piping that connects the submersible turbine pump to the tank
- Delivery Problem: identifies releases that occurred during product delivery to the tank. (Typical causes associated with this source are spills and overfills.)
- Other: serves as the option to use when the release source is known but does not fit into one of the preceding categories (e.g., for releases from vent lines, vapor recovery lines, and fill lines)
- Unknown: identifies releases for which the source has not been determined

Definitions of Causes

- Spill: use this cause when a spill occurs (e.g., when the delivery hose is disconnected from the tank fill pipe or when the nozzle is removed from the dispenser)
- Overfill: use when an overfill occurs (e.g., overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)
- Physical or Mechanical Damage: use for all types of physical or mechanical damage, except corrosion (e.g., puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)
- Corrosion: use when a metal tank, piping, or other component has a release due to corrosion (e.g., for steel, corrosion takes the form of rust)
- Installation Problem: use when the problem is determined to have occurred specifically because the UST system was not installed properly
- Other: use this option when the cause is known but does not fit into one of the preceding categories (e.g., putting regulated substances into monitoring wells)
- Unknown: use when the cause has not been determined



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
TT-2361	550 gal	Heating Oil	Dimensions 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		9/2/08

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: Jacksonville Scrap Iron and Metal Inc
3560 Richland's Highway Jacksonville NC 28540
Phone: (910) 347-2323

Print Name	Signature	Month/Day/Year
David Mowica		9/2/08

APPENDIX D
Disposal Manifests

BLANK - NO MANIFESTS ATTACHED
SOIL AT TP-457 AWAITING DISPOSAL

APPENDIX E
Laboratory Analytical Reports



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.



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S001
Client Project ID: CTO 016
Lab Sample ID: G649-58-1
Lab Project ID: G649-58

Date Collected: 8/26/2008 15:05
Date Received: 8/27/2008
Matrix: Soil
Solids 81.98
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	771	35.3	mg/Kg	5	09/02/08 10:58

Comments:

Batch Information

Analytical Batch: EP090208
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 12233
Prep Method: 3541
Prep Date: 08/27/08
Initial Prep Wt/Vol: 34.58 G
Prep Final Vol: 10 mL



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S002
Client Project ID: CTO 016
Lab Sample ID: G649-58-2
Lab Project ID: G649-58

Date Collected: 8/26/2008 15:10
Date Received: 8/27/2008
Matrix: Soil
Solids 81.43
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	312	7.43	mg/Kg	1	08/29/08 17:58

Comments:

Batch Information

Analytical Batch: EP082908
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 12233
Prep Method: 3541
Prep Date: 08/27/08
Initial Prep Wt/Vol: 33.07 G
Prep Final Vol: 10 mL

**Results for Total Petroleum Hydrocarbons**
by GC/FID 8015Client Sample ID: TT2361-S003
Client Project ID: CTO 016
Lab Sample ID: G649-58-3
Lab Project ID: G649-58Date Collected: 8/26/2008 15:00
Date Received: 8/27/2008
Matrix: Soil
Solids 82.04
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	525	14.2	mg/Kg	2	09/02/08 11:26

Comments:**Batch Information**Analytical Batch: EP090208
Analytical Method: 8015
Instrument: GC6
Analyst: EAWPrep batch: 12233
Prep Method: 3541
Prep Date: 08/27/08
Initial Prep Wt/Vol: 34.38 G
Prep Final Vol: 10 mL



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S004
Client Project ID: CTO 016
Lab Sample ID: G649-58-4
Lab Project ID: G649-58

Date Collected: 8/26/2008 14:50
Date Received: 8/27/2008
Matrix: Soil
Solids 83.35
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	7.48	7.41	mg/Kg	1	08/29/08 18:55

Comments:

Batch Information

Analytical Batch: EP082908
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 12233
Prep Method: 3541
Prep Date: 08/27/08
Initial Prep Wt/Vol: 32.38 G
Prep Final Vol: 10 mL

**Results for Total Petroleum Hydrocarbons**
by GC/FID 8015

Client Sample ID: TT2361-S005

Client Project ID: CTO 016

Lab Sample ID: G649-58-5

Lab Project ID: G649-58

Date Collected: 8/26/2008 18:00

Date Received: 8/27/2008

Matrix: Soil

Solids 75.68

Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	32.7	7.97	mg/Kg	1	08/29/08 19:24

Comments:**Batch Information**Analytical Batch: EP082908
Analytical Method: 8015
Instrument: GC6
Analyst: EAWPrep batch: 12233
Prep Method: 3541
Prep Date: 08/27/08
Initial Prep Wt/Vol: 33.17 G
Prep Final Vol: 10 mL



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S001
Client Project ID: CTO 016
Lab Sample ID: G649-58-1A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/26/2008 15:05
Date Received: 8/27/2008
Matrix: Soil
Solids 81.98

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.86	mg/Kg	1	08/27/08 18:13

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

Prep Method: 5035
Initial Wt/Vol: 6.24 g
Final Volume: 5 mL

Analyst: 



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S002
Client Project ID: CTO 016
Lab Sample ID: G649-58-2A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/26/2008 15:10
Date Received: 8/27/2008
Matrix: Soil
Solids 81.43


Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.47	mg/Kg	1	08/27/08 18:40

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

Prep Method: 5035
Initial Wt/Vol: 6.74 g
Final Volume: 5 mL

Analyst: 



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S003
Client Project ID: CTO 016
Lab Sample ID: G649-58-3A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/26/2008 15:00
Date Received: 8/27/2008
Matrix: Soil
Solids 82.04

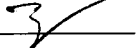
Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.78	mg/Kg	1	08/27/08 19:07

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

Prep Method: 5035
Initial Wt/Vol: 6.33 g
Final Volume: 5 mL

Analyst: 



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S004
Client Project ID: CTO 016
Lab Sample ID: G649-58-4A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/26/2008 14:50
Date Received: 8/27/2008
Matrix: Soil
Solids 83.35

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.01	mg/Kg	1	08/27/08 19:34

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

Prep Method: 5035
Initial Wt/Vol: 5.99 g
Final Volume: 5 mL

Analyst: 



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: TT2361-S005
Client Project ID: CTO 016
Lab Sample ID: G649-58-5A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/26/2008 18:00
Date Received: 8/27/2008
Matrix: Soil
Solids 75.68

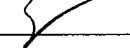
Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.04	mg/Kg	1	08/27/08 20:00

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

Prep Method: 5035
Initial Wt/Vol: 5.63 g
Final Volume: 5 mL

Analyst: 



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: Trip Blank
Client Project ID: CTO 016
Lab Sample ID: G649-58-6A
Lab Project ID: G649-58
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 8/27/2008 0:00
Date Received: 8/27/2008
Matrix: Soil
Solids 100.00

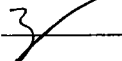
Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.00	mg/Kg	1	08/27/08 17:19

Comments:

Batch Information

Analytical Batch: VP082708
Analytical Method: 8015
Instrument ID: GC4
Analyst: MJC

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

Analyst: 



CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

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



0890

1 CLIENT: **OSAGE of VA**
 CONTACT: **THEODORE EILBMAN** PHONE NO.: (757) 274-4949
 PROJECT: **OTO 016** SITE/PWSID#: **TT2361**
 REPORTS TO: **Shaun Whitworth** E-MAIL: **shwhitworth@osageva.com**
 INVOICE TO: **Mike Cree** FAX NO.: (757) 440-0411
 QUOTE # _____ P.O. NUMBER **OTO 016**

SGS Reference: **6649-58**

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used Analysis Required	REMARKS
	TT2361-S001	8/21/08	1505	S	3		X	
	TT2361-S002	8/24/08	1510	S	3		X	
	TT2361-S003	8/24/08	1500	S	3		X	
	TT2361-S004	8/26/08	1450	S	3		X	
	TT2361-S005	8/26/08	1800	S	3		X	
	TRIP-BLANK	8/27/08	1030	---	1		X	

Collected/Relinquished By: (1)	Date	Time	Received By:	Date	Time
<i>[Signature]</i>	8/27/08	1230	<i>[Signature]</i>	8/27/08	1230
Relinquished By: (2)	Date	Time	Received By:	Date	Time
Relinquished By: (3)	Date	Time	Received By:	Date	Time
Relinquished By: (4)	Date	Time	Received By:	Date	Time

4 Shipping Carrier: **Hand Delivered** Samples Received Cold? (Circle) YES NO
 Shipping Ticket No.: _____ Temperature (C): **3-26 C**
 Special Deliverable Requirements: **EDD Format** Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Special Instructions: **Email results to: shwhitworth@osageva.com, rthall@osageva.com & tellerman@osageva.com**
 Requested Turnaround Time: **24 Hr** Date Needed: _____
 RUSH STD



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

Report Number: G649-61

Client Project: CTO 016

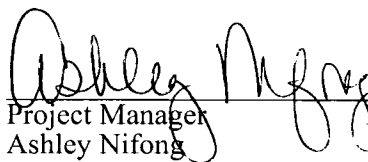
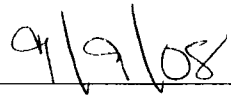
Dear Shaun Whitworth,

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

Case Narrative
OSAGE of Virginia
SGS Project: **G649-61**
Project Name: **CTO 016**

SGS Environmental Services Inc.

September 9, 2008

- Four soil samples and one Trip Blank were accepted into the laboratory on September 4, 2008 for various analyses as indicated on the chain of custody. The samples were received in good condition, within temperature and holding time limits.
- All extractions and analyses were completed within holding time limits, with the following quality control exceptions.

8270 Analysis

- The laboratory control spike of LCS12320, for the associated samples, resulted in several compounds above specified limits, creating a high bias. This failure compound was not detected in any of the samples associated with this project.

8260 Analysis

- Methylene Chloride was detected in the method blank VBLK9090708B and in the Trip Blank. The level at which it was detected was below the reporting limit but greater than the method detection limit. This compound is a common laboratory solvent and its detection is likely a laboratory artifact. Methylene Chloride was not detected in any of the samples associated with this project.



Date

9.9.08

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.



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

Client Sample ID: TT2361-S006
Client Project ID: CTO 016
Lab Sample ID G649-61-1A
Lab Project ID: G649-61
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 09-04-2008 13:15
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 6.23 g
%Solids: 83.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	48.4	6.68	1	9/7/2008	
Benzene	BQL	4.84	1.03	1	9/7/2008	
Bromobenzene	BQL	4.84	0.996	1	9/7/2008	
Bromochloromethane	BQL	4.84	1.66	1	9/7/2008	
Bromodichloromethane	BQL	4.84	0.959	1	9/7/2008	
Bromoform	BQL	4.84	0.967	1	9/7/2008	
Bromomethane	BQL	4.84	1.02	1	9/7/2008	
2-Butanone	BQL	24.2	5.25	1	9/7/2008	
n-Butylbenzene	BQL	4.84	0.924	1	9/7/2008	
sec-Butylbenzene	BQL	4.84	0.977	1	9/7/2008	
tert-Butylbenzene	BQL	4.84	1.08	1	9/7/2008	
Carbon disulfide	BQL	4.84	2.59	1	9/7/2008	
Carbon tetrachloride	BQL	4.84	0.987	1	9/7/2008	
Chlorobenzene	BQL	4.84	1.15	1	9/7/2008	
Chloroethane	BQL	4.84	1.54	1	9/7/2008	
Chloroform	BQL	4.84	1.16	1	9/7/2008	
Chloromethane	BQL	4.84	1.09	1	9/7/2008	
2-Chlorotoluene	BQL	4.84	0.977	1	9/7/2008	
4-Chlorotoluene	BQL	4.84	1.21	1	9/7/2008	
Dibromochloromethane	BQL	4.84	1.33	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	24.2	1.40	1	9/7/2008	
Dibromomethane	BQL	4.84	1.46	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	4.84	1.09	1	9/7/2008	
1,2-Dichlorobenzene	BQL	4.84	1.25	1	9/7/2008	
1,3-Dichlorobenzene	BQL	4.84	1.24	1	9/7/2008	
1,4-Dichlorobenzene	BQL	4.84	1.02	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	24.2	1.33	1	9/7/2008	
1,1-Dichloroethane	BQL	4.84	1.03	1	9/7/2008	
1,1-Dichloroethene	BQL	4.84	1.43	1	9/7/2008	
1,2-Dichloroethane	BQL	4.84	1.28	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	4.84	1.24	1	9/7/2008	
trans-1,2-dichloroethene	BQL	4.84	1.09	1	9/7/2008	
1,2-Dichloropropane	BQL	4.84	1.14	1	9/7/2008	
1,3-Dichloropropane	BQL	4.84	1.08	1	9/7/2008	
2,2-Dichloropropane	BQL	4.84	1.16	1	9/7/2008	
1,1-Dichloropropene	BQL	4.84	1.52	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	4.84	0.806	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	4.84	0.931	1	9/7/2008	
Dichlorodifluoromethane	BQL	4.84	1.28	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	4.84	1.09	1	9/7/2008	
Ethylbenzene	BQL	4.84	0.838	1	9/7/2008	
Hexachlorobutadiene	BQL	4.84	0.943	1	9/7/2008	
2-Hexanone	BQL	4.84	3.13	1	9/7/2008	
Iodomethane	BQL	4.84	1.04	1	9/7/2008	



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

Client Sample ID: TT2361-S006
 Client Project ID: CTO 016
 Lab Sample ID G649-61-1A
 Lab Project ID: G649-61
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 09-04-2008 13:15
 Date Received: 9/4/2008
 Matrix: Soil
 Sample Amount: 6.23 g
 %Solids: 83.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	4.84	0.859	1	9/7/2008	
4-Isopropyltoluene	BQL	4.84	1.03	1	9/7/2008	
Methylene chloride	BQL	19.3	1.15	1	9/7/2008	
4-Methyl-2-pentanone	BQL	4.84	4.48	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	4.84	1.07	1	9/7/2008	
Naphthalene	BQL	4.84	0.822	1	9/7/2008	
n-Propyl benzene	BQL	4.84	1.22	1	9/7/2008	
Styrene	BQL	4.84	1.06	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	4.84	0.987	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	4.84	1.09	1	9/7/2008	
Tetrachloroethene	BQL	4.84	0.886	1	9/7/2008	
Toluene	BQL	4.84	0.964	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	4.84	1.01	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	4.84	0.996	1	9/7/2008	
Trichloroethene	BQL	4.84	0.923	1	9/7/2008	
1,1,1-Trichloroethane	BQL	4.84	1.09	1	9/7/2008	
1,1,2-Trichloroethane	BQL	4.84	1.59	1	9/7/2008	
Trichlorofluoromethane	BQL	4.84	0.996	1	9/7/2008	
1,2,3-Trichloropropane	BQL	4.84	1.20	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	4.84	1.22	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	4.84	1.10	1	9/7/2008	
Vinyl chloride	BQL	4.84	1.32	1	9/7/2008	
m-,p-Xylene	BQL	9.67	1.86	1	9/7/2008	
o-Xylene	BQL	4.84	0.937	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	56	112
Toluene-d8	50	49.2	98
4-Bromofluorobenzene	50	40.6	81

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst:

Reviewed By:



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

Client Sample ID: TT2361-S007
Client Project ID: CTO 016
Lab Sample ID G649-61-2A
Lab Project ID: G649-61
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 09-04-2008 12:05
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.51 g
%Solids: 85.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	13.6	53.1	7.34	1	9/7/2008	J
Benzene	BQL	5.31	1.14	1	9/7/2008	
Bromobenzene	BQL	5.31	1.09	1	9/7/2008	
Bromochloromethane	BQL	5.31	1.83	1	9/7/2008	
Bromodichloromethane	BQL	5.31	1.05	1	9/7/2008	
Bromoform	BQL	5.31	1.06	1	9/7/2008	
Bromomethane	BQL	5.31	1.12	1	9/7/2008	
2-Butanone	BQL	26.6	5.77	1	9/7/2008	
n-Butylbenzene	BQL	5.31	1.01	1	9/7/2008	
sec-Butylbenzene	BQL	5.31	1.07	1	9/7/2008	
tert-Butylbenzene	BQL	5.31	1.19	1	9/7/2008	
Carbon disulfide	BQL	5.31	2.85	1	9/7/2008	
Carbon tetrachloride	BQL	5.31	1.08	1	9/7/2008	
Chlorobenzene	BQL	5.31	1.26	1	9/7/2008	
Chloroethane	BQL	5.31	1.69	1	9/7/2008	
Chloroform	BQL	5.31	1.27	1	9/7/2008	
Chloromethane	BQL	5.31	1.20	1	9/7/2008	
2-Chlorotoluene	BQL	5.31	1.07	1	9/7/2008	
4-Chlorotoluene	BQL	5.31	1.33	1	9/7/2008	
Dibromochloromethane	BQL	5.31	1.47	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	26.6	1.54	1	9/7/2008	
Dibromomethane	BQL	5.31	1.60	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	5.31	1.20	1	9/7/2008	
1,2-Dichlorobenzene	BQL	5.31	1.37	1	9/7/2008	
1,3-Dichlorobenzene	BQL	5.31	1.36	1	9/7/2008	
1,4-Dichlorobenzene	BQL	5.31	1.12	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	26.6	1.47	1	9/7/2008	
1,1-Dichloroethane	BQL	5.31	1.13	1	9/7/2008	
1,1-Dichloroethene	BQL	5.31	1.57	1	9/7/2008	
1,2-Dichloroethane	BQL	5.31	1.40	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	5.31	1.36	1	9/7/2008	
trans-1,2-dichloroethene	BQL	5.31	1.20	1	9/7/2008	
1,2-Dichloropropane	BQL	5.31	1.25	1	9/7/2008	
1,3-Dichloropropane	BQL	5.31	1.19	1	9/7/2008	
2,2-Dichloropropane	BQL	5.31	1.27	1	9/7/2008	
1,1-Dichloropropene	BQL	5.31	1.67	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	5.31	0.885	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	5.31	1.02	1	9/7/2008	
Dichlorodifluoromethane	BQL	5.31	1.40	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	5.31	1.20	1	9/7/2008	
Ethylbenzene	BQL	5.31	0.920	1	9/7/2008	
Hexachlorobutadiene	BQL	5.31	1.04	1	9/7/2008	
2-Hexanone	BQL	5.31	3.44	1	9/7/2008	
Iodomethane	BQL	5.31	1.15	1	9/7/2008	



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

Client Sample ID: TT2361-S007
Client Project ID: CTO 016
Lab Sample ID G649-61-2A
Lab Project ID: G649-61
Report Basis: Dry Weight

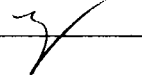
Analyzed By: MJC
Date Collected: 09-04-2008 12:05
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.51 g
%Solids: 85.3


Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.31	0.943	1	9/7/2008	
4-Isopropyltoluene	BQL	5.31	1.14	1	9/7/2008	
Methylene chloride	BQL	21.2	1.26	1	9/7/2008	
4-Methyl-2-pentanone	BQL	5.31	4.92	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	5.31	1.18	1	9/7/2008	
Naphthalene	BQL	5.31	0.903	1	9/7/2008	
n-Propyl benzene	BQL	5.31	1.34	1	9/7/2008	
Styrene	BQL	5.31	1.17	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	5.31	1.08	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	5.31	1.20	1	9/7/2008	
Tetrachloroethene	BQL	5.31	0.973	1	9/7/2008	
Toluene	BQL	5.31	1.06	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	5.31	1.10	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	5.31	1.09	1	9/7/2008	
Trichloroethene	BQL	5.31	1.01	1	9/7/2008	
1,1,1-Trichloroethane	BQL	5.31	1.20	1	9/7/2008	
1,1,2-Trichloroethane	BQL	5.31	1.74	1	9/7/2008	
Trichlorofluoromethane	BQL	5.31	1.09	1	9/7/2008	
1,2,3-Trichloropropane	BQL	5.31	1.32	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	5.31	1.34	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	5.31	1.21	1	9/7/2008	
Vinyl chloride	BQL	5.31	1.44	1	9/7/2008	
m-,p-Xylene	BQL	10.6	2.04	1	9/7/2008	
o-Xylene	BQL	5.31	1.03	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	58.4	117
Toluene-d8	50	49.7	99
4-Bromofluorobenzene	50	41.4	83

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 



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

Client Sample ID: TT2361-S008
Client Project ID: CTO 016
Lab Sample ID G649-61-3A
Lab Project ID: G649-61
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 09-04-2008 12:25
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.23 g
%Solids: 81.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	58.6	8.10	1	9/7/2008	
Benzene	BQL	5.86	1.25	1	9/7/2008	
Bromobenzene	BQL	5.86	1.21	1	9/7/2008	
Bromochloromethane	BQL	5.86	2.02	1	9/7/2008	
Bromodichloromethane	BQL	5.86	1.16	1	9/7/2008	
Bromoform	BQL	5.86	1.17	1	9/7/2008	
Bromomethane	BQL	5.86	1.23	1	9/7/2008	
2-Butanone	BQL	29.3	6.36	1	9/7/2008	
n-Butylbenzene	BQL	5.86	1.12	1	9/7/2008	
sec-Butylbenzene	BQL	5.86	1.18	1	9/7/2008	
tert-Butylbenzene	BQL	5.86	1.31	1	9/7/2008	
Carbon disulfide	BQL	5.86	3.14	1	9/7/2008	
Carbon tetrachloride	BQL	5.86	1.20	1	9/7/2008	
Chlorobenzene	BQL	5.86	1.39	1	9/7/2008	
Chloroethane	BQL	5.86	1.86	1	9/7/2008	
Chloroform	BQL	5.86	1.41	1	9/7/2008	
Chloromethane	BQL	5.86	1.32	1	9/7/2008	
2-Chlorotoluene	BQL	5.86	1.18	1	9/7/2008	
4-Chlorotoluene	BQL	5.86	1.47	1	9/7/2008	
Dibromochloromethane	BQL	5.86	1.62	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	29.3	1.70	1	9/7/2008	
Dibromomethane	BQL	5.86	1.77	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	5.86	1.32	1	9/7/2008	
1,2-Dichlorobenzene	BQL	5.86	1.51	1	9/7/2008	
1,3-Dichlorobenzene	BQL	5.86	1.50	1	9/7/2008	
1,4-Dichlorobenzene	BQL	5.86	1.23	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	29.3	1.62	1	9/7/2008	
1,1-Dichloroethane	BQL	5.86	1.24	1	9/7/2008	
1,1-Dichloroethene	BQL	5.86	1.73	1	9/7/2008	
1,2-Dichloroethane	BQL	5.86	1.55	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	5.86	1.50	1	9/7/2008	
trans-1,2-dichloroethene	BQL	5.86	1.32	1	9/7/2008	
1,2-Dichloropropane	BQL	5.86	1.38	1	9/7/2008	
1,3-Dichloropropane	BQL	5.86	1.31	1	9/7/2008	
2,2-Dichloropropane	BQL	5.86	1.41	1	9/7/2008	
1,1-Dichloropropene	BQL	5.86	1.84	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	5.86	0.976	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	5.86	1.13	1	9/7/2008	
Dichlorodifluoromethane	BQL	5.86	1.55	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	5.86	1.32	1	9/7/2008	
Ethylbenzene	BQL	5.86	1.02	1	9/7/2008	
Hexachlorobutadiene	BQL	5.86	1.14	1	9/7/2008	
2-Hexanone	BQL	5.86	3.80	1	9/7/2008	
Iodomethane	BQL	5.86	1.27	1	9/7/2008	



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

Client Sample ID: TT2361-S008
Client Project ID: CTO 016
Lab Sample ID G649-61-3A
Lab Project ID: G649-61
Report Basis: Dry Weight



Analyzed By: MJC
Date Collected: 09-04-2008 12:25
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.23 g
%Solids: 81.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.86	1.04	1	9/7/2008	
4-Isopropyltoluene	BQL	5.86	1.25	1	9/7/2008	
Methylene chloride	BQL	23.4	1.39	1	9/7/2008	
4-Methyl-2-pentanone	BQL	5.86	5.43	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	5.86	1.30	1	9/7/2008	
Naphthalene	BQL	5.86	0.996	1	9/7/2008	
n-Propyl benzene	BQL	5.86	1.48	1	9/7/2008	
Styrene	BQL	5.86	1.29	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	5.86	1.20	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	5.86	1.32	1	9/7/2008	
Tetrachloroethene	BQL	5.86	1.07	1	9/7/2008	
Toluene	BQL	5.86	1.17	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	5.86	1.22	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	5.86	1.21	1	9/7/2008	
Trichloroethene	BQL	5.86	1.12	1	9/7/2008	
1,1,1-Trichloroethane	BQL	5.86	1.32	1	9/7/2008	
1,1,2-Trichloroethane	BQL	5.86	1.92	1	9/7/2008	
Trichlorofluoromethane	BQL	5.86	1.21	1	9/7/2008	
1,2,3-Trichloropropane	BQL	5.86	1.45	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	5.86	1.48	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	5.86	1.34	1	9/7/2008	
Vinyl chloride	BQL	5.86	1.59	1	9/7/2008	
m-,p-Xylene	BQL	11.7	2.25	1	9/7/2008	
o-Xylene	BQL	5.86	1.14	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	57.1	114
Toluene-d8	50	49.1	98
4-Bromofluorobenzene	50	40.9	82

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: Reviewed By: 



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

Client Sample ID: TT2361-S009
Client Project ID: CTO 016
Lab Sample ID G649-61-4A
Lab Project ID: G649-61
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 09-04-2008 13:30
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.09 g
%Solids: 88.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	55.7	7.69	1	9/7/2008	
Benzene	BQL	5.57	1.19	1	9/7/2008	
Bromobenzene	BQL	5.57	1.15	1	9/7/2008	
Bromochloromethane	BQL	5.57	1.92	1	9/7/2008	
Bromodichloromethane	BQL	5.57	1.10	1	9/7/2008	
Bromoform	BQL	5.57	1.11	1	9/7/2008	
Bromomethane	BQL	5.57	1.17	1	9/7/2008	
2-Butanone	BQL	27.8	6.05	1	9/7/2008	
n-Butylbenzene	BQL	5.57	1.06	1	9/7/2008	
sec-Butylbenzene	BQL	5.57	1.12	1	9/7/2008	
tert-Butylbenzene	BQL	5.57	1.25	1	9/7/2008	
Carbon disulfide	BQL	5.57	2.98	1	9/7/2008	
Carbon tetrachloride	BQL	5.57	1.14	1	9/7/2008	
Chlorobenzene	BQL	5.57	1.33	1	9/7/2008	
Chloroethane	BQL	5.57	1.77	1	9/7/2008	
Chloroform	BQL	5.57	1.34	1	9/7/2008	
Chloromethane	BQL	5.57	1.26	1	9/7/2008	
2-Chlorotoluene	BQL	5.57	1.12	1	9/7/2008	
4-Chlorotoluene	BQL	5.57	1.39	1	9/7/2008	
Dibromochloromethane	BQL	5.57	1.54	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	27.8	1.61	1	9/7/2008	
Dibromomethane	BQL	5.57	1.68	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	5.57	1.26	1	9/7/2008	
1,2-Dichlorobenzene	BQL	5.57	1.44	1	9/7/2008	
1,3-Dichlorobenzene	BQL	5.57	1.43	1	9/7/2008	
1,4-Dichlorobenzene	BQL	5.57	1.17	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	27.8	1.54	1	9/7/2008	
1,1-Dichloroethane	BQL	5.57	1.18	1	9/7/2008	
1,1-Dichloroethene	BQL	5.57	1.65	1	9/7/2008	
1,2-Dichloroethane	BQL	5.57	1.47	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	5.57	1.43	1	9/7/2008	
trans-1,2-dichloroethene	BQL	5.57	1.26	1	9/7/2008	
1,2-Dichloropropane	BQL	5.57	1.31	1	9/7/2008	
1,3-Dichloropropane	BQL	5.57	1.25	1	9/7/2008	
2,2-Dichloropropane	BQL	5.57	1.34	1	9/7/2008	
1,1-Dichloropropene	BQL	5.57	1.75	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	5.57	0.928	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	5.57	1.07	1	9/7/2008	
Dichlorodifluoromethane	BQL	5.57	1.47	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	5.57	1.26	1	9/7/2008	
Ethylbenzene	BQL	5.57	0.964	1	9/7/2008	
Hexachlorobutadiene	BQL	5.57	1.09	1	9/7/2008	
2-Hexanone	BQL	5.57	3.61	1	9/7/2008	
Iodomethane	BQL	5.57	1.20	1	9/7/2008	



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

Client Sample ID: TT2361-S009
Client Project ID: CTO 016
Lab Sample ID G649-61-4A
Lab Project ID: G649-61
Report Basis: Dry Weight


Analyzed By: MJC
Date Collected: 09-04-2008 13:30
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5.09 g
%Solids: 88.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.57	0.989	1	9/7/2008	
4-Isopropyltoluene	BQL	5.57	1.19	1	9/7/2008	
Methylene chloride	BQL	22.3	1.33	1	9/7/2008	
4-Methyl-2-pentanone	BQL	5.57	5.16	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	5.57	1.24	1	9/7/2008	
Naphthalene	BQL	5.57	0.947	1	9/7/2008	
n-Propyl benzene	BQL	5.57	1.40	1	9/7/2008	
Styrene	BQL	5.57	1.22	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	5.57	1.14	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	5.57	1.26	1	9/7/2008	
Tetrachloroethene	BQL	5.57	1.02	1	9/7/2008	
Toluene	BQL	5.57	1.11	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	5.57	1.16	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	5.57	1.15	1	9/7/2008	
Trichloroethene	BQL	5.57	1.06	1	9/7/2008	
1,1,1-Trichloroethane	BQL	5.57	1.26	1	9/7/2008	
1,1,2-Trichloroethane	BQL	5.57	1.83	1	9/7/2008	
Trichlorofluoromethane	BQL	5.57	1.15	1	9/7/2008	
1,2,3-Trichloropropane	BQL	5.57	1.38	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	5.57	1.40	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	5.57	1.27	1	9/7/2008	
Vinyl chloride	BQL	5.57	1.51	1	9/7/2008	
m-,p-Xylene	BQL	11.1	2.14	1	9/7/2008	
o-Xylene	BQL	5.57	1.08	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	56.9	114
Toluene-d8	50	49.4	99
4-Bromofluorobenzene	50	42.4	85

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: Reviewed By: 



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

Client Sample ID: Trip Blanks
Client Project ID: CTO 016
Lab Sample ID G649-61-5A
Lab Project ID: G649-61
Report Basis: 0.0

Analyzed By: MJC
Date Collected: 09-04-2008 14:30
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	6.91	1	9/7/2008	
Benzene	BQL	5.00	1.07	1	9/7/2008	
Bromobenzene	BQL	5.00	1.03	1	9/7/2008	
Bromochloromethane	BQL	5.00	1.72	1	9/7/2008	
Bromodichloromethane	BQL	5.00	0.992	1	9/7/2008	
Bromoform	BQL	5.00	1.00	1	9/7/2008	
Bromomethane	BQL	5.00	1.05	1	9/7/2008	
2-Butanone	BQL	25.0	5.43	1	9/7/2008	
n-Butylbenzene	BQL	5.00	0.955	1	9/7/2008	
sec-Butylbenzene	BQL	5.00	1.01	1	9/7/2008	
tert-Butylbenzene	BQL	5.00	1.12	1	9/7/2008	
Carbon disulfide	BQL	5.00	2.68	1	9/7/2008	
Carbon tetrachloride	BQL	5.00	1.02	1	9/7/2008	
Chlorobenzene	BQL	5.00	1.19	1	9/7/2008	
Chloroethane	BQL	5.00	1.59	1	9/7/2008	
Chloroform	BQL	5.00	1.20	1	9/7/2008	
Chloromethane	BQL	5.00	1.13	1	9/7/2008	
2-Chlorotoluene	BQL	5.00	1.01	1	9/7/2008	
4-Chlorotoluene	BQL	5.00	1.25	1	9/7/2008	
Dibromochloromethane	BQL	5.00	1.38	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	25.0	1.45	1	9/7/2008	
Dibromomethane	BQL	5.00	1.51	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	5.00	1.13	1	9/7/2008	
1,2-Dichlorobenzene	BQL	5.00	1.29	1	9/7/2008	
1,3-Dichlorobenzene	BQL	5.00	1.28	1	9/7/2008	
1,4-Dichlorobenzene	BQL	5.00	1.05	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	25.0	1.38	1	9/7/2008	
1,1-Dichloroethane	BQL	5.00	1.06	1	9/7/2008	
1,1-Dichloroethene	BQL	5.00	1.48	1	9/7/2008	
1,2-Dichloroethane	BQL	5.00	1.32	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	5.00	1.28	1	9/7/2008	
trans-1,2-dichloroethene	BQL	5.00	1.13	1	9/7/2008	
1,2-Dichloropropane	BQL	5.00	1.18	1	9/7/2008	
1,3-Dichloropropane	BQL	5.00	1.12	1	9/7/2008	
2,2-Dichloropropane	BQL	5.00	1.20	1	9/7/2008	
1,1-Dichloropropene	BQL	5.00	1.57	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	5.00	0.833	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	5.00	0.963	1	9/7/2008	
Dichlorodifluoromethane	BQL	5.00	1.32	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	5.00	1.13	1	9/7/2008	
Ethylbenzene	BQL	5.00	0.866	1	9/7/2008	
Hexachlorobutadiene	BQL	5.00	0.975	1	9/7/2008	
2-Hexanone	BQL	5.00	3.24	1	9/7/2008	
Iodomethane	BQL	5.00	1.08	1	9/7/2008	



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

Client Sample ID: Trip Blanks
Client Project ID: CTO 016
Lab Sample ID G649-61-5A
Lab Project ID: G649-61
Report Basis: 0.0

Analyzed By: MJC
Date Collected: 09-04-2008 14:30
Date Received: 9/4/2008
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0


Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.00	0.888	1	9/7/2008	
4-Isopropyltoluene	BQL	5.00	1.07	1	9/7/2008	
Methylene chloride	1.19	20.0	1.19	1	9/7/2008	J
4-Methyl-2-pentanone	BQL	5.00	4.63	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1.11	1	9/7/2008	
Naphthalene	BQL	5.00	0.850	1	9/7/2008	
n-Propyl benzene	BQL	5.00	1.26	1	9/7/2008	
Styrene	BQL	5.00	1.10	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	5.00	1.02	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	5.00	1.13	1	9/7/2008	
Tetrachloroethene	BQL	5.00	0.916	1	9/7/2008	
Toluene	BQL	5.00	0.997	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	5.00	1.04	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	5.00	1.03	1	9/7/2008	
Trichloroethene	BQL	5.00	0.954	1	9/7/2008	
1,1,1-Trichloroethane	BQL	5.00	1.13	1	9/7/2008	
1,1,2-Trichloroethane	BQL	5.00	1.64	1	9/7/2008	
Trichlorofluoromethane	BQL	5.00	1.03	1	9/7/2008	
1,2,3-Trichloropropane	BQL	5.00	1.24	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	5.00	1.26	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	5.00	1.14	1	9/7/2008	
Vinyl chloride	BQL	5.00	1.36	1	9/7/2008	
m-,p-Xylene	BQL	10.0	1.92	1	9/7/2008	
o-Xylene	BQL	5.00	0.969	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.9	120
Toluene-d8	50	48.5	97
4-Bromofluorobenzene	50	42.2	84

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 



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

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID VBLK9090708B
 Lab Project ID:
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected:
 Date Received:
 Matrix: Soil
 Sample Amount: 5 g
 %Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	6.91	1	9/7/2008	
Benzene	BQL	5.00	1.07	1	9/7/2008	
Bromobenzene	BQL	5.00	1.03	1	9/7/2008	
Bromochloromethane	BQL	5.00	1.72	1	9/7/2008	
Bromodichloromethane	BQL	5.00	0.992	1	9/7/2008	
Bromoform	BQL	5.00	1.00	1	9/7/2008	
Bromomethane	BQL	5.00	1.05	1	9/7/2008	
2-Butanone	BQL	25.0	5.43	1	9/7/2008	
n-Butylbenzene	BQL	5.00	0.955	1	9/7/2008	
sec-Butylbenzene	BQL	5.00	1.01	1	9/7/2008	
tert-Butylbenzene	BQL	5.00	1.12	1	9/7/2008	
Carbon disulfide	BQL	5.00	2.68	1	9/7/2008	
Carbon tetrachloride	BQL	5.00	1.02	1	9/7/2008	
Chlorobenzene	BQL	5.00	1.19	1	9/7/2008	
Chloroethane	BQL	5.00	1.59	1	9/7/2008	
Chloroform	BQL	5.00	1.20	1	9/7/2008	
Chloromethane	BQL	5.00	1.13	1	9/7/2008	
2-Chlorotoluene	BQL	5.00	1.01	1	9/7/2008	
4-Chlorotoluene	BQL	5.00	1.25	1	9/7/2008	
Dibromochloromethane	BQL	5.00	1.38	1	9/7/2008	
1,2-Dibromo-3-chloropropane	BQL	25.0	1.45	1	9/7/2008	
Dibromomethane	BQL	5.00	1.51	1	9/7/2008	
1,2-Dibromoethane (EDB)	BQL	5.00	1.13	1	9/7/2008	
1,2-Dichlorobenzene	BQL	5.00	1.29	1	9/7/2008	
1,3-Dichlorobenzene	BQL	5.00	1.28	1	9/7/2008	
1,4-Dichlorobenzene	BQL	5.00	1.05	1	9/7/2008	
trans-1,4-Dichloro-2-butene	BQL	25.0	1.38	1	9/7/2008	
1,1-Dichloroethane	BQL	5.00	1.06	1	9/7/2008	
1,1-Dichloroethene	BQL	5.00	1.48	1	9/7/2008	
1,2-Dichloroethane	BQL	5.00	1.32	1	9/7/2008	
cis-1,2-Dichloroethene	BQL	5.00	1.28	1	9/7/2008	
trans-1,2-dichloroethene	BQL	5.00	1.13	1	9/7/2008	
1,2-Dichloropropane	BQL	5.00	1.18	1	9/7/2008	
1,3-Dichloropropane	BQL	5.00	1.12	1	9/7/2008	
2,2-Dichloropropane	BQL	5.00	1.20	1	9/7/2008	
1,1-Dichloropropene	BQL	5.00	1.57	1	9/7/2008	
cis-1,3-Dichloropropene	BQL	5.00	0.833	1	9/7/2008	
trans-1,3-Dichloropropene	BQL	5.00	0.963	1	9/7/2008	
Dichlorodifluoromethane	BQL	5.00	1.32	1	9/7/2008	
Diisopropyl ether (DIPE)	BQL	5.00	1.13	1	9/7/2008	
Ethylbenzene	BQL	5.00	0.866	1	9/7/2008	
Hexachlorobutadiene	BQL	5.00	0.975	1	9/7/2008	
2-Hexanone	BQL	5.00	3.24	1	9/7/2008	
Iodomethane	BQL	5.00	1.08	1	9/7/2008	



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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9090708B
Lab Project ID:
Report Basis: Dry Weight

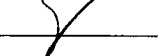

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.00	0.888	1	9/7/2008	
4-Isopropyltoluene	BQL	5.00	1.07	1	9/7/2008	
Methylene chloride	2.13	20.0	1.19	1	9/7/2008	J
4-Methyl-2-pentanone	BQL	5.00	4.63	1	9/7/2008	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1.11	1	9/7/2008	
Naphthalene	BQL	5.00	0.850	1	9/7/2008	
n-Propyl benzene	BQL	5.00	1.26	1	9/7/2008	
Styrene	BQL	5.00	1.10	1	9/7/2008	
1,1,1,2-Tetrachloroethane	BQL	5.00	1.02	1	9/7/2008	
1,1,2,2-Tetrachloroethane	BQL	5.00	1.13	1	9/7/2008	
Tetrachloroethene	BQL	5.00	0.916	1	9/7/2008	
Toluene	BQL	5.00	0.997	1	9/7/2008	
1,2,3-Trichlorobenzene	BQL	5.00	1.04	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	5.00	1.03	1	9/7/2008	
Trichloroethene	BQL	5.00	0.954	1	9/7/2008	
1,1,1-Trichloroethane	BQL	5.00	1.13	1	9/7/2008	
1,1,2-Trichloroethane	BQL	5.00	1.64	1	9/7/2008	
Trichlorofluoromethane	BQL	5.00	1.03	1	9/7/2008	
1,2,3-Trichloropropane	BQL	5.00	1.24	1	9/7/2008	
1,2,4-Trimethylbenzene	BQL	5.00	1.26	1	9/7/2008	
1,3,5-Trimethylbenzene	BQL	5.00	1.14	1	9/7/2008	
Vinyl chloride	BQL	5.00	1.36	1	9/7/2008	
m-,p-Xylene	BQL	10.0	1.92	1	9/7/2008	
o-Xylene	BQL	5.00	0.969	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	49.7	99
Toluene-d8	50	48.3	97
4-Bromofluorobenzene	50	43.2	87

Comments:**Flags:**

BQL = Below Quantitation Limits.

Analyst: Reviewed By: 



LABORATORY CONTROL SAMPLE VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) Soil

Lab Sample ID: LCS9090708a

Sample wt/vol: 5.00 (g)

Lab File ID: 0907904.D

Level: (low/med) low

% Moisture: not dec.

Date Analyzed: 2008-09-07 10:42

GC Column: DB-624 ID: 0.2 (mm)

Dilution Factor: 1

Soil Extract Volume: NA

Soil Aliquot Volume: NA

CAS NO.	COMPOUND	SPIKE AMT (µg/Kg)	SAMP CONC (µg/Kg)	% REC #	QC LIMITS
67-64-1	acetone	75.0	69.6	92.8	16.7-286
107-02-8	acrolein	300	511	170	16.7-226
107-13-1	acrylonitrile	300	331	110	13.3-201
71-43-2	benzene	30.0	30.5	102	68.6-132
108-86-1	bromobenzene	30.0	32.5	108	56.7-146
74-97-5	bromochloromethane	30.0	31.4	104	52.5-154
75-27-4	bromodichloromethane	30.0	31.4	105	65.4-137
75-25-2	bromoform	30.0	34.6	115	48.3-147
74-83-9	bromomethane	30.0	50.9	170	16.7-246
78-93-3	2-butanone	75.0	79.6	106	16.7-314
104-51-8	n-butylbenzene	30.0	36.4	121	58.4-135
135-98-8	sec-butylbenzene	30.0	36.0	120	57.2-136
98-06-6	tert-butylbenzene	30.0	34.8	116	50.8-139
75-15-0	Carbon disulfide	30.0	28.9	96.4	16.7-276
56-23-5	carbon tetrachloride	30.0	31.9	106	61.1-141
108-90-7	chlorobenzene	30.0	31.4	104	63.0-129
75-00-3	chloroethane	30.0	38.7	129	22.5-200
110-75-8	2-chloroethyl vinyl ether	300	99.3	33.1	16.7-275
67-66-3	chloroform	30.0	31.3	104	65.0-137
74-87-3	chloromethane	30.0	33.9	113	16.7-182
95-49-8	2-chlorotoluene	30.0	34.3	114	61.1-138
106-43-4	4-chlorotoluene	30.0	35.6	118	63.8-134
124-48-1	dibromochloromethane	30.0	31.4	105	56.0-144
96-12-8	1,2-dibromo-3-chloropropane	150	190	126	16.7-213
106-93-4	1,2-dibromoethane	30.0	29.9	99.6	58.8-139
74-95-3	dibromomethane	30.0	32.0	107	54.1-154
95-50-1	1,2-dichlorobenzene	30.0	36.7	122	61.5-138
541-73-1	1,3-dichlorobenzene	30.0	36.1	120	61.5-138
106-46-7	1,4-dichlorobenzene	30.0	35.8	119	61.1-138
110-57-6	trans-1,4-Dichloro-2-butene	150	171	114	16.7-212
75-71-8	dichlorodifluoromethane	30.0	36.9	123	25.4-165
75-34-3	1,1-dichloroethane	30.0	29.9	99.8	62.4-140
107-06-2	1,2-dichloroethane	30.0	30.8	103	55.3-152
75-35-4	1,1-dichloroethene	30.0	29.2	97.3	65.4-134
156-59-2	cis-1,2-dichloroethene	30.0	31.2	104	63.8-138
156-60-5	trans-1,2-dichloroethene	30.0	29.8	99.5	63.3-139
78-87-5	1,2-dichloropropane	30.0	31.0	103	60.0-139
142-28-9	1,3-dichloropropane	30.0	31.6	105	62.3-136
594-20-7	2,2-dichloropropane	30.0	31.4	105	62.5-140
563-58-6	1,1-dichloropropene	30.0	31.0	103	60.9-136
10061-01-5	cis-1,3-dichloropropene	30.0	30.8	103	59.8-141



LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Dilution: 1

Lab Code: NC00919

Matrix: Soil

LCS: LCS9090708A

filename: 0907904.D

Date Analyzed: 09/07/08 10:42

LCSD: LCS9090708B

filename: 0907905.D

Date Analyzed: 09/07/08 11:08

COMPOUND	LCS SPIKE	LCS CONC	LCS %	LCSD SPIKE	LCSD CONC	LCSD %	% RPD	QC LIMITS	
	(µg/kg)	(µg/kg)	REC #	(µg/kg)	(µg/kg)	REC #		RPD	REC
acetone	75.0	69.6	92.8	75.0	70.8	94.4	1.67	30	16.7-286
acrolein	300	511	170	300	538	179	5.10	30	16.7-226
acrylonitrile	300	331	110	300	296	98.6	11.1	30	13.3-201
benzene	30.0	30.5	102	30.0	31.2	104	1.94	30	68.6-132
bromobenzene	30.0	32.5	108	30.0	35.0	117	7.53	30	56.7-146
bromochloromethane	30.0	31.4	104	30.0	32.3	108	2.85	30	52.5-154
bromodichloromethane	30.0	31.4	105	30.0	32.5	108	3.44	30	65.4-137
bromoform	30.0	34.6	115	30.0	36.3	121	4.97	30	48.3-147
bromomethane	30.0	50.9	170	30.0	43.9	146	14.7	30	16.7-246
2-butanone	75.0	79.6	106	75.0	82.5	110	3.59	30	16.7-314
n-butylbenzene	30.0	36.4	121	30.0	37.0	124	1.66	30	58.4-135
sec-butylbenzene	30.0	36.0	120	30.0	36.5	122	1.41	30	57.2-136
tert-butylbenzene	30.0	34.8	116	30.0	35.5	118	1.82	30	50.8-139
Carbon disulfide	30.0	28.9	96.4	30.0	30.3	101	4.76	30	16.7-276
carbon tetrachloride	30.0	31.9	106	30.0	32.8	109	2.81	30	61.1-141
chlorobenzene	30.0	31.4	104	30.0	32.7	109	4.69	30	63.0-129
chloroethane	30.0	38.7	129	30.0	34.2	114	12.4	30	22.5-200
2-chloroethyl vinyl ether	300	99.3	33.1	300	19.1	6.36*	136*	30	16.7-275
chloroform	30.0	31.3	104	30.0	31.6	105	0.731	30	65.0-137
chloromethane	30.0	33.9	113	30.0	32.3	108	4.87	30	16.7-182
2-chlorotoluene	30.0	34.3	114	30.0	35.4	118	3.01	30	61.1-138
4-chlorotoluene	30.0	35.6	118	30.0	36.7	122	3.18	30	63.8-134
dibromochloromethane	30.0	31.4	105	30.0	31.7	106	0.888	30	56.0-144
1,2-dibromo-3-chloropropane	150	190	126	150	193	129	1.79	30	16.7-213
1,2-dibromoethane	30.0	29.9	99.6	30.0	31.9	106	6.41	30	58.8-139
dibromomethane	30.0	32.0	107	30.0	32.3	108	0.840	30	54.1-154
1,2-dichlorobenzene	30.0	36.7	122	30.0	37.6	125	2.50	30	61.5-138
1,3-dichlorobenzene	30.0	36.1	120	30.0	36.6	122	1.51	30	61.5-138
1,4-dichlorobenzene	30.0	35.8	119	30.0	36.6	122	2.24	30	61.1-138
trans-1,4-Dichloro-2-butene	150	171	114	150	175	117	2.54	30	16.7-212
dichlorodifluoromethane	30.0	36.9	123	30.0	35.4	118	4.34	30	25.4-165
1,1-dichloroethane	30.0	29.9	99.8	30.0	31.1	104	3.93	30	62.4-140
1,2-dichloroethane	30.0	30.8	103	30.0	32.2	107	4.28	30	55.3-152
1,1-dichloroethene	30.0	29.2	97.3	30.0	31.2	104	6.66	30	65.4-134
cis-1,2-dichloroethene	30.0	31.2	104	30.0	31.5	105	1.12	30	63.8-138
trans-1,2-dichloroethene	30.0	29.8	99.5	30.0	31.1	104	4.17	30	63.3-139
1,2-dichloropropane	30.0	31.0	103	30.0	31.4	105	1.44	30	60.0-139
1,3-dichloropropane	30.0	31.6	105	30.0	32.4	108	2.72	30	62.3-136
2,2-dichloropropane	30.0	31.4	105	30.0	31.7	106	0.886	30	62.5-140
1,1-dichloropropene	30.0	31.0	103	30.0	31.2	104	0.482	30	60.9-136
cis-1,3-dichloropropene	30.0	30.8	103	30.0	32.0	107	3.60	30	59.8-141

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS:



LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Dilution: 1

Lab Code: NC00919

Matrix: Soil

LCS: LCS9090708A

Filename: 0907904.D

Date Analyzed: 09/07/08 10:42

LCSD: LCS9090708B

Filename: 0907905.D

Date Analyzed: 09/07/08 11:08

COMPOUND	LCS SPIKE	LCS CONC	LCS %	LCSD SPIKE	LCSD CONC	LCSD %	% RPD	QC LIMITS	
	(µg/kg)	(µg/kg)	REC #	(µg/kg)	(µg/kg)	REC #		RPD	REC
trans-1,3-dichloropropene	30.0	31.0	103	30.0	31.7	106	2.39	30	7.27-173
Diisopropyl ether	30.0	30.1	100	30.0	30.9	103	2.75	30	9.01-172
ethylbenzene	30.0	32.1	107	30.0	32.9	110	2.43	30	16.7-187
hexachlorobutadiene	30.0	36.8	122	30.0	37.8	126	2.79	30	16.7-173
2-hexanone	75.0	79.6	106	75.0	83.9	112	5.26	30	16.7-304
Iodomethane	30.0	27.6	92.2	30.0	29.8	99.2	7.33	30	16.7-200
isopropylbenzene	30.0	33.5	112	30.0	33.9	113	1.24	30	6.43-167
4-isopropyltoluene	30.0	36.3	121	30.0	36.3	121	0.110	30	6.97-170
Methyl-tert-butyl ether	30.0	30.1	100	30.0	31.4	105	4.13	30	10.7-173
methylene chloride	30.0	31.6	105	30.0	33.3	111	5.26	30	8.58-169
4-methyl-2-pentanone	75.0	78.3	104	75.0	80.8	108	3.10	30	16.7-293
naphthalene	30.0	33.6	112	30.0	36.6	122	8.43	30	16.7-175
n-propyl benzene	30.0	35.4	118	30.0	35.0	117	1.19	30	7.25-172
styrene	30.0	33.6	112	30.0	34.0	113	1.39	30	10.2-168
1,1,1,2-tetrachloroethane	30.0	31.9	106	30.0	33.4	111	4.68	30	5.87-177
1,1,2,2-tetrachloroethane	30.0	34.5	115	30.0	35.8	119	3.78	30	10.9-168
tetrachloroethene	30.0	29.6	98.5	30.0	30.8	102	3.95	30	16.7-195
toluene	30.0	30.8	103	30.0	31.4	105	1.92	30	26.6-159
1,2,3-trichlorobenzene	30.0	36.4	121	30.0	38.4	128	5.38	30	4.64-169
1,2,4-trichlorobenzene	30.0	35.5	118	30.0	37.7	126	6.10	30	6.55-165
1,1,1-trichloroethane	30.0	30.8	102	30.0	31.6	105	2.63	30	8.40-173
1,1,2-trichloroethane	30.0	31.9	106	30.0	33.4	111	4.74	30	12.2-166
trichloroethene	30.0	30.9	103	30.0	31.4	104	0.966	30	24.0-158
trichlorofluoromethane	30.0	32.3	108	30.0	29.8	99.3	8.12	30	5.64-183
1,2,3-trichloropropane	30.0	35.4	118	30.0	37.2	124	4.93	30	16.7-186
1,2,4-trimethylbenzene	30.0	35.7	119	30.0	36.2	121	1.31	30	8.60-168
1,3,5-trimethylbenzene	30.0	34.9	116	30.0	35.7	119	2.24	30	8.09-168
Vinyl acetate	75.0	92.0	123	75.0	95.6	127	3.76	30	16.7-225
vinyl chloride	30.0	31.8	106	30.0	29.8	99.3	6.43	30	7.56-178
m/p-xylene	60.0	66.6	111	60.0	68.2	114	2.39	30	8.91-169
o-xylene	30.0	33.0	110	30.0	34.1	114	3.34	30	9.45-167

System Monitoring Compound Results

		LCS SPIKE	LCS CONC	LCS %	LCSD SPIKE	LCSD CONC	LCSD %	QC LIMITS	
		(µg/kg)	(µg/kg)	REC #	(µg/kg)	(µg/kg)	REC #	REC	
460-00-4	4-Bromofluorobenzene	50	50.44	101	50	50.97	102	49.1-151	
17060-07-0	1,2-Dichloroethane-d4	50	53.15	106	50	52.86	106	37.8-170	
2037-26-5	Toluene-d8	50	49.3	98.6	50	49.71	99.4	58.8-144	

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS Spike Recovery: 0 failure(s) out of 72. LCSD Spike Recovery: 1 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS:

Analyst: 7

Reviewed by: [Signature]



SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Lab Code: NC00919

Inst: MSD9

EPA Sample No.: Amt. Filenames: Analysis Dates: Batch: 9090708
 Sample G552-551-3c 5.45 g 0907919.D 2008-09-07 17:10:00 Dilution: 1
 MS G552-551-3f 5.34 g 0907920.D 2008-09-07 17:36:00 Matrix: Soil
 MSD G552-551-3i 5.24 g 0907921.D 2008-09-07 18:02:00 Solids: 100

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	% RPD	QC LIMITS	
									RPD	REC
acetone	BQL	28.9	40.6	140	29.4	47.7	162	14.2	30	6.81-355
acrolein	BQL	289	0.00	0.00	294	0.00	0.00	-	30	0.00-6510
acrylonitrile	BQL	289	192	66.6	294	200	68.0	2.03	30	0.00-5670
benzene	BQL	28.9	24.0	83.1	29.4	24.6	83.5	0.440	30	74.8-133
bromobenzene	BQL	28.9	32.0	111	29.4	30.1	102	8.07	30	66.1-140
bromochloromethane	BQL	28.9	21.6	74.7*	29.4	24.7	83.9*	11.6	30	85.1-136
bromodichloromethane	BQL	28.9	26.0	90.1	29.4	28.8	97.9	8.26	30	77.4-140
bromoform	BQL	28.9	37.1	129	29.4	37.5	127	0.911	30	74.7-161
bromomethane	BQL	28.9	35.8	124	29.4	28.4	96.4	25.1	30	30.4-127
2-butanone	BQL	28.9	52.4	181	29.4	59.6	203	11.1	30	40.9-256
n-butylbenzene	BQL	28.9	19.3	66.9	29.4	16.5	56.1	17.5	30	41.2-147
sec-butylbenzene	BQL	28.9	20.4	70.7	29.4	18.2	61.9	13.4	30	56.7-138
tert-butylbenzene	BQL	28.9	22.2	76.8	29.4	21.4	72.7	5.40	30	60.5-142
Carbon disulfide	BQL	28.9	15.4	53.3*	29.4	17.1	58.1*	8.62	30	64.3-145
carbon tetrachloride	BQL	28.9	22.1	76.7	29.4	23.6	80.2	4.55	30	64.2-142
chlorobenzene	BQL	28.9	29.1	101	29.4	27.6	93.7	7.36	30	66.3-135
chloroethane	BQL	28.9	25.8	89.5	29.4	22.8	77.5	14.3	30	20.7-182
2-chloroethyl vinyl ether	BQL	28.9	0.00	0.00*	29.4	0.00	0.00*	--	30	16.7-283
chloroform	BQL	28.9	19.4	67.3*	29.4	23.0	78.2	14.9	30	71.1-143
chloromethane	BQL	28.9	31.4	109	29.4	27.5	93.5	15.2	30	69.1-138
2-chlorotoluene	BQL	28.9	22.4	77.7	29.4	22.0	75.0	3.58	30	59.8-144
4-chlorotoluene	BQL	28.9	22.3	77.2	29.4	22.3	75.7	2.05	30	59.0-141
dibromochloromethane	BQL	28.9	30.5	106	29.4	32.1	109	3.10	30	78.1-141
1,2-dibromo-3-chloropropane	BQL	144	155	108	147	169	115	6.71	30	43.4-229
1,2-dibromoethane	BQL	28.9	32.9	114	29.4	32.6	111	2.67	30	78.3-148
dibromomethane	BQL	28.9	27.8	96.4	29.4	30.9	105	8.67	30	80.0-150
1,2-dichlorobenzene	BQL	28.9	24.1	83.5	29.4	24.3	82.7	1.00	30	57.5-148
1,3-dichlorobenzene	BQL	28.9	22.3	77.3	29.4	22.5	76.5	1.04	30	55.0-145
1,4-dichlorobenzene	BQL	28.9	22.2	77.1	29.4	22.5	76.6	0.651	30	53.4-146
trans-1,4-Dichloro-2-butene	BQL	144	129	89.6	147	140	95.4	6.22	30	48.9-211
dichlorodifluoromethane	BQL	28.9	14.1	48.8*	29.4	12.4	42.3*	14.3	30	81.6-130
1,1-dichloroethane	BQL	28.9	15.6	53.9*	29.4	18.5	62.9*	15.3	30	71.6-139
1,2-dichloroethane	BQL	28.9	25.0	86.4	29.4	28.4	96.5	11.0	30	72.9-146
1,1-dichloroethene	BQL	28.9	12.4	42.9*	29.4	14.3	48.8*	12.7	30	72.0-135
cis-1,2-dichloroethene	BQL	28.9	16.2	56.0*	29.4	19.6	66.5*	17.1	30	76.9-134
trans-1,2-dichloroethene	BQL	28.9	14.5	50.2*	29.4	16.9	57.4*	13.3	30	72.0-135
1,2-dichloropropane	BQL	28.9	22.8	78.9	29.4	24.5	83.3	5.51	30	76.1-136
1,3-dichloropropane	BQL	28.9	27.4	95.1	29.4	29.0	98.6	3.62	30	83.2-137
2,2-dichloropropane	BQL	28.9	18.8	65.3	29.4	20.4	69.3	6.04	30	58.0-150
1,1-dichloropropene	BQL	28.9	20.7	71.6	29.4	20.7	70.3	1.33	30	68.5-137
cis-1,3-dichloropropene	BQL	28.9	25.9	89.9	29.4	28.4	96.5	7.15	30	72.1-146

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____



3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Inst: MSD9

Lab Code: NC00919

Batch: 9090708

EPA Sample No.: G552-551-3c, G552-551-3f, G552-551-3i

Dilution: 1

FileNames: 0907919.D, 0907920.D, 0907921.D

Matrix: Soil

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	%	QC LIMITS	
									RPD	REC
trans-1,3-dichloropropene	BQL	28.9	31.3	108	29.4	33.0	112	3.32	30	44.7-144
Diisopropyl ether	BQL	28.9	23.7	82.0	29.4	25.4	86.3	5.11	30	79.4-122
ethylbenzene	BQL	28.9	21.9	75.7	29.4	21.9	74.5	1.60	30	73.8-126
hexachlorobutadiene	BQL	28.9	19.5	67.6	29.4	14.1	48.0*	33.9*	30	51.8-134
2-hexanone	445	28.9	77.7	-1270*	29.4	79.2	-1240*	2.30	30	41.6-111
Iodomethane	BQL	28.9	21.2	73.4	29.4	23.2	78.9	7.22	30	40.6-126
isopropylbenzene	BQL	28.9	21.7	75.3	29.4	20.9	71.1*	5.78	30	74.3-123
4-isopropyltoluene	BQL	28.9	21.1	73.1*	29.4	19.0	64.6*	12.4	30	74.6-122
Methyl-tert-butyl ether	BQL	28.9	20.1	69.7	29.4	24.5	83.4	17.9	30	66.5-136
methylene chloride	BQL	115	21.3	18.5*	118	23.8	20.2*	9.00	30	48.6-155
4-methyl-2-pentanone	12.4	28.9	88.5	263*	29.4	89.8	263*	0.124	30	6.88-166
naphthalene	BQL	28.9	27.9	96.8	29.4	29.5	100	3.65	30	55.1-140
n-propyl benzene	BQL	28.9	20.9	72.5	29.4	19.9	67.6*	7.04	30	71.6-128
styrene	BQL	28.9	23.0	79.8	29.4	24.0	81.4	2.03	30	73.2-123
1,1,1,2-tetrachloroethane	BQL	28.9	30.2	105	29.4	31.0	105	0.730	30	69.4-120
1,1,2,2-tetrachloroethane	BQL	28.9	34.2	118	29.4	34.0	116	2.51	30	75.7-136
tetrachloroethene	BQL	28.9	23.4	81.0	29.4	21.2	71.9	11.8	30	45.8-153
toluene	4.28	28.9	31.8	95.3	29.4	29.8	86.7	9.48	30	66.4-128
1,2,3-trichlorobenzene	BQL	28.9	22.9	79.5	29.4	22.2	75.4	5.21	30	61.0-126
1,2,4-trichlorobenzene	BQL	28.9	21.0	72.9	29.4	19.4	66.0	9.93	30	60.6-125
1,1,1-trichloroethane	BQL	28.9	21.4	74.1*	29.4	23.2	79.0	6.44	30	78.4-121
1,1,2-trichloroethane	BQL	28.9	26.3	91.2	29.4	27.4	93.3	2.28	30	64.8-128
trichloroethene	BQL	28.9	22.3	77.2*	29.4	22.8	77.4*	0.259	30	84.9-136
trichlorofluoromethane	BQL	28.9	14.6	50.5*	29.4	15.9	54.0*	6.63	30	76.8-132
1,2,3-trichloropropane	BQL	28.9	35.0	121	29.4	33.5	114	6.07	30	10.0-218
1,2,4-trimethylbenzene	BQL	28.9	23.0	79.5	29.4	22.3	75.7	4.94	30	31.0-172
1,3,5-trimethylbenzene	BQL	28.9	22.6	78.3	29.4	21.5	73.2	6.64	30	67.7-132
Vinyl acetate	BQL	72.2	49.7	68.8	73.6	52.6	71.5	3.86	30	0.00-355
vinyl chloride	BQL	28.9	25.6	88.5	29.4	22.6	76.9	14.1	30	68.1-137
m/p-xylene	3.76	57.7	45.0	71.5*	58.8	44.4	69.0*	3.50	30	79.8-118
o-xylene	1.31	28.9	22.8	74.6*	29.4	23.6	75.8*	1.53	30	80.0-121

System Monitoring Compound Results

	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	QC LIMITS REC	
460-00-4	4-Bromofluorobenzene	50	70.95	142	50	63.16	126	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	47.72	95.4	50	55.21	110	37.8-170
2037-26-5	Toluene-d8	50	63.43	127	50	60	120	58.8-144

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MS Spike Recovery: 18 failure(s) out of 72. MSD Spike Recovery: 19 failure(s) out of 72.

RPD: 2 out of 72 outside of limits

COMMENTS:

Analyst: Reviewed by:



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S006
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-1H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 31.96 g

Analyzed By: DES
 Date Collected: 9/4/2008 13:15
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 82.98

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	377	57.7	1	9/7/2008	
Acenaphthylene	BQL	377	52.8	1	9/7/2008	
Anthracene	BQL	377	51.3	1	9/7/2008	
Benzo[a]anthracene	BQL	377	51.7	1	9/7/2008	
Benzo[a]pyrene	BQL	377	54.3	1	9/7/2008	
Benzo[b]fluoranthene	BQL	377	52.4	1	9/7/2008	
Benzo[g,h,i]perylene	BQL	377	65.6	1	9/7/2008	
Benzo[k]fluoranthene	BQL	377	53.5	1	9/7/2008	
Benzoic Acid	BQL	754	466	1	9/7/2008	
Bis(2-chloroethoxy)methane	BQL	377	55.4	1	9/7/2008	
Bis(2-chloroethyl)ether	BQL	377	76.5	1	9/7/2008	
Bis(2-chloroisopropyl)ether	BQL	377	60.7	1	9/7/2008	
Bis(2-ethylhexyl)phthalate	BQL	377	57.7	1	9/7/2008	
4-bromophenyl phenyl ether	BQL	377	66.7	1	9/7/2008	
Butylbenzylphthalate	BQL	377	55.8	1	9/7/2008	
2-Chloronaphthalene	BQL	377	52.4	1	9/7/2008	
2-Chlorophenol	BQL	377	47.9	1	9/7/2008	
4-Chloro-3-methylphenol	BQL	377	55.1	1	9/7/2008	
4-Chloroaniline	BQL	1890	61.5	1	9/7/2008	
4-Chlorophenyl phenyl ether	BQL	377	55.4	1	9/7/2008	
Chrysene	BQL	377	36.2	1	9/7/2008	
Dibenzo[a,h]anthracene	BQL	377	48.3	1	9/7/2008	
Dibenzofuran	BQL	377	53.2	1	9/7/2008	
Di-n-Butylphthalate	BQL	377	55.1	1	9/7/2008	
1,2-Dichlorobenzene	BQL	377	63.7	1	9/7/2008	
1,3-Dichlorobenzene	BQL	377	61.1	1	9/7/2008	
1,4-Dichlorobenzene	BQL	377	54.7	1	9/7/2008	
3,3'-Dichlorobenzidine	BQL	754	62.2	1	9/7/2008	
2,4-Dichlorophenol	BQL	377	41.1	1	9/7/2008	
Diethylphthalate	BQL	377	50.5	1	9/7/2008	
Dimethylphthalate	BQL	377	58.4	1	9/7/2008	
2,4-Dimethylphenol	BQL	377	68.2	1	9/7/2008	
Di-n-octylphthalate	BQL	377	58.1	1	9/7/2008	
4,6-Dinitro-2-methylphenol	BQL	1890	44.9	1	9/7/2008	
2,4-Dinitrophenol	BQL	1890	49.0	1	9/7/2008	
2,4-Dinitrotoluene	BQL	377	57.3	1	9/7/2008	
2,6-Dinitrotoluene	BQL	377	62.2	1	9/7/2008	
Diphenylamine *	BQL	377	47.5	1	9/7/2008	
Fluoranthene	BQL	377	60.7	1	9/7/2008	
Fluorene	BQL	377	58.8	1	9/7/2008	
Hexachlorobenzene	BQL	377	81.8	1	9/7/2008	
Hexachlorobutadiene	BQL	377	68.6	1	9/7/2008	
Hexachlorocyclopentadiene	BQL	754	73.5	1	9/7/2008	
Hexachloroethane	BQL	377	58.8	1	9/7/2008	
Indeno(1,2,3-c,d)pyrene	BQL	377	44.5	1	9/7/2008	
Isophorone	BQL	377	55.1	1	9/7/2008	
2-Methylnaphthalene	BQL	377	61.5	1	9/7/2008	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S006
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-1H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 31.96 g

Analyzed By: DES
 Date Collected: 9/4/2008 13:15
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 82.98

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Methylphenol	BQL	377	57.7	1	9/7/2008	
3- & 4-Methylphenol	BQL	377	49.0	1	9/7/2008	
Naphthalene	BQL	377	52.8	1	9/7/2008	
2-Nitroaniline	BQL	377	50.5	1	9/7/2008	
3-Nitroaniline	BQL	1890	55.4	1	9/7/2008	
4-Nitroaniline	BQL	1890	50.5	1	9/7/2008	
Nitrobenzene	BQL	377	50.2	1	9/7/2008	
2-Nitrophenol	BQL	377	55.1	1	9/7/2008	
4-Nitrophenol	BQL	1890	65.6	1	9/7/2008	
N-Nitrosodi-n-propylamine	BQL	377	60.7	1	9/7/2008	
Pentachlorophenol	BQL	1890	34.7	1	9/7/2008	
Phenanthrene	BQL	377	52.8	1	9/7/2008	
Phenol	BQL	377	51.3	1	9/7/2008	
Pyrene	BQL	377	51.3	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	377	67.9	1	9/7/2008	
2,4,5-Trichlorophenol	BQL	377	56.2	1	9/7/2008	
2,4,6-Trichlorophenol	BQL	377	33.6	1	9/7/2008	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	9.4	94		
2-Fluorophenol		10	10.7	107		
Nitrobenzene-d5		10	10.5	105		
Phenol-d6		10	10.9	109		
2,4,6-Tribromophenol		10	8.9	89		
4-Terphenyl-d14		10	10.5	105		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S007
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-2H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 34.31 g

Analyzed By: DES
 Date Collected: 9/4/2008 12:05
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 85.29

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	342	52.3	1	9/7/2008	
Acenaphthylene	BQL	342	47.8	1	9/7/2008	
Anthracene	BQL	342	46.5	1	9/7/2008	
Benzo[a]anthracene	BQL	342	46.8	1	9/7/2008	
Benzo[a]pyrene	BQL	342	49.2	1	9/7/2008	
Benzo[b]fluoranthene	BQL	342	47.5	1	9/7/2008	
Benzo[g,h,i]perylene	BQL	342	59.5	1	9/7/2008	
Benzo[k]fluoranthene	BQL	342	48.5	1	9/7/2008	
Benzoic Acid	BQL	683	422	1	9/7/2008	
Bis(2-chloroethoxy)methane	BQL	342	50.2	1	9/7/2008	
Bis(2-chloroethyl)ether	BQL	342	69.4	1	9/7/2008	
Bis(2-chloroisopropyl)ether	BQL	342	55.0	1	9/7/2008	
Bis(2-ethylhexyl)phthalate	BQL	342	52.3	1	9/7/2008	
4-bromophenyl phenyl ether	BQL	342	60.5	1	9/7/2008	
Butylbenzylphthalate	BQL	342	50.6	1	9/7/2008	
2-Chloronaphthalene	BQL	342	47.5	1	9/7/2008	
2-Chlorophenol	BQL	342	43.4	1	9/7/2008	
4-Chloro-3-methylphenol	BQL	342	49.9	1	9/7/2008	
4-Chloroaniline	BQL	1710	55.7	1	9/7/2008	
4-Chlorophenyl phenyl ether	BQL	342	50.2	1	9/7/2008	
Chrysene	BQL	342	32.8	1	9/7/2008	
Dibenzo[a,h]anthracene	BQL	342	43.7	1	9/7/2008	
Dibenzofuran	BQL	342	48.2	1	9/7/2008	
Di-n-Butylphthalate	BQL	342	49.9	1	9/7/2008	
1,2-Dichlorobenzene	BQL	342	57.8	1	9/7/2008	
1,3-Dichlorobenzene	BQL	342	55.4	1	9/7/2008	
1,4-Dichlorobenzene	BQL	342	49.6	1	9/7/2008	
3,3'-Dichlorobenzidine	BQL	683	56.4	1	9/7/2008	
2,4-Dichlorophenol	BQL	342	37.2	1	9/7/2008	
Diethylphthalate	BQL	342	45.8	1	9/7/2008	
Dimethylphthalate	BQL	342	53.0	1	9/7/2008	
2,4-Dimethylphenol	BQL	342	61.9	1	9/7/2008	
Di-n-octylphthalate	BQL	342	52.6	1	9/7/2008	
4,6-Dinitro-2-methylphenol	BQL	1710	40.7	1	9/7/2008	
2,4-Dinitrophenol	BQL	1710	44.4	1	9/7/2008	
2,4-Dinitrotoluene	BQL	342	51.9	1	9/7/2008	
2,6-Dinitrotoluene	BQL	342	56.4	1	9/7/2008	
Diphenylamine *	BQL	342	43.1	1	9/7/2008	
Fluoranthene	BQL	342	55.0	1	9/7/2008	
Fluorene	BQL	342	53.3	1	9/7/2008	
Hexachlorobenzene	BQL	342	74.2	1	9/7/2008	
Hexachlorobutadiene	BQL	342	62.2	1	9/7/2008	
Hexachlorocyclopentadiene	BQL	683	66.6	1	9/7/2008	
Hexachloroethane	BQL	342	53.3	1	9/7/2008	
Indeno(1,2,3-c,d)pyrene	BQL	342	40.3	1	9/7/2008	
Isophorone	BQL	342	49.9	1	9/7/2008	
2-Methylnaphthalene	BQL	342	55.7	1	9/7/2008	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S007
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-2H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 34.31 g

Analyzed By: DES
 Date Collected: 9/4/2008 12:05
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 85.29

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Methylphenol	BQL	342	52.3	1	9/7/2008	
3- & 4-Methylphenol	BQL	342	44.4	1	9/7/2008	
Naphthalene	BQL	342	47.8	1	9/7/2008	
2-Nitroaniline	BQL	342	45.8	1	9/7/2008	
3-Nitroaniline	BQL	1710	50.2	1	9/7/2008	
4-Nitroaniline	BQL	1710	45.8	1	9/7/2008	
Nitrobenzene	BQL	342	45.4	1	9/7/2008	
2-Nitrophenol	BQL	342	49.9	1	9/7/2008	
4-Nitrophenol	BQL	1710	59.5	1	9/7/2008	
N-Nitrosodi-n-propylamine	BQL	342	55.0	1	9/7/2008	
Pentachlorophenol	BQL	1710	31.4	1	9/7/2008	
Phenanthrene	BQL	342	47.8	1	9/7/2008	
Phenol	BQL	342	46.5	1	9/7/2008	
Pyrene	BQL	342	46.5	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	342	61.5	1	9/7/2008	
2,4,5-Trichlorophenol	BQL	342	50.9	1	9/7/2008	
2,4,6-Trichlorophenol	BQL	342	30.4	1	9/7/2008	


	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	88
2-Fluorophenol	10	9.8	98
Nitrobenzene-d5	10	9.9	99
Phenol-d6	10	9.9	99
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	10.1	101

Comments:

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

Flags:

BQL = Below Quantitation Limits.
 J = Detected below the quantitation limit.

Reviewed By: 



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S008
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-3H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 32.72 g

Analyzed By: DES
 Date Collected: 9/4/2008 12:25
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 81.56

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	375	57.3	1	9/7/2008	
Acenaphthylene	BQL	375	52.5	1	9/7/2008	
Anthracene	BQL	375	51.0	1	9/7/2008	
Benzo[a]anthracene	BQL	375	51.3	1	9/7/2008	
Benzo[a]pyrene	BQL	375	54.0	1	9/7/2008	
Benzo[b]fluoranthene	BQL	375	52.1	1	9/7/2008	
Benzo[g,h,i]perylene	BQL	375	65.2	1	9/7/2008	
Benzo[k]fluoranthene	BQL	375	53.2	1	9/7/2008	
Benzoic Acid	BQL	749	463	1	9/7/2008	
Bis(2-chloroethoxy)methane	BQL	375	55.1	1	9/7/2008	
Bis(2-chloroethyl)ether	BQL	375	76.1	1	9/7/2008	
Bis(2-chloroisopropyl)ether	BQL	375	60.3	1	9/7/2008	
Bis(2-ethylhexyl)phthalate	BQL	375	57.3	1	9/7/2008	
4-bromophenyl phenyl ether	BQL	375	66.3	1	9/7/2008	
Butylbenzylphthalate	BQL	375	55.5	1	9/7/2008	
2-Chloronaphthalene	BQL	375	52.1	1	9/7/2008	
2-Chlorophenol	BQL	375	47.6	1	9/7/2008	
4-Chloro-3-methylphenol	BQL	375	54.7	1	9/7/2008	
4-Chloroaniline	BQL	1870	61.1	1	9/7/2008	
4-Chlorophenyl phenyl ether	BQL	375	55.1	1	9/7/2008	
Chrysene	BQL	375	36.0	1	9/7/2008	
Dibenzo[a,h]anthracene	BQL	375	48.0	1	9/7/2008	
Dibenzofuran	BQL	375	52.8	1	9/7/2008	
Di-n-Butylphthalate	BQL	375	54.7	1	9/7/2008	
1,2-Dichlorobenzene	BQL	375	63.3	1	9/7/2008	
1,3-Dichlorobenzene	BQL	375	60.7	1	9/7/2008	
1,4-Dichlorobenzene	BQL	375	54.3	1	9/7/2008	
3,3'-Dichlorobenzidine	BQL	749	61.8	1	9/7/2008	
2,4-Dichlorophenol	BQL	375	40.8	1	9/7/2008	
Diethylphthalate	BQL	375	50.2	1	9/7/2008	
Dimethylphthalate	BQL	375	58.1	1	9/7/2008	
2,4-Dimethylphenol	BQL	375	67.8	1	9/7/2008	
Di-n-octylphthalate	BQL	375	57.7	1	9/7/2008	
4,6-Dinitro-2-methylphenol	BQL	1870	44.6	1	9/7/2008	
2,4-Dinitrophenol	BQL	1870	48.7	1	9/7/2008	
2,4-Dinitrotoluene	BQL	375	57.0	1	9/7/2008	
2,6-Dinitrotoluene	BQL	375	61.8	1	9/7/2008	
Diphenylamine *	BQL	375	47.2	1	9/7/2008	
Fluoranthene	BQL	375	60.3	1	9/7/2008	
Fluorene	BQL	375	58.5	1	9/7/2008	
Hexachlorobenzene	BQL	375	81.3	1	9/7/2008	
Hexachlorobutadiene	BQL	375	68.2	1	9/7/2008	
Hexachlorocyclopentadiene	BQL	749	73.1	1	9/7/2008	
Hexachloroethane	BQL	375	58.5	1	9/7/2008	
Indeno(1,2,3-c,d)pyrene	BQL	375	44.2	1	9/7/2008	
Isophorone	BQL	375	54.7	1	9/7/2008	
2-Methylnaphthalene	BQL	375	61.1	1	9/7/2008	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S008
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-3H
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 32.72 g

Analyzed By: DES
 Date Collected: 9/4/2008 12:25
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 81.56

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Methylphenol	BQL	375	57.3	1	9/7/2008	
3- & 4-Methylphenol	BQL	375	48.7	1	9/7/2008	
Naphthalene	BQL	375	52.5	1	9/7/2008	
2-Nitroaniline	BQL	375	50.2	1	9/7/2008	
3-Nitroaniline	BQL	1870	55.1	1	9/7/2008	
4-Nitroaniline	BQL	1870	50.2	1	9/7/2008	
Nitrobenzene	BQL	375	49.8	1	9/7/2008	
2-Nitrophenol	BQL	375	54.7	1	9/7/2008	
4-Nitrophenol	BQL	1870	65.2	1	9/7/2008	
N-Nitrosodi-n-propylamine	BQL	375	60.3	1	9/7/2008	
Pentachlorophenol	BQL	1870	34.5	1	9/7/2008	
Phenanthrene	BQL	375	52.5	1	9/7/2008	
Phenol	BQL	375	51.0	1	9/7/2008	
Pyrene	BQL	375	51.0	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	375	67.5	1	9/7/2008	
2,4,5-Trichlorophenol	BQL	375	55.8	1	9/7/2008	
2,4,6-Trichlorophenol	BQL	375	33.4	1	9/7/2008	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	9.5	95		
2-Fluorophenol		10	10.3	103		
Nitrobenzene-d5		10	10.6	106		
Phenol-d6		10	10.3	103		
2,4,6-Tribromophenol		10	9	90		
4-Terphenyl-d14		10	10.9	109		

Comments:

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

Flags:

BQL = Below Quantitation Limits.
 J = Detected below the quantitation limit.

Reviewed By:



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S009
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-4J
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 32.54 g

Analyzed By: DES
 Date Collected: 9/4/2008 13:30
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 88.04

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	349	53.4	1	9/7/2008	
Acenaphthylene	BQL	349	48.9	1	9/7/2008	
Anthracene	BQL	349	47.5	1	9/7/2008	
Benzo[a]anthracene	BQL	349	47.8	1	9/7/2008	
Benzo[a]pyrene	BQL	349	50.3	1	9/7/2008	
Benzo[b]fluoranthene	BQL	349	48.5	1	9/7/2008	
Benzo[g,h,i]perylene	BQL	349	60.7	1	9/7/2008	
Benzo[k]fluoranthene	BQL	349	49.6	1	9/7/2008	
Benzoic Acid	BQL	698	431	1	9/7/2008	
Bis(2-chloroethoxy)methane	BQL	349	51.3	1	9/7/2008	
Bis(2-chloroethyl)ether	BQL	349	70.9	1	9/7/2008	
Bis(2-chloroisopropyl)ether	BQL	349	56.2	1	9/7/2008	
Bis(2-ethylhexyl)phthalate	BQL	349	53.4	1	9/7/2008	
4-bromophenyl phenyl ether	BQL	349	61.8	1	9/7/2008	
Butylbenzylphthalate	BQL	349	51.7	1	9/7/2008	
2-Chloronaphthalene	BQL	349	48.5	1	9/7/2008	
2-Chlorophenol	BQL	349	44.3	1	9/7/2008	
4-Chloro-3-methylphenol	BQL	349	51.0	1	9/7/2008	
4-Chloroaniline	BQL	1750	56.9	1	9/7/2008	
4-Chlorophenyl phenyl ether	BQL	349	51.3	1	9/7/2008	
Chrysene	BQL	349	33.5	1	9/7/2008	
Dibenzo[a,h]anthracene	BQL	349	44.7	1	9/7/2008	
Dibenzofuran	BQL	349	49.2	1	9/7/2008	
Di-n-Butylphthalate	BQL	349	51.0	1	9/7/2008	
1,2-Dichlorobenzene	BQL	349	59.0	1	9/7/2008	
1,3-Dichlorobenzene	BQL	349	56.5	1	9/7/2008	
1,4-Dichlorobenzene	BQL	349	50.6	1	9/7/2008	
3,3'-Dichlorobenzidine	BQL	698	57.6	1	9/7/2008	
2,4-Dichlorophenol	BQL	349	38.0	1	9/7/2008	
Diethylphthalate	BQL	349	46.8	1	9/7/2008	
Dimethylphthalate	BQL	349	54.1	1	9/7/2008	
2,4-Dimethylphenol	BQL	349	63.2	1	9/7/2008	
Di-n-octylphthalate	BQL	349	53.8	1	9/7/2008	
4,6-Dinitro-2-methylphenol	BQL	1750	41.5	1	9/7/2008	
2,4-Dinitrophenol	BQL	1750	45.4	1	9/7/2008	
2,4-Dinitrotoluene	BQL	349	53.1	1	9/7/2008	
2,6-Dinitrotoluene	BQL	349	57.6	1	9/7/2008	
Diphenylamine *	BQL	349	44.0	1	9/7/2008	
Fluoranthene	BQL	349	56.2	1	9/7/2008	
Fluorene	BQL	349	54.5	1	9/7/2008	
Hexachlorobenzene	BQL	349	75.7	1	9/7/2008	
Hexachlorobutadiene	BQL	349	63.5	1	9/7/2008	
Hexachlorocyclopentadiene	BQL	698	68.1	1	9/7/2008	
Hexachloroethane	BQL	349	54.5	1	9/7/2008	
Indeno(1,2,3-c,d)pyrene	BQL	349	41.2	1	9/7/2008	
Isophorone	BQL	349	51.0	1	9/7/2008	
2-Methylnaphthalene	BQL	349	56.9	1	9/7/2008	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: TT2361-S009
 Client Project ID: CTO 016
 Lab Sample ID: G649-61-4J
 Lab Project ID: G649-61
 Report Basis: Dry weight
 Initial Weight: 32.54 g

Analyzed By: DES
 Date Collected: 9/4/2008 13:30
 Date Received: 9/4/2008
 Date Extracted: 9/5/2008
 Matrix: Soil
 % Solids: 88.04

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Methylphenol	BQL	349	53.4	1	9/7/2008	
3- & 4-Methylphenol	BQL	349	45.4	1	9/7/2008	
Naphthalene	BQL	349	48.9	1	9/7/2008	
2-Nitroaniline	BQL	349	46.8	1	9/7/2008	
3-Nitroaniline	BQL	1750	51.3	1	9/7/2008	
4-Nitroaniline	BQL	1750	46.8	1	9/7/2008	
Nitrobenzene	BQL	349	46.4	1	9/7/2008	
2-Nitrophenol	BQL	349	51.0	1	9/7/2008	
4-Nitrophenol	BQL	1750	60.7	1	9/7/2008	
N-Nitrosodi-n-propylamine	BQL	349	56.2	1	9/7/2008	
Pentachlorophenol	BQL	1750	32.1	1	9/7/2008	
Phenanthrene	BQL	349	48.9	1	9/7/2008	
Phenol	BQL	349	47.5	1	9/7/2008	
Pyrene	BQL	349	47.5	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	349	62.8	1	9/7/2008	
2,4,5-Trichlorophenol	BQL	349	52.0	1	9/7/2008	
2,4,6-Trichlorophenol	BQL	349	31.1	1	9/7/2008	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	10.2	102		
2-Fluorophenol		10	9.8	98		
Nitrobenzene-d5		10	10.6	106		
Phenol-d6		10	9.9	99		
2,4,6-Tribromophenol		10	9.4	94		
4-Terphenyl-d14		10	11.3	113		

Comments:

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

Flags:

BQL = Below Quantitation Limits.
 J = Detected below the quantitation limit.

Reviewed By: 



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID: PB12302
 Lab Project ID:
 Report Basis: Dry Weight
 Initial Weight: 32 g

Analyzed By: DES
 Date Collected:
 Date Received:
 Date Extracted: 9/5/2008
 Matrix: SOIL
 % Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	313	47.8	1	9/7/2008	
Acenaphthylene	BQL	313	43.7	1	9/7/2008	
Anthracene	BQL	313	42.5	1	9/7/2008	
Benzo[a]anthracene	BQL	313	42.8	1	9/7/2008	
Benzo[a]pyrene	BQL	313	45.0	1	9/7/2008	
Benzo[b]fluoranthene	BQL	313	43.4	1	9/7/2008	
Benzo[g,h,i]perylene	BQL	313	54.4	1	9/7/2008	
Benzo[k]fluoranthene	BQL	313	44.4	1	9/7/2008	
Benzoic Acid	BQL	625	386	1	9/7/2008	
Bis(2-chloroethoxy)methane	BQL	313	45.9	1	9/7/2008	
Bis(2-chloroethyl)ether	BQL	313	63.4	1	9/7/2008	
Bis(2-chloroisopropyl)ether	BQL	313	50.3	1	9/7/2008	
Bis(2-ethylhexyl)phthalate	BQL	313	47.8	1	9/7/2008	
4-bromophenyl phenyl ether	BQL	313	55.3	1	9/7/2008	
Butylbenzylphthalate	BQL	313	46.2	1	9/7/2008	
2-Chloronaphthalene	BQL	313	43.4	1	9/7/2008	
2-Chlorophenol	BQL	313	39.7	1	9/7/2008	
4-Chloro-3-methylphenol	BQL	313	45.6	1	9/7/2008	
4-Chloroaniline	BQL	1560	50.9	1	9/7/2008	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	9/7/2008	
Chrysene	BQL	313	30.0	1	9/7/2008	
Dibenzo[a,h]anthracene	BQL	313	40.0	1	9/7/2008	
Dibenzofuran	BQL	313	44.1	1	9/7/2008	
Di-n-Butylphthalate	BQL	313	45.6	1	9/7/2008	
1,2-Dichlorobenzene	BQL	313	52.8	1	9/7/2008	
1,3-Dichlorobenzene	BQL	313	50.6	1	9/7/2008	
1,4-Dichlorobenzene	BQL	313	45.3	1	9/7/2008	
3,3'-Dichlorobenzidine	BQL	625	51.6	1	9/7/2008	
2,4-Dichlorophenol	BQL	313	34.1	1	9/7/2008	
Diethylphthalate	BQL	313	41.9	1	9/7/2008	
Dimethylphthalate	BQL	313	48.4	1	9/7/2008	
2,4-Dimethylphenol	BQL	313	56.6	1	9/7/2008	
Di-n-octylphthalate	BQL	313	48.1	1	9/7/2008	
4,6-Dinitro-2-methylphenol	BQL	1560	37.2	1	9/7/2008	
2,4-Dinitrophenol	BQL	1560	40.6	1	9/7/2008	
2,4-Dinitrotoluene	BQL	313	47.5	1	9/7/2008	
2,6-Dinitrotoluene	BQL	313	51.6	1	9/7/2008	
Diphenylamine *	BQL	313	39.4	1	9/7/2008	
Fluoranthene	BQL	313	50.3	1	9/7/2008	
Fluorene	BQL	313	48.8	1	9/7/2008	
Hexachlorobenzene	BQL	313	67.8	1	9/7/2008	
Hexachlorobutadiene	BQL	313	56.9	1	9/7/2008	
Hexachlorocyclopentadiene	BQL	625	60.9	1	9/7/2008	
Hexachloroethane	BQL	313	48.8	1	9/7/2008	
Indeno(1,2,3-c,d)pyrene	BQL	313	36.9	1	9/7/2008	
Isophorone	BQL	313	45.6	1	9/7/2008	
2-Methylnaphthalene	BQL	313	50.9	1	9/7/2008	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID: PB12302
 Lab Project ID:
 Report Basis: Dry Weight
 Initial Weight: 32 g

Analyzed By: DES
 Date Collected:
 Date Received:
 Date Extracted: 9/5/2008
 Matrix: SOIL
 % Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Methylphenol	BQL	313	47.8	1	9/7/2008	
3- & 4-Methylphenol	BQL	313	40.6	1	9/7/2008	
Naphthalene	BQL	313	43.7	1	9/7/2008	
2-Nitroaniline	BQL	313	41.9	1	9/7/2008	
3-Nitroaniline	BQL	1560	45.9	1	9/7/2008	
4-Nitroaniline	BQL	1560	41.9	1	9/7/2008	
Nitrobenzene	BQL	313	41.6	1	9/7/2008	
2-Nitrophenol	BQL	313	45.6	1	9/7/2008	
4-Nitrophenol	BQL	1560	54.4	1	9/7/2008	
N-Nitrosodi-n-propylamine	BQL	313	50.3	1	9/7/2008	
Pentachlorophenol	BQL	1560	28.8	1	9/7/2008	
Phenanthrene	BQL	313	43.7	1	9/7/2008	
Phenol	BQL	313	42.5	1	9/7/2008	
Pyrene	BQL	313	42.5	1	9/7/2008	
1,2,4-Trichlorobenzene	BQL	313	56.3	1	9/7/2008	
2,4,5-Trichlorophenol	BQL	313	46.6	1	9/7/2008	
2,4,6-Trichlorophenol	BQL	313	27.8	1	9/7/2008	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.4	104
2-Fluorophenol	10	10.4	104
Nitrobenzene-d5	10	10.8	108
Phenol-d6	10	10.6	106
2,4,6-Tribromophenol	10	9.3	93
4-Terphenyl-d14	10	11.1	111

Comments:

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

Flags:

BQL = Below Quantitation Limits.
 J = Detected below the quantitation limit.

Reviewed By:



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) SOIL

Lab Sample ID: LCS12302

Sample wt/vol: 32 (g)

Lab File ID: 0907709.D

Level: (low/med) LOW

% Moisture: 0% Decanted: (Y/N) N

Date Analyzed: 09/07/08 12:19

Concentrated Extract Volume: 10000 (µL)

Dilution Factor: 1

Injection Volume: 1 (µL)

Extraction: (Type) IKA

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
83-32-9	Acenaphthene	3125	3410	109*	73.3-108
208-96-8	Acenaphthylene	3125	3430	110	76.0-113
120-12-7	Anthracene	3125	3280	105*	67.6-104
56-55-3	Benzo[a]anthracene	3125	3470	111	71.6-113
50-32-8	Benzo[a]pyrene	3125	3580	114	68.1-116
205-99-2	Benzo[b]fluoranthene	3125	3370	108	61.3-129
191-24-2	Benzo[g,h,i]perylene	3125	2880	92.0	62.4-136
207-08-9	Benzo[k]fluoranthene	3125	4190	134*	72.8-117
65-85-0	Benzoic Acid	3125	1580	50.5	9.27-93.0
100-51-6	Benzyl Alcohol	3125	3170	101	71.8-108
111-91-1	Bis(2-chloroethoxy)methane	3125	3450	110*	72.8-110
111-44-4	Bis(2-chloroethyl)ether	3125	3270	105	72.1-110
108-60-1	Bis(2-chloroisopropyl)ether	3125	3270	105	68.4-107
117-81-7	Bis(2-ethylhexyl)phthalate	3125	3470	111	71.1-120
101-55-3	4-bromophenyl phenyl ether	3125	3240	104	68.1-107
85-68-7	Butylbenzylphthalate	3125	3500	112	70.3-120
106-47-8	4-Chloroaniline	3125	2860	91.5	43.7-101
59-50-7	4-Chloro-3-methylphenol	3125	3480	111	76.4-125
91-58-7	2-Chloronaphthalene	3125	2850	91.2*	61.2-88.4
95-57-8	2-Chlorophenol	3125	3290	105	72.5-108
7005-72-3	4-Chlorophenyl phenyl ether	3125	3260	104	69.8-111
218-01-9	Chrysene	3125	3440	110	70.0-111
84-74-2	Di-n-Butylphthalate	3125	3500	112*	72.1-111
117-84-0	Di-n-octylphthalate	3125	3870	124	70.4-126
53-70-3	Dibenzo[a,h]anthracene	3125	3020	96.7	64.9-133
132-64-9	Dibenzofuran	3125	3320	106	73.7-111
95-50-1	1,2-Dichlorobenzene	3125	3260	104*	71.0-103
541-73-1	1,3-Dichlorobenzene	3125	3190	102*	70.0-102
106-46-7	1,4-Dichlorobenzene	3125	3250	104*	72.2-103
91-94-1	3,3'-Dichlorobenzidine	3125	3380	108	64.9-110
120-83-2	2,4-Dichlorophenol	3125	3390	109	74.6-115
84-66-2	Diethylphthalate	3125	3370	108	63.6-117
105-67-9	2,4-Dimethylphenol	3125	3300	105	71.2-112
131-11-3	Dimethylphthalate	3125	3340	107	72.9-111
534-52-1	4,6-Dinitro-2-methylphenol	3125	2830	90.4	33.0-122
51-28-5	2,4-Dinitrophenol	3125	2160	69.2	11.2-121
121-14-2	2,4-Dinitrotoluene	3125	3390	109	69.5-117
606-20-2	2,6-Dinitrotoluene	3125	3390	109	67.2-116
206-44-0	Fluoranthene	3125	3390	109	71.2-109
86-73-7	Fluorene	3125	3380	108	72.4-112
118-74-1	Hexachlorobenzene	3125	3300	106	68.8-109



LABORATORY CONTROL SAMPLE SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) SOIL

Lab Sample ID: LCS12302

Sample wt/vol: 32 (g)

Lab File ID: 0907709.D

Level: (low/med) LOW

% Moisture: 0% Decanted: (Y/N) N

Date Analyzed: 09/07/08 12:19

Concentrated Extract Volume: 10000 (μ L)

Dilution Factor: 1

Injection Volume: 1 (μ L)

Extraction: (Type) IKA

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (μ g/kg)	SAMP CONC (μ g/kg)	% REC #	QC LIMITS
87-68-3	Hexachlorobutadiene	3125	3430	110	73.1-114
77-47-4	Hexachlorocyclopentadiene	3125	3600	115	0.00-854
67-72-1	Hexachloroethane	3125	3300	106*	70.9-106
193-39-5	Indeno (1,2,3-c,d)pyrene	3125	3230	103	65.2-135
78-59-1	Isophorone	3125	3170	101	76.7-116
90-12-0	1-Methylnaphthalene	3125	3460	111*	73.1-108
91-57-6	2-Methylnaphthalene	3125	3440	110	75.3-113
95-48-7	2-Methylphenol	3125	3260	104	69.4-110
108-39-4	4-Methylphenol	6250	6480	104	70.0-116
621-64-7	N-Nitrosodi-n-propylamine	3125	3210	103	69.7-117
86-30-6	Diphenylamine	3125	3300	105*	69.1-105
91-20-3	Naphthalene	3125	3540	113	78.4-115
88-74-4	2-Nitroaniline	3125	2920	93.3	65.0-109
99-09-2	3-Nitroaniline	3125	3180	102	57.4-102
100-01-6	4-Nitroaniline	3125	3510	112	62.8-113
98-95-3	Nitrobenzene	3125	3530	113	72.7-113
88-75-5	2-Nitrophenol	3125	3440	110	71.8-113
100-02-7	4-Nitrophenol	3125	2960	94.8	39.6-116
87-86-5	Pentachlorophenol	3125	2940	94.1	49.8-106
85-01-8	Phenanthrene	3125	3400	109	70.9-110
108-95-2	Phenol	3125	3340	107*	72.1-106
129-00-0	Pyrene	3125	3610	115*	71.9-112
110-86-1	Pyridine	3125	3400	109*	31.1-97.3
120-82-1	1,2,4-Trichlorobenzene	3125	3260	104	73.6-107
95-95-4	2,4,5-Trichlorophenol	3125	3460	111	69.1-114
88-06-2	2,4,6-Trichlorophenol	3125	3410	109	71.2-112

System Monitoring Compound Results

		Spike Added (μ g/kg)	Spike Result (μ g/kg)	Percent Rec. (%)	Percent Recovery (%)
118-79-6	2,4,6-Tribromophenol	3125	3220	103	41.1-129
321-60-8	2-Fluorobiphenyl	3125	3320	106	56.4-116
367-12-4	2-Fluorophenol	3125	3280	105	41.8-123
1718-51-0	4-Terphenyl-d14	3125	3320	106	43.8-140
4165-60-0	Nitrobenzene-d5	3125	3370	108	46.1-117
13127-88-3	Phenol-d6	3125	3320	106	47.9-125

Analyst: DS



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services, Inc.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919

Inst: MSD7

EPA Sample No.: G992-11-21H, G992-11-21I, G992-11-21J

Batch: 7090708

FileNames: 0907716.D, 0907717.D, 0907718.D

Dilution: 1

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	% RPD	QC LIMITS	
									RPD	REC
Acenaphthene	BQL	3160	3350	106	3170	3440	109	2.33	30	71.0-125
Acenaphthylene	BQL	3160	3480	110	3170	3510	111	0.544	30	73.0-140
Anthracene	BQL	3160	3310	105	3170	3260	103	1.73	30	66.9-119
Benzo[a]anthracene	BQL	3160	3390	107	3170	3420	108	0.566	30	51.8-127
Benzo[a]pyrene	BQL	3160	3360	106	3170	3630	115	7.62	30	78.5-137
Benzo[b]fluoranthene	BQL	3160	3160	99.9	3170	3420	108	7.61	30	62.3-134
Benzo[g,h,i]perylene	BQL	3160	2970	93.8	3170	2890	91.1	2.92	30	56.2-149
Benzo[k]fluoranthene	BQL	3160	3370	106	3170	3580	113	5.84	30	79.7-133
Benzoic Acid	BQL	3160	642	20.3	3170	856	27.0	28.3	30	0.00-140
Benzyl Alcohol	BQL	3160	3270	104	3170	3160	99.6	3.84	30	66.8-114
Bis(2-chloroethoxy)methane	BQL	3160	3530	112	3170	3430	108	3.18	30	71.4-123
Bis(2-chloroethyl)ether	BQL	3160	3470	110	3170	3400	107	2.49	30	64.0-120
Bis(2-chloroisopropyl)ether	BQL	3160	3250	103	3170	3210	101	1.76	30	60.5-123
Bis(2-ethylhexyl)phthalate	BQL	3160	3580	113	3170	3630	115	1.23	30	68.5-134
4-bromophenyl phenyl ether	BQL	3160	3270	103	3170	3230	102	1.36	30	65.2-127
Butylbenzylphthalate	BQL	3160	3560	113	3170	3540	112	0.891	30	64.4-133
4-Chloroaniline	BQL	3160	2970	93.9	3170	2810	88.7	5.70	30	25.1-237
4-Chloro-3-methylphenol	BQL	3160	3570	113	3170	3390	107	5.28	30	80.0-115
2-Chloronaphthalene	BQL	3160	2790	88.3	3170	2830	89.2	1.01	30	70.3-124
2-Chlorophenol	BQL	3160	3390	107	3170	3230	102	4.98	30	77.1-111
4-Chlorophenyl phenyl ether	BQL	3160	3250	103	3170	3270	103	0.388	30	72.8-125
Chrysene	BQL	3160	3410	108	3170	3410	107	0.452	30	72.7-124
Di-n-Butylphthalate	BQL	3160	3430	109	3170	3460	109	0.460	30	67.9-125
Di-n-octylphthalate	BQL	3160	3660	116	3170	3730	118	1.71	30	48.9-162
Dibenzo[a,h]anthracene	BQL	3160	3070	97.2	3170	3110	97.9	0.718	30	58.6-146
Dibenzofuran	BQL	3160	3280	104	3170	3270	103	0.387	30	70.6-115
1,2-Dichlorobenzene	BQL	3160	3320	105	3170	3300	104	0.958	30	73.3-121
1,3-Dichlorobenzene	BQL	3160	3260	103	3170	3220	101	1.66	30	69.7-119
1,4-Dichlorobenzene	BQL	3160	3300	104	3170	3260	103	1.26	30	70.6-117
3,3'-Dichlorobenzidine	BQL	3160	2990	94.7	3170	3000	94.7	0.00	30	14.2-302
2,4-Dichlorophenol	BQL	3160	3490	110	3170	3330	105	5.10	30	74.5-115
Diethylphthalate	BQL	3160	3310	105	3170	3330	105	0.191	30	70.8-127
2,4-Dimethylphenol	BQL	3160	2800	88.4	3170	2780	87.6	0.909	30	85.4-138
Dimethylphthalate	BQL	3160	3300	104	3170	3340	105	1.05	30	68.5-122
4,6-Dinitro-2-methylphenol	BQL	3160	2680	84.8	3170	2610	82.3	2.99	30	39.4-126
2,4-Dinitrophenol	BQL	3160	1080	34.0	3170	1340	42.1	21.3	30	20.4-130
2,4-Dinitrotoluene	BQL	3160	3320	105	3170	3370	106	0.947	30	67.6-136
2,6-Dinitrotoluene	BQL	3160	3320	105	3170	3370	106	0.947	30	69.3-131
Fluoranthene	BQL	3160	3340	106	3170	3330	105	0.554	30	64.6-129
Fluorene	BQL	3160	3370	107	3170	3370	106	0.470	30	72.4-128
Hexachlorobenzene	BQL	3160	3270	103	3170	3320	105	1.35	30	62.9-124

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS:



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services, Inc.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919

Inst: MSD7

EPA Sample No.: G992-11-21H, G992-11-21I, G992-11-21J

Batch: 7090708

FileNames: 0907716.D, 0907717.D, 0907718.D

Dilution: 1

Table with 11 columns: COMPOUND, SAMPLE CONC, MS SPIKE, MS CONC, MS %, MSD SPIKE, MSD CONC, MSD %, %, RPD, QC LIMITS (RPD, REC). Rows include Hexachlorobutadiene, Hexachlorocyclopentadiene, Hexachloroethane, etc.

System Monitoring Compound Results

Table with 8 columns: ID, Compound Name, Spike Added, MS Result, MS Rec, Spike Added, MSD Result, MSD Rec, Percent Recovery. Rows include 118-79-6, 321-60-8, 367-12-4, etc.

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 67 outside of limits

Spike Recovery: 1 out of 134 outside of limits

COMMENTS:

Analyst: OS



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016


Sample Information	
Sample Identification	TT2361-S006
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/06/08 14:22 - 09/06/08 14:22
Dry Weight	83.0
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**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	91.3		70	130
Surrogate % Recovery - FID	97.5		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: g649-61-1e	Lab Info: g649-61-1e
FID Info: VP090608/008F0101.D	PID Info: VP090608/008R0101.D

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016


Sample Information	
Sample Identification	TT2361-S007
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/06/08 15:42 - 09/06/08 15:42
Dry Weight	85.3
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	92.9		70	130
Surrogate % Recovery - FID	98.8		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: g649-61-2e	Lab Info: g649-61-2e
FID Info: VP090608/011F0101.D	PID Info: VP090608/011R0101.D

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	TT2361-S008
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/06/08 16:36 - 09/06/08 16:36
Dry Weight	81.6
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	93.1		70 130
Surrogate % Recovery - FID	99.2		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: g649-61-3e	Lab Info: g649-61-3e
FID Info: VP090608/013F0101.D	PID Info: VP090608/013R0101.D

Reviewed By:



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016


Sample Information	
Sample Identification	TT2361-S009
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/06/08 17:03 - 09/06/08 17:03
Dry Weight	88.0
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**	BQL	10.0	
	Percent Recovery	Flags	Limits Lower Upper
Surrogate % Recovery - PID	96.0		70 130
Surrogate % Recovery - FID	102		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: g649-61-4e	Lab Info: g649-61-4e
FID Info: VP090608/014F0101.D	PID Info: VP090608/014R0101.D

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of VirginiaProject Name: CTO 016


Sample Information	
Sample Identification	Trip Blanks
Sample Matrix	Soil
Collection Option (for Soil)*	NA
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/06/08 13:55 - 09/06/08 13:55
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	96.1		70	130
Surrogate % Recovery - FID	102		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: <u>g649-61-5b</u>	Lab Info: <u>g649-61-5b</u>
FID Info: <u>VP090608/007F0101.D</u>	PID Info: <u>VP090608/007R0101.D</u>

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 07/25/08 PID Initial Calibration Date: 07/25/08

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	6.76	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	15.66	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 09/06/08 Filename: VP090608/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	9.4	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-9.9	±25%
C ₉ -C ₁₀ Aromatics	200	16	-2.8	±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

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

 FID Initial Calibration Date: 07/25/08 PID Initial Calibration Date: 07/25/08
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	6.76	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	15.66	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

 Calibration Check Date: 09/06/08 Filename: VP090608/030F0101.d
Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C ₅ -C ₈ Aliphatics	200	16	7.9	±25%
C ₉ -C ₁₂ Aliphatics	200	16	-12.9	±25%
C ₉ -C ₁₀ Aromatics	200	16	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: _____
 Project Name: _____

Sample Information	
Sample Identification	vblk4090608a
Sample Matrix	Soil
Collection Option (for Soil)*	NA
Date Collected	
Date Received	
Date Extracted	
Date Analyzed	09/06/08 12:42 - 09/06/08 12:42
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	88.4		70 130
Surrogate % Recovery - FID	94.5		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: vblk4090608a	Lab Info: vblk4090608a
FID Info: VP090608/006F0101.D	PID Info: VP090608/006R0101.D

Reviewed By: 



LABORATORY CONTROL SPIKE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	LCS4090608A	Analyzed By:	
Lab Project ID:	Batch QC	Matrix:	Soil
Report Basis:	Dry	Percent Solids:	100 %

Analytical QC Results Summary

Analyte	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics		9.65				
C9-C12 Aliphatics		4.16				
C9-C10 Aromatics		3.27				
Total VPH	16.0	17.1	107	70.0	130	

Surrogate Standards	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
Surrogate - PID	100	90.2	90.2	70.0	130	
Surrogate - FID	100	96.7	96.7	70.0	130	

Reviewed By: 



MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	g649-61-1e	Analyzed By:	MJC
MS Sample ID:	g649-61-1e	Matrix:	Soil
MSD Sample ID:	g649-61-1e	Percent Solids:	83.0 %
Lab Project ID:	Batch QC for VP090608		
Report Basis:	Dry		


Matrix Spike Results Summary

Analyte	Sample Amount mg/Kg	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics	0.527	-	10.50	-	-	-	
C9-C12 Aliphatics	0.596	-	4.47	-	-	-	
C9-C10 Aromatics	1.600	-	3.49	-	-	-	
Total VPH	2.720	16.3	18.4	96.2	70	130	

Matrix Spike Duplicate Results Summary

Analyte	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics	-	8.75	-	-	-	
C9-C12 Aliphatics	-	3.83	-	-	-	
C9-C10 Aromatics	-	3.22	-	-	-	
Total VPH	16.3	15.8	80.2	70	130	

Analyte	MS Amount mg/Kg	MSD Amount mg/Kg	RPD Value (%)	RPD Limit (%)	Qualifier
C5-C8 Aliphatics	-	-	-	-	
C9-C12 Aliphatics	-	-	-	-	
C9-C10 Aromatics	-	-	-	-	
Total VPH	18.4	15.8	15	20	

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CTO 016

Sample Information	
Sample Identification	TT2361-S006
Sample Matrix	SOIL
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/05/08 15:50 - 09/05/08 15:50
Dry Weight	83.0
Dilution Factor	1 - 1
Initial weight (g)	12.93
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)	106		40	140
Aromatic (ortho-terphenyl)	102		40	140

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

Lab Info: G649-61-1G	Lab Info: G649-61-1G
Aliphatic: EP090508/004F0201.D	Aromatic: EP090508/004F0201.D

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CTO 016

Sample Information	
Sample Identification	TT2361-S007
Sample Matrix	SOIL
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/05/08 16:19 - 09/05/08 16:19
Dry Weight	85.3
Dilution Factor	1 - 1
Initial weight (g)	13.02
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)	109		40	140
Aromatic (ortho-terphenyl)	104		40	140

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

Lab Info: G649-61-2G	Lab Info: G649-61-2G
Aliphatic: EP090508/005F0301.D	Aromatic: EP090508/005F0301.D

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CTO 016

Sample Information	
Sample Identification	TT2361-S008
Sample Matrix	SOIL
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/05/08 16:47 - 09/05/08 16:47
Dry Weight	81.6
Dilution Factor	1 - 1
Initial weight (g)	13.35
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)	107		40	140
Aromatic (ortho-terphenyl)	102		40	140

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

Lab Info: G649-61-3G	Lab Info: G649-61-3G
Aliphatic: EP090508/006F0401.D	Aromatic: EP090508/006F0401.D

Reviewed By:

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CTO 016

Sample Information	
Sample Identification	TT2361-S009
Sample Matrix	SOIL
Date Collected	09/04/08
Date Received	09/04/08
Date Extracted	09/05/08
Date Analyzed	09/05/08 18:12 - 09/05/08 18:40
Dry Weight	88.0
Dilution Factor	1 - 1
Initial weight (g)	13.50
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)	102		40	140
Aromatic (ortho-terphenyl)	95.4		40	140
Fractionation 1 (2-bromonaphthalene)	100		40	140
Fractionation 2 (2-fluorobiphenyl)	92.0		40	140

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

Lab Info: G649-61-4G	Lab Info: G649-61-4G
Aliphatic: EP090508/009F0701.D	Aromatic: EP090508/010F0801.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information
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 Initial Calibration Date: 08/19/08
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	5.17	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	5.29	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	3.29	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

 Calibration Check Date: 09/05/08
09/05/08

 Filenames: ep090508/001f0101.d
ep090508/002f0201.d
Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	-2.4	±25%
C19-C36 Aliphatics	100	16.7	-1.2	±25%
C11-C22 Aromatics	100	16.7	4.6	±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: 08/19/08

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	5.17	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₉ -C ₃₆ Aliphatics	200	33.3	5.29	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C ₁₁ -C ₂₂ Aromatics	200	33.3	3.29	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 09/05/08
09/05/08

Filenames: ep090508/017f1501.d
ep090508/018f1601.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	9.3	≤±25%
C19-C36 Aliphatics	100	16.7	10.6	≤±25%
C11-C22 Aromatics	100	16.7	9.5	≤±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



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087

1 CLIENT: **OSAGE of VIRGINIA**

CONTACT: **THOMAS ELLERMAN** PHONE NO: (757) 874-4949

PROJECT: **CTO 016** SITE/PWSID#: **TT 2361**

REPORTS TO: **Shaun Whitworth** E-MAIL: **swhitworth@osageva.com**

INVOICE TO: **Shaun Whitworth** FAX NO: (757) 440-0411

QUOTE # _____

P.O. NUMBER _____

SGS Reference: **6649-61** PAGE **1** OF **1**

No	CONTAINERS	SAMPLE TYPE	C= COMP G= GRAB	Preservatives Used	Analysis Required	METH	METH	METH	METH	REMARKS
7				X		X	X	X	X	
7				X		X	X	X	X	
7				X		X	X	X	X	
7				X		X	X	X	X	
2				X						

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
	TT 2361-5006	9/4/08	1315	S
	TT 2361-5007	9/4/08	1205	S
	TT 2361-5008	9/4/08	1225	S
	TT 2361-5009	9/4/08	1330	S
	TRIP BLANKS	9/4/08	1430	-

5

Collected/Relinquished By: (1)	Date	Time	Received By:	Date	Time
<i>[Signature]</i>	9/4/08		<i>[Signature]</i>	9/4/08	15:00
Relinquished By: (2)	Date	Time	Received By:	Date	Time
<i>[Signature]</i>	9/4/08	16:29	<i>[Signature]</i>	9/4/08	16:29
Relinquished By: (3)	Date	Time	Received By:	Date	Time
<i>[Signature]</i>					
Relinquished By: (4)	Date	Time	Received By:	Date	Time

4

Shipping Carrier: **Common** Samples Received Cold? (Circle) YES NO

Shipping Ticket No: _____ Temperature (C): **3.79**

Special Deliverable Requirements: **EDD Forank** Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Special Instructions: **Email results to: swhitworth@osageva.com**

Requested Turnaround Time: _____ Requested Turnaround Time: **ASAP**

RUSH STD Date Needed _____

APPENDIX F
Photographs of Excavation Activities



TT-2361 tank removal



TT2361 excavation