UNDERGROUND STORAGE TANK
CLOSURE REPORT

UST 2002/2004
Paradise Point

Marine Corps Base
Camp Lejeune, North Carolina

August 28, 2008

OSAGE OF VIRGINIA
environmental consultants

Contract No. N40085-06-D-7006
CTO No. 0016

UST-12
UNDERGROUND STORAGE TANK CLOSURE REPORT
BUILDING 2002/2004
PARADISE POINT
MCB CAMP LEJEUNE, NORTH CAROLINA

A. GENERAL INFORMATION

1. Facility Information

a. Facility Name:

Building 2004 (Old House Number 2002)
Paradise Point Housing Area, Kent Road.

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
2002/2004	1942	250	3 ft x 4 ft	#2 Heating Oil

*Table information is based on field observations. There was an UST Survey Report by EG&G Idaho, Inc. April 1992, that reports different data as indicated in the UST-61 form (Appendix B).

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 tank previously used to store heating oil for on-site use. The UST was deactivated in the early 1970s.

c. Describe the use of surrounding properties:

The site is located on the Marine Corps Base Camp Lejeune. The tank serviced former residence Building 2002 until deactivation in the early 1970s. Construction of a new residence, Building 2004, in the same vicinity is underway. The property, and adjacent properties, are within a housing area; therefore, the assumed land use of the site is 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 Quaternary 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 the New River, which is approximately 300 feet from 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 a public water supply system.

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 and its demolition subcontractor, C.R. Peele Construction, on August 1, 2008 while personnel were clearing land. During demolition activities, the tank was crushed and punctured. EMD was notified and conducted a site visit with Osage on August 1, 2008.

   After being exposed, the demolition contractor removed the tank at the direction of EMD personnel. The tank was previously closed in place using fill sand in the early 1990s. During removal, the fill sand/water mixture spilled from the tank into the excavation. EMD transported the tank upon removal to EMD's Resource Conservation and Recovery Section (RCRS) Building 977 for cleaning. Osage was tasked with tank cleaning and disposal, which occurred on August 8, 2008.

   The tank was transported to Jacksonville Scrap Iron and Metal Company for disposal on August 8, 2008. The disposal manifest is located in Appendix C.

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

   There was no residual material pumped from the tank. Only a fill sand/water mixture was present, which spilled from the tank into the excavation. The sand/water mixture was later removed during excavation activities.

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

   The fill sand/water mixture spilled from the tank into the excavation during tank removal. Osage removed the material from the former tank basin during excavation activities as described in #4 below.

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 1, 2008. A site visit was conducted to inspect the tank area. Osage mobilized to the site on August 5, 2008 to clean the excavation of the spilled sand fill/water mixture, as well as obtain confirmation soil samples. Field Photoionization Detector (PID) readings ranged from 10.9 ppm to 27.9 ppm. An 8 ft. by 8 ft. concrete pad was present at the bottom of the excavation at approximately 5 feet deep. This pad was not removed during excavation activities. The excavation limits measured approximately 12.5' (Length) x 10' (Width) x 5' (Depth).

An over excavation was performed at the site on August 11, 2008 in an attempt to remove contaminated soil. Fuel supply lines were also removed during the excavation activities. Approximately 5 feet of piping was removed from the excavation area. It was disposed of by the demolition contractor. Final excavation dimensions were 14' (Length) x 13' (Width) x 6' (Depth) as shown on Figure 2. Backfilling of the excavation was conducted during the week of August 25, 2008.

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

Approximately 3 feet.

c. Note the volume of soil excavated:

A total of 24.15 tons of soil was excavated from the tank basin – 13.14 tons of contaminated soil including the spilled material was excavated on August 5, 2008, and 11.01 tons was removed during over excavation activities on August 11, 2008.

d. Describe the soil type(s) encountered:

Based on field observation of the tank excavation, the native soil appears to be light brown silty sand with intervals of dark silty sand intermingled.

e. Describe the type and source of backfill used:

Osage obtained common fill (sand) from Morton Trucking Inc. of Jacksonville, NC backfill material. Backfilling of the excavation area took place the week of August 25, 2008.

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 24.15 tons of contaminated soil were excavated. The contaminated soil and UST fill sand mixture was transported to a lay down facility at the Base (Building TP-467) to await disposal.

C. SITE INVESTIGATION

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

Soil discoloration and slight petroleum odor were observed within the UST excavation. PID field screening indicated relatively low organic vapor readings in the North and East sidewalls, as well as at the bottom. Readings ranged from 10.9

ppm to 27.9 ppm. The MiniRae 2000 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 Bldg2004-S001 through S008) were collected from the tank basin on August 5, 2008 immediately following excavation of the basin plus the spilled sand/water mixture. Soil samples Bldg2004-S001 through S004 were collected from the sidewalls at a depth of 3.5 feet. Soil samples Bldg2004-S005 through S008 were obtained from around the concrete pad at approximately 5 feet Below Land Surface (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.

   On August 11, 2008, Osage returned to the site to over excavate soil sample locations S003, S004, and S008 due to the presence of TPH DRO concentrations above the 10 ppm NCDENR Action Level. An additional 11.01 tons of contaminated soil was excavated from the tank basin resulting in a total removal of 24.15 tons. After over excavation, three confirmation soil samples were collected (soil samples BLDG 2004-S009, BLDG 2004-S010, and BLDG 2004-S011). Soil samples S009 and S010 were collected at a depth of 3'6" to correspond to previous soil samples S003 and S004, respectively. Soil sample S011 was obtained at 7 feet BLS and was in line with previous soil sample S008. 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 excavation activities; therefore, groundwater samples were not collected.

4. **Document quality-control measures:**

   Laboratory provided glassware and containers, as well as 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 taken on August 5, 2008; there were no analytes detected in the results for the blank.

5. **Describe investigation results:**

   Some soil discoloration and petroleum odor were observed during tank removal. Slightly elevated PID readings indicated the presence of organic vapors in the North and East 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 and the spilled fill sand/water mixture was removed from the subsurface on August 5, 2008, Osage collected eight soil samples as shown on Figure 2. Soil samples S001-S004 were taken from the sidewalls, and samples S005-S008 were taken from the bottom of the excavation around the concrete slab. Soil samples were analyzed for TPH GRO and DRO via EPA Method 8015. Soil samples S001 – S008 did not exhibit detectable TPH GRO concentrations. Laboratory analysis indicated the presence of only TPH DRO above the NCDENR Action Level of 10 ppm. Sample S003, S004, and S008 contained noncompliant TPH DRO concentrations of 20.4 mg/kg, 10.7 mg/kg, and 14.0 mg/kg, respectively.

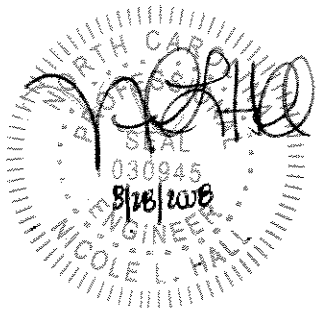
Osage returned to the site on August 11, 2008 to over excavate soil in locations S003, S004, and S008 as a result of the exceedences. Once over-excavation was complete, Osage obtained additional confirmation soil samples S009, S010, and S011. These samples were sent to SGS for analysis via EPA Methods 8260, 8270, and MADEP VPH/EPH. Laboratory analysis of the three soil samples did not detect any 8260, 8270, or MADEP compounds. All concentrations were reported as below the method detection limit.

D. Conclusions and Recommendation

A total of 24.15 tons of contaminated soil was removed from the Building 2002/2004 site as a result of two excavation events. Final confirmation soil sample results did not indicate the presence of any soil contaminants above method detection limits; therefore, this site meets the criteria to receive No Further Action.

E. 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 5, 2008**
   b. **Summary of Soil Laboratory Results – Event on August 11, 2008**

3. Appendices

Appendix A: Site Investigation Report for Permanent Closure or Change-in-Service of UST (UST-2)

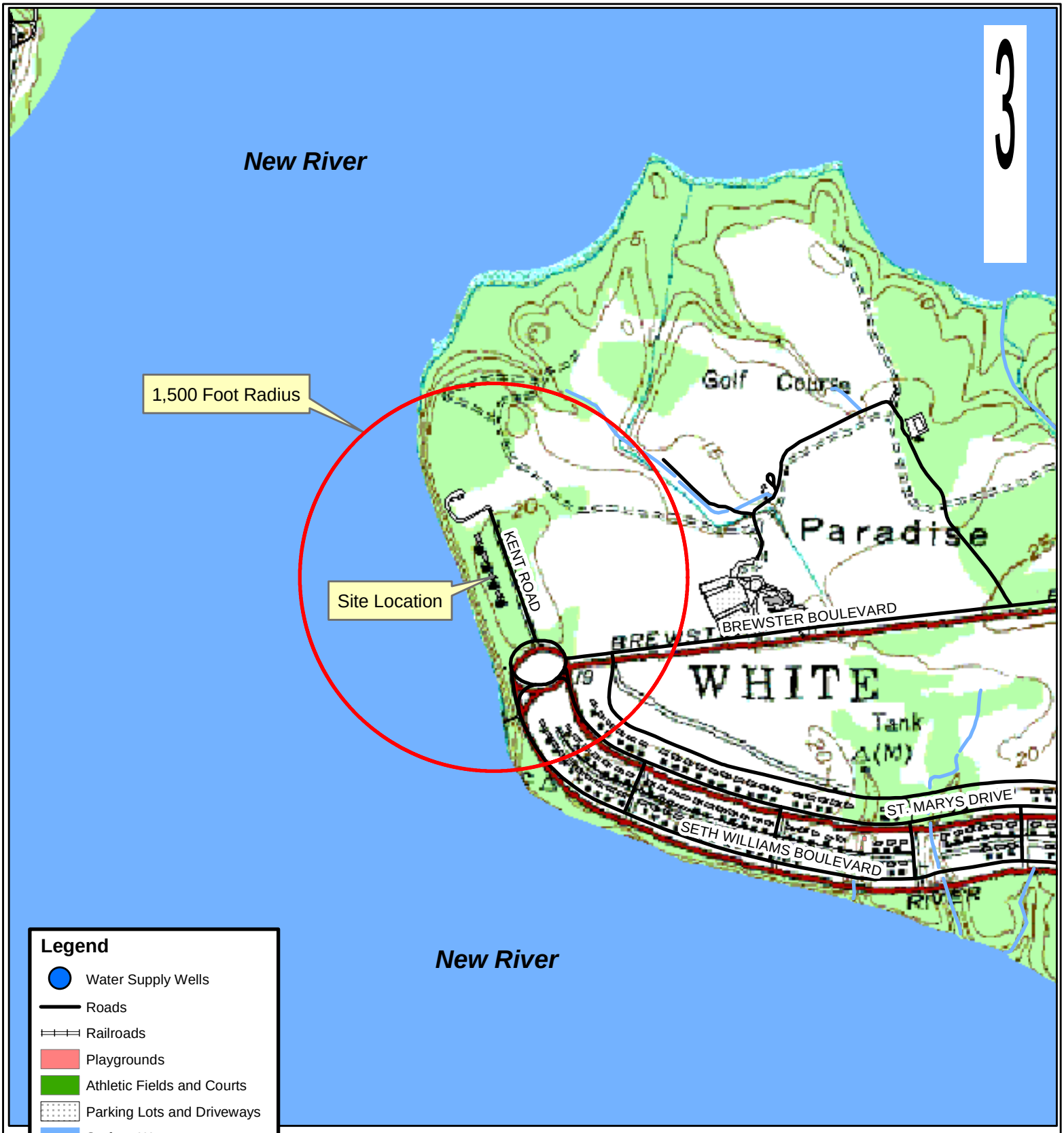
Appendix B: 24 Hour Release and UST Leak Reporting Form (UST-61)

Appendix C: Certificate of UST Disposal

Appendix D: Disposal Manifests – BLANK

Appendix E: Laboratory Analytical Reports

Appendix F: Photographs



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

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PROJECT	TITLE	FIGURE
TANK REMOVAL BUILDING 2004 MARINE CORPS BASE CAMP LEJEUNE, NC	SITE LOCATION MAP	1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
206-094	AUG 2008	AS SHOWN	SAC	NLH

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS
EPA Method 8015 (GRO and DRO)
Excavation/Sampling Event on 8/5/2008

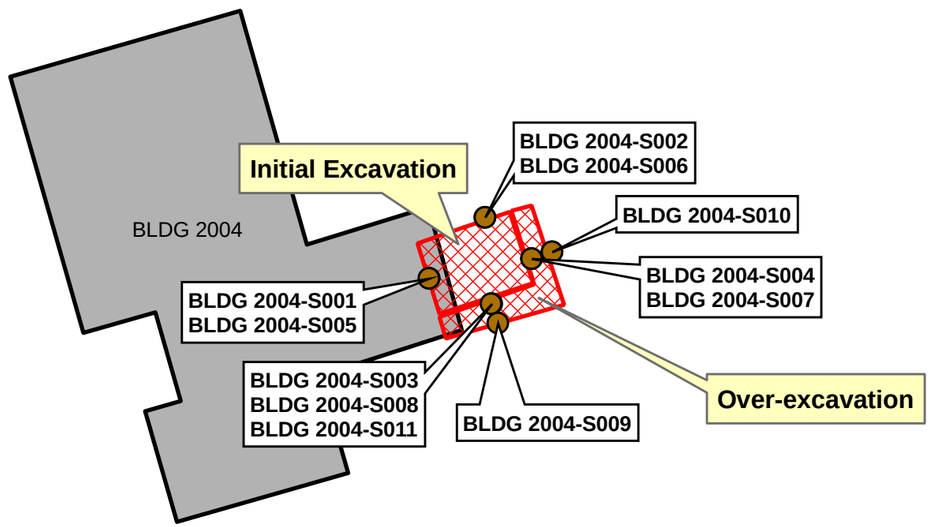
Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	Gasoline Range Organics	Diesel Range Organics
NCDENR ACTION LEVEL (mg/kg)			10	10
Bldg2004-S001	8/5/2008	3.5	<6.04	<6.34
Bldg2004-S002	8/5/2008	3.5	<5.84	<7.12
Bldg2004-S003	8/5/2008	3.5	<5.93	**20.4**
Bldg2004-S004	8/5/2008	3.5	<5.91	**10.7**
Bldg2004-S005	8/5/2008	5	<5.95	<6.59
Bldg2004-S006	8/5/2008	5	<7.54	<7.62
Bldg2004-S007	8/5/2008	5	<6.33	<6.67
Bldg2004-S008	8/5/2008	5	<6.66	**14.0**

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 8/11/2008

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	EPA 8260 All 8260 Compounds	EPA 8270 All 8270 Compounds	MADEP VPH/EPH C_5-C_8 Aliphatics	MADEP VPH/EPH C_9-C_{18} Aliphatics	MADEP VPH/EPH C_{19}-C_{36} Aliphatics	MADEP VPH/EPH C_9-C_{22} Aromatics
Residential MSCC (mg/kg)			Varies	Varies	939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			Varies	Varies	24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			Varies	Varies	72	3,300	##	34
BLDG 2004-S009	8/11/2008	3.5	BMDL	BMDL	<10.0	<20.0	<10.0	<20.0
BLDG 2004-S010	8/11/2008	3.5	BMDL	BMDL	<10.0	<20.0	<10.0	<20.0
BLDG 2004-S011	8/11/2008	7	BMDL	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



20 10 0 20 Feet

KENT ROAD

3

TANK REMOVAL BUILDING 2004 MARINE CORPS BASE CAMP LEJEUNE, NC

NAVFAC Naval Facilities Engineering Command ATLANTIC DIVISION

LEGEND

- Excavation Areas
- Soil Sample Location
- Buildings and Structures
- Slabs
- Driveways
- Parking Lots
- Surface Water Bodies
- Creeks and Streams
- Fence

NOTES

1. Data layers provided by MCB Camp Lejeune GIS office.
2. Soil sample locations BLDG 2004-S001 through BLDG 2004-S004 provided by Lanier Surveying. Soil sample locations BLDG 2004-S005 through BLDG 2004-S011 were not surveyed, but were in the same vertical line as samples BLDG 2004-S001 through BLDG 2004-S004.
3. Accoriding to MCB Camp Lejeune GIS data the structure at this location was Building 2002. However, Building 2002 was demolished and Building 2004 is to be constructed in it's place.

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SITE MAP WITH SOIL SAMPLE RESULTS

FIGURE **2**

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

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS
EPA Method 8015 (GRO and DRO)
Excavation/Sampling Event on 8/5/2008

Sample ID	Contaminant of Concern →		Gasonline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR ACTION LEVEL (mg/kg)			**10**	**10**
Bldg2004-S001	8/5/2008	3.5	<6.04	<6.34
Bldg2004-S002	8/5/2008	3.5	<5.84	<7.12
Bldg2004-S003	8/5/2008	3.5	<5.93	**20.4**
Bldg2004-S004	8/5/2008	3.5	<5.91	**10.7**
Bldg2004-S005	8/5/2008	5	<5.95	<6.59
Bldg2004-S006	8/5/2008	5	<7.54	<7.62
Bldg2004-S007	8/5/2008	5	<6.33	<6.67
Bldg2004-S008	8/5/2008	5	<6.66	**14.0**

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 8/11/2008

Sample ID	Contaminant of Concern →		EPA 8260	EPA 8270	MADEP VPH/EPH			
	Date Collected	Sample Depth (ft. BLS)	All 8260 Compounds	All 8270 Compounds	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
Residential MSCC (mg/kg)			Varies	Varies	939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			Varies	Varies	24,528	245,280	#	12,264
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BLDG 2004-S009	8/11/2008	3.5	BMDL	BMDL	<10.0	<20.0	<10.0	<20.0
BLDG 2004-S010	8/11/2008	3.5	BMDL	BMDL	<10.0	<20.0	<10.0	<20.0
BLDG 2004-S011	8/11/2008	7	BMDL	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

APPENDIX A
Site Investigation Report for Permanent Closure or Change-in-Service of UST
(UST-2)

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

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

STATE USE ONLY:
I.D. #_____
Date Received_____

INSTRUCTIONS (READ THIS FIRST)

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

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

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

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

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

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

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
Commanding Officer, MCB Camp Lejeune

Street Address
PSC Box 20004

City: MCB Camp Lejeune
County: Onslow
State: NC
Zip Code: 28542

Phone Number
910-451-9660

II. LOCATION OF TANKS

Facility Name or Company
Building 2002/2004, Paradise Point Housing Area

Facility ID # (If known)
N/A

Street Address
2002/2004 Kent Road

City: MCB Camp Lejeune
County: Onslow
Zip Code: 28542

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 23517-1132	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 Yes	Water in excavation No	Free product Yes	Free product No	Notable odor or visible soil contamination Yes	Notable odor or visible soil contamination No
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS

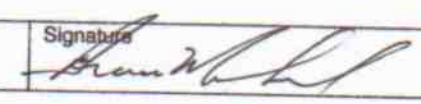
VII. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation Yes	Water in excavation No	Free product Yes	Free product No	Notable odor or visible soil contamination Yes	Notable odor or visible soil contamination No
2002/ 2004	250	3'x4'	Heating Oil	early 1970s	early 1990s	See above	☐	☒	☐	☒	☒	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

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

VIII. CERTIFICATION

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

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Bruce Markwick, Environmental Protection Specialist		28 August 2008

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

(DWM USE ONLY)
Incident # _____ Risk (H,I,L,U)_____
Received On _____ Received By _____
Reported by (*circle one*): Phone, Fax or Report
Region _____

Suspected Contamination? (Y/N) Y
Confirmed GW Contamination? (Y/N) N
Confirmed Soil Contamination ?(Y/N) N
Samples Taken?(Y/N) Y
Free Product? (Y/N) N If Yes, State Greatest Thickness _____

Facility ID Number N/A
Date Leak Discovered 8-1-2008
Comm/Non-Commercial/ _____
Reg/Non-regulated? _____

INCIDENT DESCRIPTION

Incident Name: PP2004 Commanding Generals Quarters Heating Oil Tank (Old house number 2002)

Address: 2004 Kent Rd The original house # w/was 2002 See attached County: Onslow

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

Latitude (decimal degrees): 34° 42' 57.186" N Longitude (decimal degrees): 77° 23' 46.062" W

Obtained by:
- ☒ GPS
- ☐ Topographic map
- ☐ GIS Address matching
- ☐ Other
- ☐ Unknown

Describe location:

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)*

The heating oil tank was closed in place during the early 1990's. The Generals Quarters are being demolished and new houses are being constructed. The heating oil tank was discovered by Actus Lend lease during demo construction. EMD was contacted and responded on 8-1-2008. The EMD representative overseen the removal of the tank by Actus Lend Lease. During the tank removal the track hoe vehicle punctured the tank and water and sand materials was released to the tank excavation. EMD removed the tank and delivered it to a staging area at bldg 977. OSAGE of Virginia was contacted on Friday by EMD and mobilized on Tuesday 8-5-2008. OSAGE removed the soil from the tank site. A concrete slab was used as a ballast for the tank tiedown system. OSAGE took (4) samples from the tank floor around the concrete slab. An additional (4) samples were taken on each sidewall. When samples are returned EMD will assess the contamination and perform further remediation as required. A full report will follow for the tank removal

HOW RELEASE WAS DISCOVERED (Release Code)

(Check one)

- ☐ Release Detection Equipment or Methods
- ☒ During UST Closure/Removal
- ☐ Property Transfer
- ☐ Visual/Odor
- ☐ Water in Tank
- ☐ Water Supply Well Contamination
- ☐ Groundwater Contamination
- ☐ Surface Water Contamination
- ☐ Other (specify) _____

SOURCE OF CONTAMINATION

Source of Release *(Check one to indicate primary source)*
- ☒ Tank
- ☐ Piping
- ☐ Dispenser
- ☐ Submersible Turbine Pump
- ☐ Delivery Problem
- ☐ Other
- ☐ Unknown

Definitions presented on reverse

Cause of Release *(Check one to indicate primary cause)*
- ☐ Spill
- ☐ Overfill
- ☐ Corrosion
- ☒ Physical or Mechanical Damage
- ☐ Install Problem
- ☐ Other
- ☐ Unknown

Definitions presented on reverse

Type of Release *(Check one)*
- ☒ Petroleum
- ☐ Non-Petroleum
- ☐ Both

Location *(Check one)*
- ☐ Facility
- ☐ Residence
- ☐ Other

Product Type Released *(Check one to indicate primary product type released)*
- ☐ Gasoline/ Diesel/ Kerosene
- ☒ Heating Oil
- ☐ Other Petroleum Products
- ☐ Metals
- ☐ Other Inorganics
- ☐ Other Organics
- ☐ Diesel/Veg. Oil Blend
- ☐ Vegetable Oil 100%
- ☐ E10 – E20
- ☐ E21 – E84
- ☐ E85 – E99
- ☐ Ethanol 100%
- ☐ E01 – E09

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
Command Officer, MCB, Camp Lejeune

Point of Contact		Address	
Bruce Markwick		PSC Box 20004	
City	**State**	**Zip Code**	**Telephone Number**
Camp lejeune	NC	28542-0004	910 451-9660

UST SYSTEM OPERATOR

UST Operator/Company		Address	
Same as above			
City	**State**	**Zip Code**	**Telephone Number**

LANDOWNER AT LOCATION OF UST INCIDENT

Landowner		Address	
Same as above/ USMC			
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 MCB, Camp lejeune, NC	Date 8-6-08

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 pomp 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)

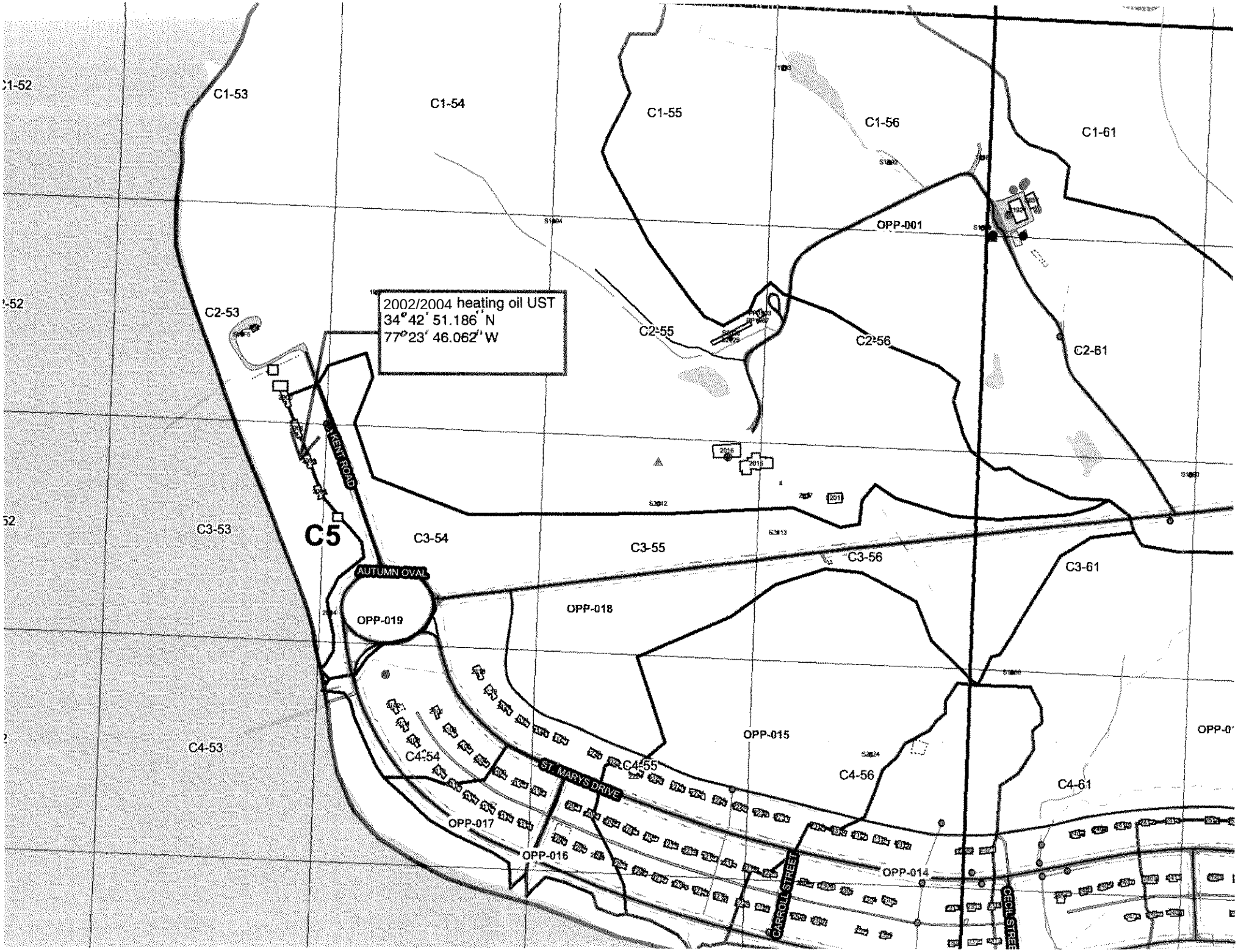
Physical or Mechanical Damage: use for all types of physical or mechanical damage, except corrosion (e.g., puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)

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)

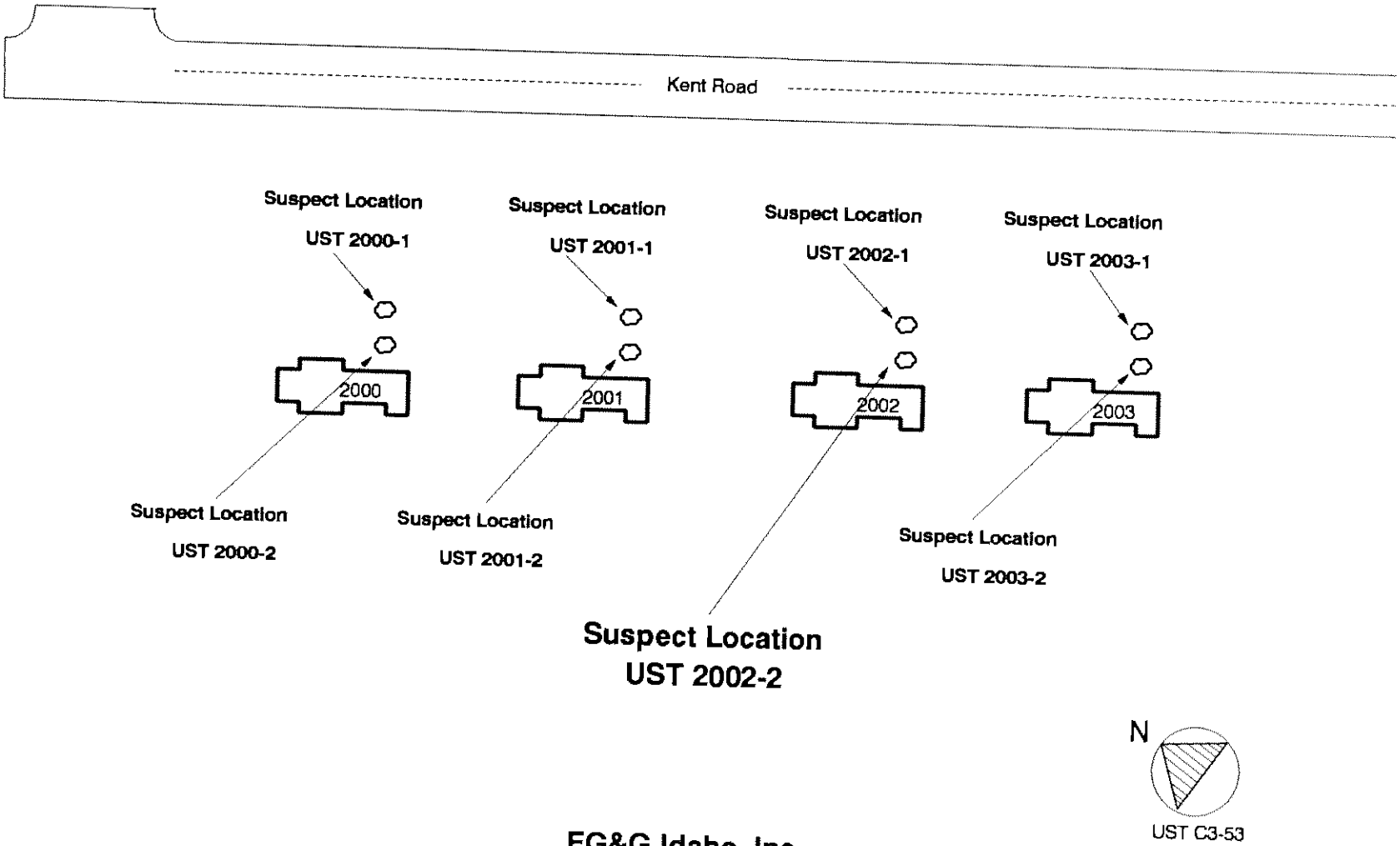
Installation Problem: use when the problem is determined to have occurred specifically because the UST system was not installed properly

Other: use this option when the cause is known but does oot fit into one of the preceding categories (e.g., putting regulated substances into monitoring wells)

Unknown: use when the cause has not been determined


C1-52
C1-53
C1-54
C1-55
C1-56
C1-61
OPP-001
2002/2004 heating oil UST
34° 42' 51.186" N
77° 23' 46.062" W
C2-53
C2-55
C2-56
C2-61
KENT ROAD
C5
C3-53
C3-54
C3-55
C3-56
C3-61
AUTUMN OVAL
OPP-019
OPP-018
C4-53
C4-54
C4-55
C4-56
C4-61
ST. MARYS DRIVE
OPP-015
OPP-017
OPP-016
OPP-014
CARROLL STREET
CECIL STREE

Camp Lejeune
Paradise Point Housing Area
UST 2002-2



EG&G Idaho, Inc.

Site sketches are schematic representations indicating approximate locations and orientations.

CAMP LEJEUNE PARADISE POINT HOUSING AREA
SUSPECT UNDERGROUND STORAGE TANK LOCATION

1. System Characteristics

1.	System Identification Number:	2002-2
2.	Facility Name:	Commanding General Quarters
3.	Operator Organization:	Base Housing
4.	Operating Status:	Suspect
5.	Installation Date:	1942
	Approx. Deactivation Date:	1972
6.	Volume:	560 Gallons
7.	Contents:	Diesel
8.	Facility Drawing Number(s):	13873, 4011749
9.	Tank Construction Material:	Steel
10.	Surface Finish:	Grass

2. General Comments

The field inspection was conducted on September 17, 1991. There are two suspect tanks at each location. No evidence of UST 2002-2 found at this location.

APPENDIX C
Certificate of UST Disposal

Tank Disposal Manifest

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

Tank/Owner Authorized Representative
Contact: Bruce Markwick
Phone: (910) 451-9660

Description of Tank:

Tank ID	Capacity	Previous Contents	Comments
			Dimensions
2004	250 gal	Heating Oil	3 Ft X 4 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		8/8/08

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 Richlands Highway Jacksonville NC 28540
Phone: (910) 347-2323

Print Name	Signature	Month/Day/Year
David Roberts		8/8/08

JAX Scrap

APPENDIX D
Disposal Manifests

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

APPENDIX E
Laboratory Analytical Reports

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

Report Number: G649-52

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 services performed during this project, please call Ashley Nifong 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.

Sincerely,
SGS Environmental Services, Inc.

Project Manager Date
Ashley Nifong

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation 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 = Reporting 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

% soilds = 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.

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S001**
Client Project ID: CTO 016
Lab Sample ID: G649-52-1D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:05
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 86.78
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	BQL	6.34	MG/KG	1	06-Aug-08 18:22

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 36.38
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S002**
Client Project ID: CTO 016
Lab Sample ID: G649-52-2D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:20
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 87.98
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	BQL	7.12	MG/KG	1	06-Aug-08 18:50

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 31.95
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S003**
Client Project ID: CTO 016
Lab Sample ID: G649-52-3D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:15
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 81.64
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	**20.4**	7.21	MG/KG	1	06-Aug-08 19:18

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 33.98
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S004**
Client Project ID: CTO 016
Lab Sample ID: G649-52-4D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:09
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 88.44
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	**10.7**	6.61	MG/KG	1	06-Aug-08 19:47

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 34.19
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S005**
Client Project ID: CTO 016
Lab Sample ID: G649-52-5D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 12:47
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 93.41
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	BQL	6.59	MG/KG	1	06-Aug-08 20:15

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 32.47
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S006**
Client Project ID: CTO 016
Lab Sample ID: G649-52-6D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 12:55
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 80.86
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	BQL	7.62	MG/KG	1	06-Aug-08 20:44

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 32.46
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S007**
Client Project ID: CTO 016
Lab Sample ID: G649-52-7D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 13:02
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 95.19
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	BQL	6.67	MG/KG	1	06-Aug-08 21:13

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 31.52
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S008**
Client Project ID: CTO 016
Lab Sample ID: G649-52-8D
Lab Project ID: G649-52

Collection Date: 05-Aug-08 13:10
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 91.31
Basis: Dry

Results by 8015DRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Diesel Range Organics	**14.0**	6.27	MG/KG	1	06-Aug-08 21:42

Batch Information

Analytical Batch: EP080608
Analytical Method: 8015DRO
Instrument: GC6
Analyst: EAW

Prep Batch:
Prep Method: 3541
Prep Date/Time:
Initial Prep Wt./Vol.: 34.93
Prep Extract Vol: 10

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S001**
Client Project ID: CTO 016
Lab Sample ID: G649-52-1A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:05
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 86.78
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	6.04	MG/KG	1	06-Aug-08 17:04

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 5.72
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S002**
Client Project ID: CTO 016
Lab Sample ID: G649-52-2A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:20
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 87.98
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	5.84	MG/KG	1	06-Aug-08 17:31

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 5.84
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S003**
Client Project ID: CTO 016
Lab Sample ID: G649-52-3A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:15
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 81.64
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	5.93	MG/KG	1	06-Aug-08 17:58

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 6.2
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S004**
Client Project ID: CTO 016
Lab Sample ID: G649-52-4A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 11:09
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 88.44
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	5.91	MG/KG	1	06-Aug-08 18:24

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 5.74
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S005**
Client Project ID: CTO 016
Lab Sample ID: G649-52-5A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 12:47
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 93.41
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	5.95	MG/KG	1	06-Aug-08 18:51

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 5.4
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S006**
Client Project ID: CTO 016
Lab Sample ID: G649-52-6A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 12:55
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 80.86
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	7.54	MG/KG	1	06-Aug-08 19:18

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 4.92
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S007**
Client Project ID: CTO 016
Lab Sample ID: G649-52-7A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 13:02
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 95.19
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	6.33	MG/KG	1	06-Aug-08 19:45

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 4.98
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Bldg 2004-S008**
Client Project ID: CTO 016
Lab Sample ID: G649-52-8A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 13:10
Received Date: 06-Aug-08
Matrix: SOIL
Solids: 91.31
Basis: Dry

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	6.66	MG/KG	1	06-Aug-08 20:12

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5035
Prep Date/Time:
Initial Prep Wt./Vol.: 4.93
Prep Extract Vol: 5

Print Date: 8/7/2008

Client Sample ID: **Trip Blank**
Client Project ID: CTO 016
Lab Sample ID: G649-52-9A
Lab Project ID: G649-52

Collection Date: 05-Aug-08 16:30
Received Date: 06-Aug-08
Matrix: WATER

Results by 8015GRO

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Gasoline Range Organics	BQL	0.500	MG/L	1	06-Aug-08 13:54

Batch Information

Analytical Batch: VP080608
Analytical Method: 8015GRO
Instrument: GC4
Analyst: DVG

Prep Batch:
Prep Method: 5030
Prep Date/Time:
Initial Prep Wt./Vol.: 5
Prep Extract Vol: 5

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

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

www.us.sgs.com

089160

(1) CLIENT: OSAGE OF VIRGINIA
CONTACT: THERESA ELLERMAN PHONE NO: (757) 274-4949
PROJECT: CTO 016 SITE/PWSID#: Officer Housing
REPORTS TO: Shawn Whitworth E-MAIL: swhitworth@osageva.com
FAX NO.: (757) 440-0411
INVOICE TO: MIKE CREE, 2618 Colley Ave Ste A, Norfolk VA 23517 QUOTE #
P.O. NUMBER

SGS Reference: G649-52 PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE (C=COMP G=GRAB)	Preservatives Used: METHANOL	NONE	NONE	Analysis Required (3): GRO EPA METHOD 5030	DRO EPA METHOD 8550	NONE	REMARKS
	Bldg 2004-S001	8/5/08	1105	Soil	3					X	X		
	Bldg 2004-S002	8/5/08	1120	S	3					X	X		
	Bldg 2004-S003	8/5/08	1115	S	3					X	X		
	Bldg 2004-S004	8/5/08	1109	S	3					X	X		
	Bldg 2004-S005	8/5/08	1247	S	3					X	X		
	Bldg 2004-S006	8/5/08	1255	S	3					X	X		
	Bldg 2004-S007	8/5/08	1302	S	3					X	X		
	Bldg 2004-S008	8/5/08	1310	S	3					X	X		
	TRIP BLANK	8/5/08	1630	W	1					X			
	TEMP BLANK	8/5/08	—	W	1							X	

(5)

Collected/Relinquished By: (1)	Date	Time	Received By:	Date	Time
	8/6/08	0805		8/6/08	0805
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
Shipping Ticket No:
Samples Received Cold? (Circle) YES NO
Temperature °C: 3.8°C
Special Deliverable Requirements: "EDD FORMAT"
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Special Instructions: Email results to nhall@catlinusa.com, swhitworth@osageva.com, tellerman@osageva.com
Requested Turnaround Time: ☒ RUSH 24 HR Date Needed ☐ STD

Page 20 of 20

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

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

Report Number: G649-54

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.

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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.

8/13/08

Project Manager Date
Ashley Nifong

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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

% soilds = Percent Solids

Special Notes:

1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.

2) Uncertainty for all reported data is less than or equal to 30 percent.

SGS ENVIRONMENTAL SERVICES, INC.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S009
Client Project ID: CTO 016
Lab Sample ID G649-54-1A
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 09:15
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 4.92 g
%Solids: 92.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	54.9	1	8/12/2008
Benzene	BQL	5.49	1	8/12/2008
Bromobenzene	BQL	5.49	1	8/12/2008
Bromochloromethane	BQL	5.49	1	8/12/2008
Bromodichloromethane	BQL	5.49	1	8/12/2008
Bromoform	BQL	5.49	1	8/12/2008
Bromomethane	BQL	5.49	1	8/12/2008
2-Butanone	BQL	27.4	1	8/12/2008
n-Butylbenzene	BQL	5.49	1	8/12/2008
sec-Butylbenzene	BQL	5.49	1	8/12/2008
tert-Butylbenzene	BQL	5.49	1	8/12/2008
Carbon disulfide	BQL	5.49	1	8/12/2008
Carbon tetrachloride	BQL	5.49	1	8/12/2008
Chlorobenzene	BQL	5.49	1	8/12/2008
Chloroethane	BQL	5.49	1	8/12/2008
Chloroform	BQL	5.49	1	8/12/2008
Chloromethane	BQL	5.49	1	8/12/2008
2-Chlorotoluene	BQL	5.49	1	8/12/2008
4-Chlorotoluene	BQL	5.49	1	8/12/2008
Dibromochloromethane	BQL	5.49	1	8/12/2008
1,2-Dibromo-3-chloropropane	BQL	27.4	1	8/12/2008
Dibromomethane	BQL	5.49	1	8/12/2008
1,2-Dibromoethane (EDB)	BQL	5.49	1	8/12/2008
1,2-Dichlorobenzene	BQL	5.49	1	8/12/2008
1,3-Dichlorobenzene	BQL	5.49	1	8/12/2008
1,4-Dichlorobenzene	BQL	5.49	1	8/12/2008
trans-1,4-Dichloro-2-butene	BQL	27.4	1	8/12/2008
1,1-Dichloroethane	BQL	5.49	1	8/12/2008
1,1-Dichloroethene	BQL	5.49	1	8/12/2008
1,2-Dichloroethane	BQL	5.49	1	8/12/2008
cis-1,2-Dichloroethene	BQL	5.49	1	8/12/2008
trans-1,2-dichloroethene	BQL	5.49	1	8/12/2008
1,2-Dichloropropane	BQL	5.49	1	8/12/2008
1,3-Dichloropropane	BQL	5.49	1	8/12/2008
2,2-Dichloropropane	BQL	5.49	1	8/12/2008
1,1-Dichloropropene	BQL	5.49	1	8/12/2008
cis-1,3-Dichloropropene	BQL	5.49	1	8/12/2008
trans-1,3-Dichloropropene	BQL	5.49	1	8/12/2008
Dichlorodifluoromethane	BQL	5.49	1	8/12/2008
Diisopropyl ether (DIPE)	BQL	5.49	1	8/12/2008
Ethylbenzene	BQL	5.49	1	8/12/2008
Hexachlorobutadiene	BQL	5.49	1	8/12/2008
2-Hexanone	BQL	5.49	1	8/12/2008
Iodomethane	BQL	5.49	1	8/12/2008

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S009
Client Project ID: CTO 016
Lab Sample ID G649-54-1A
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 09:15
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 4.92 g
%Solids: 92.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.49	1	8/12/2008
4-Isopropyltoluene	BQL	5.49	1	8/12/2008
Methylene chloride	BQL	21.9	1	8/12/2008
4-Methyl-2-pentanone	BQL	5.49	1	8/12/2008
Methyl-tert-butyl ether (MTBE)	BQL	5.49	1	8/12/2008
Naphthalene	BQL	5.49	1	8/12/2008
n-Propyl benzene	BQL	5.49	1	8/12/2008
Styrene	BQL	5.49	1	8/12/2008
1,1,1,2-Tetrachloroethane	BQL	5.49	1	8/12/2008
1,1,2,2-Tetrachloroethane	BQL	5.49	1	8/12/2008
Tetrachloroethene	BQL	5.49	1	8/12/2008
Toluene	BQL	5.49	1	8/12/2008
1,2,3-Trichlorobenzene	BQL	5.49	1	8/12/2008
1,2,4-Trichlorobenzene	BQL	5.49	1	8/12/2008
Trichloroethene	BQL	5.49	1	8/12/2008
1,1,1-Trichloroethane	BQL	5.49	1	8/12/2008
1,1,2-Trichloroethane	BQL	5.49	1	8/12/2008
Trichlorofluoromethane	BQL	5.49	1	8/12/2008
1,2,3-Trichloropropane	BQL	5.49	1	8/12/2008
1,2,4-Trimethylbenzene	BQL	5.49	1	8/12/2008
1,3,5-Trimethylbenzene	BQL	5.49	1	8/12/2008
Vinyl chloride	BQL	5.49	1	8/12/2008
m-,p-Xylene	BQL	11.0	1	8/12/2008
o-Xylene	BQL	5.49	1	8/12/2008

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.1	118
Toluene-d8	50	47	94
4-Bromofluorobenzene	50	39.6	79

Comments:

Flags:

Analyst: _____

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S010
Client Project ID: CTO 016
Lab Sample ID G649-54-2B
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 09:07
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 5.28 g
%Solids: 90.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	52.2	1	8/12/2008
Benzene	BQL	5.22	1	8/12/2008
Bromobenzene	BQL	5.22	1	8/12/2008
Bromochloromethane	BQL	5.22	1	8/12/2008
Bromodichloromethane	BQL	5.22	1	8/12/2008
Bromoform	BQL	5.22	1	8/12/2008
Bromomethane	BQL	5.22	1	8/12/2008
2-Butanone	BQL	26.1	1	8/12/2008
n-Butylbenzene	BQL	5.22	1	8/12/2008
sec-Butylbenzene	BQL	5.22	1	8/12/2008
tert-Butylbenzene	BQL	5.22	1	8/12/2008
Carbon disulfide	BQL	5.22	1	8/12/2008
Carbon tetrachloride	BQL	5.22	1	8/12/2008
Chlorobenzene	BQL	5.22	1	8/12/2008
Chloroethane	BQL	5.22	1	8/12/2008
Chloroform	BQL	5.22	1	8/12/2008
Chloromethane	BQL	5.22	1	8/12/2008
2-Chlorotoluene	BQL	5.22	1	8/12/2008
4-Chlorotoluene	BQL	5.22	1	8/12/2008
Dibromochloromethane	BQL	5.22	1	8/12/2008
1,2-Dibromo-3-chloropropane	BQL	26.1	1	8/12/2008
Dibromomethane	BQL	5.22	1	8/12/2008
1,2-Dibromoethane (EDB)	BQL	5.22	1	8/12/2008
1,2-Dichlorobenzene	BQL	5.22	1	8/12/2008
1,3-Dichlorobenzene	BQL	5.22	1	8/12/2008
1,4-Dichlorobenzene	BQL	5.22	1	8/12/2008
trans-1,4-Dichloro-2-butene	BQL	26.1	1	8/12/2008
1,1-Dichloroethane	BQL	5.22	1	8/12/2008
1,1-Dichloroethene	BQL	5.22	1	8/12/2008
1,2-Dichloroethane	BQL	5.22	1	8/12/2008
cis-1,2-Dichloroethene	BQL	5.22	1	8/12/2008
trans-1,2-dichloroethene	BQL	5.22	1	8/12/2008
1,2-Dichloropropane	BQL	5.22	1	8/12/2008
1,3-Dichloropropane	BQL	5.22	1	8/12/2008
2,2-Dichloropropane	BQL	5.22	1	8/12/2008
1,1-Dichloropropene	BQL	5.22	1	8/12/2008
cis-1,3-Dichloropropene	BQL	5.22	1	8/12/2008
trans-1,3-Dichloropropene	BQL	5.22	1	8/12/2008
Dichlorodifluoromethane	BQL	5.22	1	8/12/2008
Diisopropyl ether (DIPE)	BQL	5.22	1	8/12/2008
Ethylbenzene	BQL	5.22	1	8/12/2008
Hexachlorobutadiene	BQL	5.22	1	8/12/2008
2-Hexanone	BQL	5.22	1	8/12/2008
Iodomethane	BQL	5.22	1	8/12/2008

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S010
Client Project ID: CTO 016
Lab Sample ID G649-54-2B
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 09:07
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 5.28 g
%Solids: 90.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.22	1	8/12/2008
4-Isopropyltoluene	BQL	5.22	1	8/12/2008
Methylene chloride	BQL	20.9	1	8/12/2008
4-Methyl-2-pentanone	BQL	5.22	1	8/12/2008
Methyl-tert-butyl ether (MTBE)	BQL	5.22	1	8/12/2008
Naphthalene	BQL	5.22	1	8/12/2008
n-Propyl benzene	BQL	5.22	1	8/12/2008
Styrene	BQL	5.22	1	8/12/2008
1,1,1,2-Tetrachloroethane	BQL	5.22	1	8/12/2008
1,1,2,2-Tetrachloroethane	BQL	5.22	1	8/12/2008
Tetrachloroethene	BQL	5.22	1	8/12/2008
Toluene	BQL	5.22	1	8/12/2008
1,2,3-Trichlorobenzene	BQL	5.22	1	8/12/2008
1,2,4-Trichlorobenzene	BQL	5.22	1	8/12/2008
Trichloroethene	BQL	5.22	1	8/12/2008
1,1,1-Trichloroethane	BQL	5.22	1	8/12/2008
1,1,2-Trichloroethane	BQL	5.22	1	8/12/2008
Trichlorofluoromethane	BQL	5.22	1	8/12/2008
1,2,3-Trichloropropane	BQL	5.22	1	8/12/2008
1,2,4-Trimethylbenzene	BQL	5.22	1	8/12/2008
1,3,5-Trimethylbenzene	BQL	5.22	1	8/12/2008
Vinyl chloride	BQL	5.22	1	8/12/2008
m-,p-Xylene	BQL	10.4	1	8/12/2008
o-Xylene	BQL	5.22	1	8/12/2008

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	64.9	130
Toluene-d8	50	46.5	93
4-Bromofluorobenzene	50	37.1	74

Comments:

Flags:

Analyst: _____ Reviewed By: _____

SGS ENVIRONMENTAL SERVICES, INC.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S011
Client Project ID: CTO 016
Lab Sample ID G649-54-3B
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 08:56
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 5.61 g
%Solids: 91.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	48.7	1	8/12/2008
Benzene	BQL	4.87	1	8/12/2008
Bromobenzene	BQL	4.87	1	8/12/2008
Bromochloromethane	BQL	4.87	1	8/12/2008
Bromodichloromethane	BQL	4.87	1	8/12/2008
Bromoform	BQL	4.87	1	8/12/2008
Bromomethane	BQL	4.87	1	8/12/2008
2-Butanone	BQL	24.4	1	8/12/2008
n-Butylbenzene	BQL	4.87	1	8/12/2008
sec-Butylbenzene	BQL	4.87	1	8/12/2008
tert-Butylbenzene	BQL	4.87	1	8/12/2008
Carbon disulfide	BQL	4.87	1	8/12/2008
Carbon tetrachloride	BQL	4.87	1	8/12/2008
Chlorobenzene	BQL	4.87	1	8/12/2008
Chloroethane	BQL	4.87	1	8/12/2008
Chloroform	BQL	4.87	1	8/12/2008
Chloromethane	BQL	4.87	1	8/12/2008
2-Chlorotoluene	BQL	4.87	1	8/12/2008
4-Chlorotoluene	BQL	4.87	1	8/12/2008
Dibromochloromethane	BQL	4.87	1	8/12/2008
1,2-Dibromo-3-chloropropane	BQL	24.4	1	8/12/2008
Dibromomethane	BQL	4.87	1	8/12/2008
1,2-Dibromoethane (EDB)	BQL	4.87	1	8/12/2008
1,2-Dichlorobenzene	BQL	4.87	1	8/12/2008
1,3-Dichlorobenzene	BQL	4.87	1	8/12/2008
1,4-Dichlorobenzene	BQL	4.87	1	8/12/2008
trans-1,4-Dichloro-2-butene	BQL	24.4	1	8/12/2008
1,1-Dichloroethane	BQL	4.87	1	8/12/2008
1,1-Dichloroethene	BQL	4.87	1	8/12/2008
1,2-Dichloroethane	BQL	4.87	1	8/12/2008
cis-1,2-Dichloroethene	BQL	4.87	1	8/12/2008
trans-1,2-dichloroethene	BQL	4.87	1	8/12/2008
1,2-Dichloropropane	BQL	4.87	1	8/12/2008
1,3-Dichloropropane	BQL	4.87	1	8/12/2008
2,2-Dichloropropane	BQL	4.87	1	8/12/2008
1,1-Dichloropropene	BQL	4.87	1	8/12/2008
cis-1,3-Dichloropropene	BQL	4.87	1	8/12/2008
trans-1,3-Dichloropropene	BQL	4.87	1	8/12/2008
Dichlorodifluoromethane	BQL	4.87	1	8/12/2008
Diisopropyl ether (DIPE)	BQL	4.87	1	8/12/2008
Ethylbenzene	BQL	4.87	1	8/12/2008
Hexachlorobutadiene	BQL	4.87	1	8/12/2008
2-Hexanone	BQL	4.87	1	8/12/2008
Iodomethane	BQL	4.87	1	8/12/2008

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: BLDG 2004-S011
Client Project ID: CTO 016
Lab Sample ID G649-54-3B
Lab Project ID: G649-54
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 08-11-2008 08:56
Date Received: 8/12/2008
Matrix: Soil
Sample Amount: 5.61 g
%Solids: 91.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.87	1	8/12/2008
4-Isopropyltoluene	BQL	4.87	1	8/12/2008
Methylene chloride	BQL	19.5	1	8/12/2008
4-Methyl-2-pentanone	BQL	4.87	1	8/12/2008
Methyl-tert-butyl ether (MTBE)	BQL	4.87	1	8/12/2008
Naphthalene	BQL	4.87	1	8/12/2008
n-Propyl benzene	BQL	4.87	1	8/12/2008
Styrene	BQL	4.87	1	8/12/2008
1,1,1,2-Tetrachloroethane	BQL	4.87	1	8/12/2008
1,1,2,2-Tetrachloroethane	BQL	4.87	1	8/12/2008
Tetrachloroethene	BQL	4.87	1	8/12/2008
Toluene	BQL	4.87	1	8/12/2008
1,2,3-Trichlorobenzene	BQL	4.87	1	8/12/2008
1,2,4-Trichlorobenzene	BQL	4.87	1	8/12/2008
Trichloroethene	BQL	4.87	1	8/12/2008
1,1,1-Trichloroethane	BQL	4.87	1	8/12/2008
1,1,2-Trichloroethane	BQL	4.87	1	8/12/2008
Trichlorofluoromethane	BQL	4.87	1	8/12/2008
1,2,3-Trichloropropane	BQL	4.87	1	8/12/2008
1,2,4-Trimethylbenzene	BQL	4.87	1	8/12/2008
1,3,5-Trimethylbenzene	BQL	4.87	1	8/12/2008
Vinyl chloride	BQL	4.87	1	8/12/2008
m-,p-Xylene	BQL	9.75	1	8/12/2008
o-Xylene	BQL	4.87	1	8/12/2008

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	59.1	118
Toluene-d8	50	47.8	96
4-Bromofluorobenzene	50	40.8	82

Comments:

Flags:

Analyst: _____

Reviewed By: _____

Results for Semivolatiles by GCMS 8270

Client Sample ID: BLDG 2004-S009
Client Project ID: CTO 016
Lab Sample ID: G649-54-1H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 32.37 g

Analyzed By: DES
Date Collected: 8/11/2008 9:15
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 92.42

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	334	1	8/12/2008
Acenaphthylene	BQL	334	1	8/12/2008
Anthracene	BQL	334	1	8/12/2008
Benzo[a]anthracene	BQL	334	1	8/12/2008
Benzo[a]pyrene	BQL	334	1	8/12/2008
Benzo[b]fluoranthene	BQL	334	1	8/12/2008
Benzo[g,h,i]perylene	BQL	334	1	8/12/2008
Benzo[k]fluoranthene	BQL	334	1	8/12/2008
Benzidine	BQL	669	1	8/12/2008
Benzoic Acid	BQL	669	1	8/12/2008
Bis(2-chloroethoxy)methane	BQL	334	1	8/12/2008
Bis(2-chloroethyl)ether	BQL	334	1	8/12/2008
Bis(2-chloroisopropyl)ether	BQL	334	1	8/12/2008
Bis(2-ethylhexyl)phthalate	BQL	334	1	8/12/2008
4-bromophenyl phenyl ether	BQL	334	1	8/12/2008
Butylbenzylphthalate	BQL	334	1	8/12/2008
2-Chloronaphthalene	BQL	334	1	8/12/2008
2-Chlorophenol	BQL	334	1	8/12/2008
4-Chloro-3-methylphenol	BQL	334	1	8/12/2008
4-Chloroaniline	BQL	1670	1	8/12/2008
4-Chlorophenyl phenyl ether	BQL	334	1	8/12/2008
Chrysene	BQL	334	1	8/12/2008
Dibenzo[a,h]anthracene	BQL	334	1	8/12/2008
Dibenzofuran	BQL	334	1	8/12/2008
Di-n-Butylphthalate	BQL	334	1	8/12/2008
1,2-Dichlorobenzene	BQL	334	1	8/12/2008
1,3-Dichlorobenzene	BQL	334	1	8/12/2008
1,4-Dichlorobenzene	BQL	334	1	8/12/2008
3,3'-Dichlorobenzidine	BQL	669	1	8/12/2008
2,4-Dichlorophenol	BQL	334	1	8/12/2008
Diethylphthalate	BQL	334	1	8/12/2008
Dimethylphthalate	BQL	334	1	8/12/2008
2,4-Dimethylphenol	BQL	334	1	8/12/2008
Di-n-octylphthalate	BQL	334	1	8/12/2008
4,6-Dinitro-2-methylphenol	BQL	1670	1	8/12/2008
2,4-Dinitrophenol	BQL	1670	1	8/12/2008
2,4-Dinitrotoluene	BQL	334	1	8/12/2008
2,6-Dinitrotoluene	BQL	334	1	8/12/2008
Diphenylamine *	BQL	334	1	8/12/2008
Fluoranthene	BQL	334	1	8/12/2008
Fluorene	BQL	334	1	8/12/2008
Hexachlorobenzene	BQL	334	1	8/12/2008
Hexachlorobutadiene	BQL	334	1	8/12/2008
Hexachlorocyclopentadiene	BQL	669	1	8/12/2008
Hexachloroethane	BQL	334	1	8/12/2008
Indeno(1,2,3-c,d)pyrene	BQL	334	1	8/12/2008
Isophorone	BQL	334	1	8/12/2008

Results for Semivolatiles by GCMS 8270

Client Sample ID: BLDG 2004-S009
Client Project ID: CTO 016
Lab Sample ID: G649-54-1H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 32.37 g

Analyzed By: DES
Date Collected: 8/11/2008 9:15
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 92.42

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
2-Methylnaphthalene	BQL	334	1	8/12/2008
2-Methylphenol	BQL	334	1	8/12/2008
3- & 4-Methylphenol	BQL	334	1	8/12/2008
Naphthalene	BQL	334	1	8/12/2008
2-Nitroaniline	BQL	334	1	8/12/2008
3-Nitroaniline	BQL	1670	1	8/12/2008
4-Nitroaniline	BQL	1670	1	8/12/2008
Nitrobenzene	BQL	334	1	8/12/2008
2-Nitrophenol	BQL	334	1	8/12/2008
4-Nitrophenol	BQL	1670	1	8/12/2008
N-Nitrosodimethylamine	BQL	334	1	8/12/2008
N-Nitrosodi-n-propylamine	BQL	334	1	8/12/2008
Pentachlorophenol	BQL	1670	1	8/12/2008
Phenanthrene	BQL	334	1	8/12/2008
Phenol	BQL	334	1	8/12/2008
Pyrene	BQL	334	1	8/12/2008
1,2,4-Trichlorobenzene	BQL	334	1	8/12/2008
2,4,5-Trichlorophenol	BQL	334	1	8/12/2008
2,4,6-Trichlorophenol	BQL	334	1	8/12/2008

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
2-Fluorophenol	10	8.3	83
Nitrobenzene-d5	10	8.6	86
Phenol-d6	10	8.8	88
2,4,6-Tribromophenol	10	7	70
4-Terphenyl-d14	10	10.5	105

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

Flags:
BQL = Below Quantitation Limits.

Reviewed By: 

Results for Semivolatiles
by GCMS 8270

Client Sample ID: BLDG 2004-S010
Client Project ID: CTO 016
Lab Sample ID: G649-54-2H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 33.43 g

Analyzed By: DES
Date Collected: 8/11/2008 9:07
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 90.62

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	330	1	8/13/2008
Acenaphthylene	BQL	330	1	8/13/2008
Anthracene	BQL	330	1	8/13/2008
Benzo[a]anthracene	BQL	330	1	8/13/2008
Benzo[a]pyrene	BQL	330	1	8/13/2008
Benzo[b]fluoranthene	BQL	330	1	8/13/2008
Benzo[g,h,i]perylene	BQL	330	1	8/13/2008
Benzo[k]fluoranthene	BQL	330	1	8/13/2008
Benzidine	BQL	660	1	8/13/2008
Benzoic Acid	BQL	660	1	8/13/2008
Bis(2-chloroethoxy)methane	BQL	330	1	8/13/2008
Bis(2-chloroethyl)ether	BQL	330	1	8/13/2008
Bis(2-chloroisopropyl)ether	BQL	330	1	8/13/2008
Bis(2-ethylhexyl)phthalate	BQL	330	1	8/13/2008
4-bromophenyl phenyl ether	BQL	330	1	8/13/2008
Butylbenzylphthalate	BQL	330	1	8/13/2008
2-Chloronaphthalene	BQL	330	1	8/13/2008
2-Chlorophenol	BQL	330	1	8/13/2008
4-Chloro-3-methylphenol	BQL	330	1	8/13/2008
4-Chloroaniline	BQL	1650	1	8/13/2008
4-Chlorophenyl phenyl ether	BQL	330	1	8/13/2008
Chrysene	BQL	330	1	8/13/2008
Dibenzo[a,h]anthracene	BQL	330	1	8/13/2008
Dibenzofuran	BQL	330	1	8/13/2008
Di-n-Butylphthalate	BQL	330	1	8/13/2008
1,2-Dichlorobenzene	BQL	330	1	8/13/2008
1,3-Dichlorobenzene	BQL	330	1	8/13/2008
1,4-Dichlorobenzene	BQL	330	1	8/13/2008
3,3'-Dichlorobenzidine	BQL	660	1	8/13/2008
2,4-Dichlorophenol	BQL	330	1	8/13/2008
Diethylphthalate	BQL	330	1	8/13/2008
Dimethylphthalate	BQL	330	1	8/13/2008
2,4-Dimethylphenol	BQL	330	1	8/13/2008
Di-n-octylphthalate	BQL	330	1	8/13/2008
4,6-Dinitro-2-methylphenol	BQL	1650	1	8/13/2008
2,4-Dinitrophenol	BQL	1650	1	8/13/2008
2,4-Dinitrotoluene	BQL	330	1	8/13/2008
2,6-Dinitrotoluene	BQL	330	1	8/13/2008
Diphenylamine *	BQL	330	1	8/13/2008
Fluoranthene	BQL	330	1	8/13/2008
Fluorene	BQL	330	1	8/13/2008
Hexachlorobenzene	BQL	330	1	8/13/2008
Hexachlorobutadiene	BQL	330	1	8/13/2008
Hexachlorocyclopentadiene	BQL	660	1	8/13/2008
Hexachloroethane	BQL	330	1	8/13/2008
Indeno(1,2,3-c,d)pyrene	BQL	330	1	8/13/2008
Isophorone	BQL	330	1	8/13/2008

Results for Semivolatiles
by GCMS 8270

Client Sample ID: BLDG 2004-S010
Client Project ID: CTO 016
Lab Sample ID: G649-54-2H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 33.43 g

Analyzed By: DES
Date Collected: 8/11/2008 9:07
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 90.62

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
2-Methylnaphthalene	BQL	330	1	8/13/2008
2-Methylphenol	BQL	330	1	8/13/2008
3- & 4-Methylphenol	BQL	330	1	8/13/2008
Naphthalene	BQL	330	1	8/13/2008
2-Nitroaniline	BQL	330	1	8/13/2008
3-Nitroaniline	BQL	1650	1	8/13/2008
4-Nitroaniline	BQL	1650	1	8/13/2008
Nitrobenzene	BQL	330	1	8/13/2008
2-Nitrophenol	BQL	330	1	8/13/2008
4-Nitrophenol	BQL	1650	1	8/13/2008
N-Nitrosodimethylamine	BQL	330	1	8/13/2008
N-Nitrosodi-n-propylamine	BQL	330	1	8/13/2008
Pentachlorophenol	BQL	1650	1	8/13/2008
Phenanthrene	BQL	330	1	8/13/2008
Phenol	BQL	330	1	8/13/2008
Pyrene	BQL	330	1	8/13/2008
1,2,4-Trichlorobenzene	BQL	330	1	8/13/2008
2,4,5-Trichlorophenol	BQL	330	1	8/13/2008
2,4,6-Trichlorophenol	BQL	330	1	8/13/2008

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.2	92
2-Fluorophenol	10	8.9	89
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	9.3	93
2,4,6-Tribromophenol	10	8.1	81
4-Terphenyl-d14	10	11.5	115

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

Flags:
BQL = Below Quantitation Limits.

Reviewed By:

Results for Semivolatiles
by GCMS 8270

Client Sample ID: BLDG 2004-S011
Client Project ID: CTO 016
Lab Sample ID: G649-54-3H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 33.43 g

Analyzed By: DES
Date Collected: 8/11/2008 8:56
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 91.42

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	327	1	8/13/2008
Acenaphthylene	BQL	327	1	8/13/2008
Anthracene	BQL	327	1	8/13/2008
Benzo[a]anthracene	BQL	327	1	8/13/2008
Benzo[a]pyrene	BQL	327	1	8/13/2008
Benzo[b]fluoranthene	BQL	327	1	8/13/2008
Benzo[g,h,i]perylene	BQL	327	1	8/13/2008
Benzo[k]fluoranthene	BQL	327	1	8/13/2008
Benzidine	BQL	654	1	8/13/2008
Benzoic Acid	BQL	654	1	8/13/2008
Bis(2-chloroethoxy)methane	BQL	327	1	8/13/2008
Bis(2-chloroethyl)ether	BQL	327	1	8/13/2008
Bis(2-chloroisopropyl)ether	BQL	327	1	8/13/2008
Bis(2-ethylhexyl)phthalate	BQL	327	1	8/13/2008
4-bromophenyl phenyl ether	BQL	327	1	8/13/2008
Butylbenzylphthalate	BQL	327	1	8/13/2008
2-Chloronaphthalene	BQL	327	1	8/13/2008
2-Chlorophenol	BQL	327	1	8/13/2008
4-Chloro-3-methylphenol	BQL	327	1	8/13/2008
4-Chloroaniline	BQL	1640	1	8/13/2008
4-Chlorophenyl phenyl ether	BQL	327	1	8/13/2008
Chrysene	BQL	327	1	8/13/2008
Dibenzo[a,h]anthracene	BQL	327	1	8/13/2008
Dibenzofuran	BQL	327	1	8/13/2008
Di-n-Butylphthalate	BQL	327	1	8/13/2008
1,2-Dichlorobenzene	BQL	327	1	8/13/2008
1,3-Dichlorobenzene	BQL	327	1	8/13/2008
1,4-Dichlorobenzene	BQL	327	1	8/13/2008
3,3'-Dichlorobenzidine	BQL	654	1	8/13/2008
2,4-Dichlorophenol	BQL	327	1	8/13/2008
Diethylphthalate	BQL	327	1	8/13/2008
Dimethylphthalate	BQL	327	1	8/13/2008
2,4-Dimethylphenol	BQL	327	1	8/13/2008
Di-n-octylphthalate	BQL	327	1	8/13/2008
4,6-Dinitro-2-methylphenol	BQL	1640	1	8/13/2008
2,4-Dinitrophenol	BQL	1640	1	8/13/2008
2,4-Dinitrotoluene	BQL	327	1	8/13/2008
2,6-Dinitrotoluene	BQL	327	1	8/13/2008
Diphenylamine *	BQL	327	1	8/13/2008
Fluoranthene	BQL	327	1	8/13/2008
Fluorene	BQL	327	1	8/13/2008
Hexachlorobenzene	BQL	327	1	8/13/2008
Hexachlorobutadiene	BQL	327	1	8/13/2008
Hexachlorocyclopentadiene	BQL	654	1	8/13/2008
Hexachloroethane	BQL	327	1	8/13/2008
Indeno(1,2,3-c,d)pyrene	BQL	327	1	8/13/2008
Isophorone	BQL	327	1	8/13/2008

Results for Semivolatiles
by GCMS 8270

Client Sample ID: BLDG 2004-S011
Client Project ID: CTO 016
Lab Sample ID: G649-54-3H
Lab Project ID: G649-54
Report Basis: Dry weight
Initial Weight: 33.43 g

Analyzed By: DES
Date Collected: 8/11/2008 8:56
Date Received: 8/12/2008
Date Extracted: 8/12/2008
Matrix: Soil
% Solids: 91.42

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
2-Methylnaphthalene	BQL	327	1	8/13/2008
2-Methylphenol	BQL	327	1	8/13/2008
3- & 4-Methylphenol	BQL	327	1	8/13/2008
Naphthalene	BQL	327	1	8/13/2008
2-Nitroaniline	BQL	327	1	8/13/2008
3-Nitroaniline	BQL	1640	1	8/13/2008
4-Nitroaniline	BQL	1640	1	8/13/2008
Nitrobenzene	BQL	327	1	8/13/2008
2-Nitrophenol	BQL	327	1	8/13/2008
4-Nitrophenol	BQL	1640	1	8/13/2008
N-Nitrosodimethylamine	BQL	327	1	8/13/2008
N-Nitrosodi-n-propylamine	BQL	327	1	8/13/2008
Pentachlorophenol	BQL	1640	1	8/13/2008
Phenanthrene	BQL	327	1	8/13/2008
Phenol	BQL	327	1	8/13/2008
Pyrene	BQL	327	1	8/13/2008
1,2,4-Trichlorobenzene	BQL	327	1	8/13/2008
2,4,5-Trichlorophenol	BQL	327	1	8/13/2008
2,4,6-Trichlorophenol	BQL	327	1	8/13/2008

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	9.4	94
Phenol-d6	10	9.5	95
2,4,6-Tribromophenol	10	7.6	76
4-Terphenyl-d14	10	11.8	118

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

Flags:
BQL = Below Quantitation Limits.

Reviewed By:

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S009
Sample Matrix	SOIL
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/13/08 09:47 - 08/13/08 09:47
Dry Weight	92.4
Dilution Factor	1 - 1
Initial weight (g)	12.54
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	Limits Upper
Aliphatic (tricosane)	94.7		40	140
Aromatic (ortho-terphenyl)	94.0		40	140

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

Lab Info: G649-54-1I	Lab Info: G649-54-1I
Aliphatic: EP081308/005F0101.D	Aromatic: EP081308/005F0101.D

Reviewed By:

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S010
Sample Matrix	SOIL
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/13/08 10:16 - 08/13/08 10:16
Dry Weight	90.6
Dilution Factor	1 - 1
Initial weight (g)	12.63
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)	77.9		40	140
Aromatic (ortho-terphenyl)	72.1		40	140

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

Lab Info: G649-54-2I	Lab Info: G649-54-2I
Aliphatic: EP081308/006F0201.D	Aromatic: EP081308/006F0201.D

Reviewed By:

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S011
Sample Matrix	SOIL
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/13/08 10:44 - 08/13/08 10:44
Dry Weight	91.4
Dilution Factor	1 - 1
Initial weight (g)	12.86
Final Volume (mL)	10.0

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

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	93.7		40	140
Aromatic (ortho-terphenyl)	92.5		40	140

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

Lab Info: G649-54-3K	Lab Info: G649-54-3K
Aliphatic: EP081308/007F0301.D	Aromatic: EP081308/007F0301.D

Reviewed By:

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 07/28/08

Calibration Ranges and Limits

Range	MDL (02/15/08) (µg/L)	MDL (02/11/08) (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (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	11.96	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	7.13	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	3.01	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 08/13/08 / 08/13/08

Filenames: ep081308/003f0101.d / ep081308/004f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	7.7	≤±25%
C19-C36 Aliphatics	100	16.7	-5.3	≤±25%
C11-C22 Aromatics	100	16.7	-6.0	≤±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: 07/28/08

Calibration Ranges and Limits

Range	MDL (02/15/08) (µg/L)	MDL (02/11/08) (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (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	11.96	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	7.13	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	3.01	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 08/13/08 / 08/13/08

Filenames: ep081308/015f0101.d / ep081308/013f0901.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	12.1	≤±25%
C19-C36 Aliphatics	100	16.7	1.3	≤±25%
C11-C22 Aromatics	100	16.7	-8.3	≤±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: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S009
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/12/08 18:24 - 08/12/08 18:24
Dry Weight	92.4
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	Limits Upper
Surrogate % Recovery - PID	89.0		70	130
Surrogate % Recovery - FID	93.4		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: G649-54-1e	Lab Info: G649-54-1e
FID Info: VP081208/024F0101.D	PID Info: VP081208/024R0101.D

Reviewed By:

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S010
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/12/08 18:51 - 08/12/08 18:51
Dry Weight	90.6
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	Limits Upper
Surrogate % Recovery - PID	91.3		70	130
Surrogate % Recovery - FID	95.0		70	130

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

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

Lab Info: G649-54-2e	Lab Info: G649-54-2e
FID Info: VP081208/025F0101.D	PID Info: VP081208/025R0101.D

Reviewed By:

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CTO 016

Sample Information	
Sample Identification	BLDG 2004-S011
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	08/11/08
Date Received	08/12/08
Date Extracted	08/12/08
Date Analyzed	08/12/08 19:17 - 08/12/08 19:17
Dry Weight	91.4
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	Limits Upper
Surrogate % Recovery - PID	101		70	130
Surrogate % Recovery - FID	105		70	130

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

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

Lab Info:	G649-54-3e	Lab Info:	G649-54-3e
FID Info:	VP081208/026F0101.D	PID Info:	VP081208/026R0101.D

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 (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (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: 08/12/08 Filename: VP081208/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	1.3	±25%
C_9-C_{12} Aliphatics	200	16	-10.8	±25%
C_9-C_{10} Aromatics	200	16	-6.7	±25%

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

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

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

www.us.sgs.com

0939[illegible]

SGS ENVIRONMENTAL SERVICES, INC.

(1)
CLIENT: OSAGE of VIRGINIA
CONTACT: THERESA Ellerman PHONE NO: (757) 274-4049
PROJECT: CTO 016 SITE/PWSID#: GENERAL HOUSING Bldg 2004
REPORTS TO: Shawn Whitworth E-MAIL: Swhit
FAX NO.: (757) 440-0411
INVOICE TO: Mike Cree 2418 Colley Ave Ste A Norfolk VA 23517 QUOTE #
P.O. NUMBER: CTO 016

SGS Reference: G649-54

PAGE 1 OF 1

(2) (3)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	8260 (Preservatives: NaBi)	8270 (Preservatives: None)	EPH (Preservatives: None)	VPH (Preservatives: MeOH)	REMARKS
	BLDG 2004-S009	8/11/08	0915	S	6		X	X	X	X	
	BLDG 2004-S010	8/11/08	0907	S	6		X	X	X	X	
	BLDG 2004-S011	8/11/08	0856	S	6		X	X	X	X	

(5)

Relinquished	Date	Time	Received By	Date	Time
Collected/Relinquished By: (1) [signature]	8/11/08	1809	Received By: [signature]	8/11/08	1809
Relinquished By: (2) [signature]	8/12/08	825	Received By: [signature]	8/12/08	0825
Relinquished By: (3)			Received By:		
Relinquished By: (4)			Received By:		

(4)
Shipping Carrier: HAND DELIVERED
Shipping Ticket No:

Samples Received Cold? (Circle) **YES** NO
Temperature °C: On ice 3.2°C

Special Deliverable Requirements: EDD Format

Chain of Custody Seal: (Circle) INTACT BROKEN **ABSENT**

Special Instructions: Email results to swhitworth@osageva.com + nhall@catlinusa.com + tellerman@osageva.com

Requested Turnaround Time: ☒ RUSH ~~24~~ 48 HRS ☐ STD
Date Needed

APPENDIX F
Photographs of Excavation Activities

Excavation activities – south wall

Excavation activities – Looking south

Bottom of excavation – concrete pad