LIMITED SITE ASSESSMENT REPORT AND NO FURTHER ACTION REQUEST

FOR

UST STC-868
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

NCDENR UST INCIDENT NO. PENDING
LAND USE CLASSIFICATION: PENDING
RISK CLASSIFICATION: PENDING

SEPTEMBER 15, 2009

CONTRACT NO. N62470-05-D-6200
DELIVERY ORDER NO. 0074
CATLIN PROJECT NO. 209-034

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TABLE OF CONTENTS

TABLES

TABLE OF CONTENTS (continued)

FIGURES

APPENDICES

LIMITED SITE ASSESSMENT REPORT AND NO FURTHER ACTION REQUEST

FOR

UST STC-868
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

SEPTEMBER 15, 2009

PURPOSE OF INVESTIGATION

The purpose of this Limited Site Assessment (LSA) and No Further Action (NFA) request is to provide the necessary information for the North Carolina Department of Environment and Natural Resources (NCDENR) Underground Storage Tank (UST) Section to determine the Land Use and Risk Classifications from a suspected petroleum release at the UST STC-868 project site. CATLIN Engineers and Scientists (CATLIN) was authorized to perform this LSA by NAVFAC Mid-Atlantic in accordance with the Order of Supplies Contract Number N62470-05-D-6200, Delivery Order Number 0074. Former UST STC-868 site is located within the Camp Geiger School of Infantry area aboard Marine Corps Base (MCB) Camp Lejeune, North Carolina. Figure 1 illustrates the general site location within the local USGS topographic quadrangle map.

Former UST STC-868

Former UST STC-868 is located just south of existing building STC867, approximately 500 feet southeast of the G and 8th Streets intersection aboard Camp Geiger. UST STC-868 was a 550 gallon UST utilized to store used oil associated with a former elevated, vehicle wash rack system. Please refer to Table 1 for a summary of UST system information.

On July 23, 1993 Peele's Pump and Tank Company (Peele's) excavated and removed UST STC-868 a 550 gallon tank used to store used oil at a vehicle wash down station. The 1993 Peele's UST Closure by Removal report indicated visible signs of a release from the former 550 gallon used oil UST. After excavating five truckloads of impacted soils, sidewall soil samples were taken for Total Petroleum Hydrocarbon (TPH) Oil & Grease, TPH-Diesel and Toxicity Characteristic Leaching Procedure (TCLP) – Metals. Laboratory analysis indicated TPH-Oil & Grease, TPH-Diesel and TCLP - Barium concentrations at levels of concern. In 1994, R.E. Wright Associates, Inc. (Wright) completed a one well site check adjacent to former UST STC-868. Wright's findings concluded that soils with TPH-Oil & Grease and groundwater with several dissolved-phase chlorinated solvent compounds of concern remained at the site. The UST STC-868 site later became incorporated in a larger Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

assessment and remediation project (Site #89). Following completion of site assessment and remediation activities under CERCLA, the site's history kept the site subject to current NCDENR UST Section guidelines. NAVFAC personnel requested CATLIN to perform an LSA at the site to determine if there are remnant environmental issues that need to be addressed in accordance with NCDENR UST Section – Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases (*Guidelines*) effective December 1, 2008.

LIMITED SITE ASSESSMENT REPORT

A. SITE IDENTIFICATION

DATE OF REPORT: September 15, 2009
Facility ID: Unknown **UST Incident Number (if known):** Pending
Site Name: Former UST STC-868
Site Location: MCB Camp Lejeune (see Figure 1)
Nearest City/Town: Jacksonville **County:** Onslow
Description of Geographical Data Point: Monitoring Well USTSTC868-MW04 location.
Location Method: GPS **Northing:** 3845988.259 **Easting:** 275772.040

UST Owner: Commanding Officer – MCB Camp Lejeune
Address: I&E/EMD/EQB
PSC 20004
MCB Camp Lejeune, NC 28542 **Phone:** (910) 451-9421
UST Operator: Same as above
Address: Same as above **Phone:** Same as above
Property Owner: Same as above
Address: Same as above **Phone:** Same as above
Property Occupant: Currently inactive
Address: Building STC867, Intersection of G and 8th Street, MCB Camp Geiger, NC 28542 **Phone:** No phone

Consultant/Contractor: CATLIN Engineers and Scientists
Address: 220 Old Dairy Road,
Wilmington, North Carolina 28405 **Phone:** (910) 452-5861

Release Information

Date Discovered: June 23, 1993
Estimated Quantity of Release: Unknown
Cause of Release: Unknown, during removal UST and piping appeared intact.
Source of Release (e.g. Piping/UST): UST and/or associated piping.

Sizes and contents of UST system(s) from which the release occurred:

One 550-gallon used oil UST and associated piping.

I, **Stephan A. Tyler** a Professional Engineer/Licensed Geologist **(circle one)** for CATLIN Engineers and Scientists, do certify that the information contained in this report is correct and accurate to the best of my knowledge.

(Please Affix Seal and Signature)

B. RISK CHARACTERIZATION

Limited Site Assessment Risk Classification and Land Use Form

Part I - Groundwater/Surface Water/Vapor Impacts
High Risk

1. *Has the release contaminated any water supply well including any used for non-drinking purposes?* YES **NO**

   According to I&E/EMD/EQB, MCB Camp Lejeune samples the raw water supply wells on a regular basis. CATLIN has reviewed the latest water supply well sampling data from the Marine Corp Base, Camp Lejeune Environmental Management's website 2008 Annual Water Quality Report data. The information indicates that the water supply wells closest to the site source area, PSWTC-600 (approximately 2,900 feet to the northwest) and PSWTC-1253 (approximately 3,000 feet to the southwest) have not been contaminated.

2. *Is a water supply well used for drinking water located within 1,000 feet of the source area of the discharge or release?* YES **NO**

   There is no water supply well located within 1,000 feet of the source area of the release (refer to Figure 2).

3. *Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release?* YES **NO**

   There is no water supply well not used for drinking water located within 250 feet of the source area of the release (refer to Figure 2).

4. *Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)?* YES **NO**

   Currently MCB Camp Lejeune has several locations for potential water supply well locations that are greater than 500 feet from the potential source area (refer to Figure 2).

5. *Do vapors from the release pose a threat of explosion because of accumulation of the vapors in a confined space or pose any other serious threat to public health, public safety or the environment?* YES **NO**
   If YES describe.

   No evidence of vapor accumulation has been reported.

6. *Are there any other factors that would cause the discharge or release to pose an imminent danger to public health, public safety, or the environment?* YES **NO**
If YES describe.

The site UST and associated piping was removed in 1993. A review of data collected during this investigation does not provide evidence to suggest other factors that would cause remnants of the discharge or release to pose an imminent danger to public health, public safety, or the environment.

Intermediate Risk

7. *Is a surface water body located within 500 feet of the source area of the discharge or release?* YES **NO**

A review of Figure 1, shows the nearest mapped surface water body is Edwards Creek located approximately 550 feet southeast of the potential source area.

*If **YES**, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B.0200 by a factor of 10?* YES **NO**

8. *Is the source area of the discharge or release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)?* YES **NO**
If YES describe.

Wellhead protection areas defined by 42 USC 300h-7(e) have not, as of this time, been designated by the State. However, MCB Camp Lejeune has identified wellhead protection areas on the base. Based on the most recent Wellhead Protection Plan – 2002 Update, the potential source area is not located within a proposed wellhead protection area.

9. *Is the release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985?* **YES** NO

As identified in the Geologic Map of North Carolina (North Carolina Department of Natural Resources and Community Development 1985), the subject site lies within the Coastal Plain Physiographic Province.

If YES, is the source area of the release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water? YES **NO**
If YES describe

The potential source area is located just above an apparent unconfined surficial groundwater aquifer. While there is the potential for recharge by rainfall to the unconfined surficial aquifer at the Base, the surficial aquifer is not used for water supply aboard MCB, Camp Lejeune. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for MCB Camp Lejeune potable water treatment facilities. An estimated 33 feet of Castle Hayne Confining Unit separate the surficial aquifer from the Castle Hayne aquifer. Data regarding hydrogeologic units below the subject site are discussed in greater detail in Section C.5.

10. *Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels (GCLs) established by the Department?* YES **NO**

Surficial groundwater samples from site monitoring well USTSTC868-MW04 were analyzed per EPA Method 6200B, 625, 6010B and MADEP EPH/VPH parameters. A review of laboratory analysis results indicates no subject analyte concentrations were detected in excess of applicable GCLs. These findings are discussed in greater detail in Section E of this report.

Part II - Land Use

Property Containing Source Area of Release

The questions below pertain to the property containing the source area of the release.

1. *Does the property contain one or more primary or secondary residences (permanent or temporary)?* YES **NO**
Describe.

The source area does not contain primary or secondary residences. The nearest residence area is McCutcheon Manor area which begins approximately 1,000 feet south of the potential source area. Please refer to Figure 2.

2. *Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?* YES **NO**
Describe.

The source area does not contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly. The nearest place of public assembly is a low cope exercise course located approximately 1,300 feet southwest of the source area.

3. *Does the property contain a commercial (e.g., retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial enterprise, or is the land undeveloped?* **YES** NO
Describe.

The immediate area surrounding former UST STC-868 is fenced and includes vacant office and storage structures. The area northwest and west of the subject site and within a 1,500 feet radius of the potential source area is the Camp Geiger School of Infantry facilities which include office, classroom and storage buildings. The area northeast and east of the subject site within a 1,500 feet radius of the potential source area is undeveloped land. As discussed previously, the McCutcheon Manor residence area begins approximately 1,000 feet south of the potential source area.

4. *Do children visit the property?* YES **NO**
Explain.

Under normal circumstances, children are not expected to visit the property.

Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? **YES** NO
Explain.

Former UST STC-868 site is currently surrounded by a fence with a locked gate.

5. *Do pavement, buildings, or other structures cap the contaminated soil?* YES **NO**
Describe.

The site potential source area is currently capped with limestone rip rap and grass.

If YES, what mechanisms are in place or can be put into place to ensure that the contaminated soil will remain capped in the foreseeable future?

The current site use is not expected to change in the near future.

6. *What is the zoning status of the property?*

MCB Camp Lejeune is not subject to local or county-zoning requirements; however, the project site use would be consistent with an Industrial/Commercial area.

7. *Is the use of the property likely to change in the next 20 years?* YES **NO**
Explain.

The current use of MCB Camp Lejeune and the subject site is not likely to change in the near future.

Property Surrounding Source Area of Release
The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release): See Figure 1

1. *What is the distance from the source area of the release to the **nearest** primary or secondary residence (permanent or temporary)?*

   From the former UST STC-868 source area, it is approximately 1,000 feet south to the nearest residence area, McCutcheon Manor.

2. *What is the distance from the source area of the release to the **nearest** school, daycare center, hospital, playground, park, recreation area, church, nursing home or other place of public assembly?*

   Other than the McCutcheon Manor residence area, the nearest place of public assembly is a low cope exercise course located approximately 1,300 feet southwest from the former UST STC-868 source area.

3. *What is the zoning status of properties in the surrounding area?*

   As previously stated, MCB Camp Lejeune is not subject to local or county-zoning requirements; however, the area would be consistent with an Industrial/Commercial area.

4. *Briefly characterize the use and activities of the land in the surrounding area.*

   UST STC-868 is located within the Camp Geiger area of MCB Camp Lejeune which is home to the Marine Corps Infantry Training School and used for military training operations.

C. RECEPTOR INFORMATION

1. Water Supply Wells

No active potable water wells are located within 1,500 feet of the project site.

2. Public Water Supplies

Are public water supplies available within 1,500 feet of the source area of the release? **YES** NO

If YES, where is the location of the nearest public water lines and the source(s) of the public water supply. Describe.

Public water is provided to the subject site, as well as other buildings within 1,500 feet of the potential source area by water mains, which carry treated potable water. Potable water is supplied to the site and surrounding areas by the MCB Camp Lejeune water supply system. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for the MCB Camp Lejeune potable water treatment facilities.

3. Surface Water

As stated previously, the nearest mapped surface water body is Edwards Creek located approximately 550 feet south of the site source area (see Figure 1).

4. Wellhead Protection Areas

As stated previously, MCB Camp Lejeune has identified wellhead protection areas on the base. Based on the most recent Wellhead Protection Plan – 2002 Update, the potential source area is not located within a proposed wellhead protection area.

5. Deep Aquifers in the Coastal Plain Physiographic Region

To determine deep aquifers underlying the subject site, the area was profiled in the "Visual Hydrogeologic Framework" database provided in the NCDENR Division of Water Resources website (VHF website) on June 9, 2009. This is a database of well and soil boring log data from numerous locations across the North Carolina Coastal Plain. The program uses data from the three locations closest to the point of interest to provide a cross-section of commonly identified hydrogeologic units likely to be present below the subject site. The June 9, 2009 program results regarding deep aquifers below the subject site can be summarized as follows:

Hydrogeologic Units	Approximate Depth (feet)
Surficial Aquifer	0 - 55
Castle Hayne Confining Unit	55 - 88
Castle Hayne Aquifer	88 - 277
Beaufort Confining Unit	277 - 390

A copy of the June 9, 2009 "Visual Hydrogeologic Framework" database results has been provided in Appendix A.

6. Subsurface Structures

Numerous underground utilities are present throughout MCB Camp Lejeune. At the former UST STC-868 site the only buried utility identified within the area of interest is the buried (approximately 2 feet BLS) catch basin inlet and discharge lines. Since these are above the surficial groundwater table (± 4.5 feet BLS) they are not considered potential receptors.

7. Land Use

As stated previously, the immediate area surrounding former UST STC-868 is fenced and includes vacant office and storage structures. Area immediately northwest and west of the subject site is the active Camp Geiger School of Infantry facilities which include office, classroom and storage buildings. Area immediately northeast and east of the subject site is undeveloped land.

8. Property Owners and Occupants

Refer to Table 2 for property owner and occupants.

D. SITE GEOLOGY AND HYDROGEOLOGY

1. Site Geology

The following site geology description is based on visual description of the soil split spoon samples obtained while installing the borehole for the site groundwater monitoring well USTSTC868-MW04. A summary of site soils is as follows:

USTSTC868-MW04		
Depth in feet BLS	**Soil Description**	**USCS**
0-0.5	Limestone Rip Rap	Fill
0.5-4	Tan/Olive Silty Sands (fine grained) – possible fill	SM
4-13	Olive Silty Sands (fine grained)	SM

The soils described above are consistent with undivided surficial deposits typically encountered within the area Coastal Plain Physiographic Province. A copy of the USTSTC868-MW04 well boring log, well construction details and North Carolina Well Construction Record has been provided in Appendix B.

2. Site Hydrogeology

During the July 8, 2009 site visit, CATLIN personnel obtained depth to water data. Depth to surficial groundwater table at well USTSTC868-MW04 was 6.69 feet below top of casing. Review of the data generated during this investigation, indicates the surficial groundwater encountered below the potential source area is part of an unconfined surficial aquifer. Site monitoring well details and groundwater gauging data has been summarized on Table 3. The location of the monitoring well has been illustrated on Figure 3.

E. LSA ACTIVITIES

The initial findings of the 1993 UST Closure activities indicated visible signs of a release from the former 550 gallon used oil UST. Since 1993, initial abatement measures (soil excavation) and groundwater remediation measures have been initiated at the former UST STC-868 site. CATLIN's site tasks involved assessing the site soils and groundwater for remnant contamination in accordance with NCDENR UST Section guidelines. All soil and groundwater assessment fieldwork methods were conducted in general accordance the *Guidelines* and CATLIN's Standard Methods of Investigation. A copy of the CATLIN Standard Methods of Investigation has been provided in Appendix C. CATLIN site soil and groundwater findings have been summarized as follows:

1. Soil Sampling

Utilizing a hand auger, CATLIN personnel collected a total of four soil samples (USTSTC868-HA01 through USTSTC868-HA04), one from each side wall of the reported former UST basin, for laboratory analysis on June 26, 2009. At each location, soil samples were obtained at approximately 1-2 feet BLS, placed in laboratory provided glassware, labeled and stored in chilled coolers. Soil samples were transported to SGS North America, Inc. (SGS - NC Certification #481) in Wilmington, North Carolina and analyzed for potential used oil contamination per the following methods:

- EPA Method 8260 (including IPE and MTBE)
- EPA Method 8270
- EPA Method 6010B (Total Chromium and Lead)
- MADEP EPH/VPH

A copy of the laboratory analytical report and proper Chain-of-Custody (COC) is provided in Appendix D. For regulatory compliance laboratory analysis results were compared to Residential, Industrial/Commercial and Soil-to-Groundwater Maximum Soil Contamination Concentrations (MSCCs).

2. Groundwater Sampling

As stated previously, CATLIN personnel installed one Type II groundwater monitoring well, USTSTC868-MW04, on June 29, 2009. The groundwater was allowed to equilibrate, and on July 8, 2009 CATLIN personnel gauged USTSTC868-MW04 for depth to water table, potential free-phase product thickness, and total well depth. CATLIN purged a minimum of three well volumes from USTSTC868-MW04 prior to collecting a representative groundwater sample. The groundwater samples were placed directly into laboratory provided glassware, properly labeled, and placed in an iced cooler prior to delivery to the laboratory. Samples were transported to SGS in Wilmington, North Carolina where they were analyzed for potential use oil contamination per the following methods:

- EPA Method 625 (+ TICs)
- EPA Method 6010B (Chromium and Lead)
- EPA Method 6200B
- MADEP VPH/EPH

A copy of the resulting groundwater sample laboratory analytical report and COC is located in Appendix D. For regulatory compliance, the resulting laboratory analysis data has been compared to established Gross Contaminant Levels (GCLs) and 2L Groundwater Quality Standards (2L GWQS).

F. LSA SOIL AND GROUNDWATER ANALYSIS RESULTS

1. Soil Sampling Results

EPA Method 8260 + IPE + MTBE (Volatiles)
Laboratory analysis of site soil samples detected the following EPA Method 8260 + IPE + MTBE compounds:

- USTSC868-HA01: Methylene Chloride (0.00150 J milligrams per kilogram - mg/kg) and Trichloroethene (0.00494 mg/kg).
- USTSC868-HA02: Acetone (0.0108 J mg/kg) and Methylene Chloride (0.00120 J mg/kg).
- USTSC868-HA03: Acetone (0.0101 J mg/kg), cis 1,2-Dichloroethene (0.00362 J), trans 1,2- Dichloroethene (0.00396 J mg/kg), Methylene Chloride (0.00121 J mg/kg), Tetrachloroethene (0.00367 J mg/kg) and Trichloroethene (0.0365 mg/kg).
- USTSC868-HA04: Methylene Chloride (0.00201 J mg/kg).

NOTE: J indicates an estimated concentration, below calibration range and above method detection limits.

In comparing the analysis results to MSCCs listed in the *Guidelines,* Trichloroethene concentration (0.0365 mg/kg) at USTSTC868-HA03, while compliant with Residential and Industrial/Commercial MSCCs (1.6 and 14 mg/Kg respectively), exceeds Soil to Groundwater MSCC of 0.018 mg/Kg. All remaining EPA Method 8260 compounds were either below method detection limits or detected concentrations are less than applicable MSCCs. EPA Method 8260 + IPE + MTBE analysis results have been summarized in Table 4A and on Figure 4A.

EPA METHOD 8270 (Semi Volatiles)
Laboratory analysis of site soil samples detected the following EPA Method 8270 compounds:

- USTSC868-HA01: Bis (2-ethylhexyl)phthalate (0.133 J mg/kg) and Pyrene (0.072 J mg/kg).

The detected compound concentrations are less than applicable MSCCs. EPA Method 8270 analysis results have been summarized in Table 4B and Figure 4B.

MADEP VPH/EPH (Hydrocarbon Fractions)
Laboratory analysis of site soil samples detected the following MADEP VPH/EPH hydrocarbon fraction:

- USTSC868-HA01: C_{19}-C_{36} Aliphatics (86.0 mg/kg).

The detected hydrocarbon fraction concentration is less than applicable MSCCs. MADEP VPH/EPH hydrocarbon fraction results have been summarized in Table 4C. MADEP hydrocarbon fractions as compared to MSCCs have been summarized in Table 4D and Figure 4C.

EPA Method 6010B (Total Chromium and Total Lead)
Laboratory analysis of site soil samples detected the following per EPA Method 6010B Chromium and Lead:

- USTSC868-HA01: Chromium (11.5 mg/kg) and Lead (19.4 mg/kg).
- USTSC868-HA02: Chromium (12.0 mg/kg) and Lead (10.4 mg/kg).
- USTSC868-HA03: Chromium (8.75 mg/kg) and Lead (14.3 mg/kg).
- USTSC868-HA04: Chromium (11.6 mg/kg) and Lead (5.28 mg/kg).

The detected Chromium and Lead concentrations are less than applicable MSCCs. EPA Method 6010B results have been summarized in Table 4E and Figure 4D.

2. Groundwater Sampling Results

EPA METHOD 6200B (Volatiles)
Laboratory analysis of the USTSTC868-MW04 groundwater sample detected the following EPA 6200B compounds: Benzene, sec-Butylbenzene, tert-Butylbenzene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Ethylbenzene, Isopropylbenzene, 4- Isopropyltoluene, Methylene Chloride, Naphthalene, n-Propyl benzene, Toluene, Trichloroethene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene and Total Xylenes. None of the detected compound concentrations are in excess of established 2L GWQS. 4-Isopropyltoluene, also known as Cymene or p-Cymene, is a naturally occurring Aromatic organic compound with the molecular formula $C_{10}H_{14}$. A standards comparison can be made with the C9-C22 Aromatic hydrocarbon fraction since both structures are based on the Aromatic Benzene ring and there are ten carbon atoms in the compound. The detected 4- Isopropyltoluene concentration of 0.110 J ug/L is well below the C9-C22 Aromatic hydrocarbon fraction MSCC of 210 ug/L. EPA 6200B results have been summarized in Table 5A and Figure 5A.

EPA METHOD 625 + TICs (Semi Volatiles)
Laboratory analysis of the USTSTC868-MW04 groundwater sample detected the following EPA 625 compound: Acenaphthylene (1.44 J ug/L). The acenaphthylene

concentration is below applicable GCL and 2L GWQS. EPA Method 625 results have been summarized in Table 5B and Figure 5B.

In accordance with the *Guidelines,* EPA Method 625 sample(s) were also analyzed for the ten (10) largest (peak area) non-target compounds, or Tentatively Identified Compounds (TICs). TICs refer to detected compounds, which are not present in the EPA Method 625 list of target compounds. Not all TICs are identified and quantitated using individual standards, and the quantitation standard provided is an estimate. There are no established 2L GWQS or GCL Standards for any TIC. Laboratory analysis of the USTSTC868-MW04 groundwater sample detected an unknown Ketone (171 ug/L), 3 Unknown TICs (10.2, 7.89 and 6.61 ug/L), 2(3H)-Benzothiazolone (4.72 ug/L), 2 Unknown Alcohols (3.68 and 3.56 ug/L) and an unknown Alkane (2.27 ug/L).

MADEP VPH/EPH (Hydrocarbon Fractions)
Laboratory analysis of the USTSTC868-MW04 groundwater sample detected the following MADEP VPH/EPH hydrocarbon fractions: C_9-C_{18} Aliphatics (<124 ug/L) and C_{19}-C_{36} Aliphatics (991 ug/L). Detected hydrocarbon fraction concentrations are less than applicable 2L GWQS. MADEP VPH/EPH hydrocarbon fraction results have been summarized in Table 5C. MADEP hydrocarbon fractions as compared to 2L GWQS have been summarized in Table 5D and Figure 5B.

EPA Method 6010B (Total Chromium and Total Lead)
Laboratory analysis of the USTSTC868-MW04 groundwater sample per EPA Method 6010B detected Chromium (0.00000565 J ug/L). Lead concentration results were less than the method detection limits. The Chromium concentration is less than applicable GCL and 2L GWQS. EPA Method 6010B results have been summarized in Table 5E and Figure 5B.

3. Free-Phase Product

No measurable thickness of free-phase product was detected in the site groundwater monitoring well USTSTC868-MW04.

G. CONCLUSIONS AND RECOMMENDATIONS

Ultimately, NCDENR Division of Waste Management UST Section personnel determine the Land Use and Risk Classification for the subject site. The following conclusions are based on CATLIN personnel evaluating site findings in accordance with the *Guidelines.*

- Based on the field findings of this Phase I LSA, CATLIN concludes that the project site meets the criteria for Industrial/Commercial Land Use and a Risk Classification of Low.

- If the site receives Industrial/Commercial Land Use and Low Risk Classification, then site soil compounds of concern must have concentrations at/below

applicable Industrial/Commercial MSCCs before NCDENR UST Section can approve No Further Action. Based on the current laboratory findings, none of

the compound concentrations detected within site soil samples exceed applicable Industrial/Commercial or Residential MSCCs.

- Based on the current laboratory findings, none of the compound concentrations detected within site groundwater samples exceed established 2L GWQS.

- No free-phase product was detected at groundwater monitoring well USTSTC868-MW04.

Recommendations are to forward a copy of this report to NCDENR at the following address:

North Carolina Department of Environment and Natural Resources
Division of Waste Management
UST Section
Attention: Mr. Bruce Reed
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

In addition, CATLIN recommends that the cover letter include a formal request that NCDENR UST Section personnel review this incident/site and consider the incident/site for No Further Action status.

H. LIMITATIONS

Sample point selection, sampling protocol used, and interpretation of analytical data were consistent with standard, accepted, environmental practices. The field and laboratory data (soil and groundwater) evaluated as part of this report provide isolated data points and may not represent conditions at every location in the project area. Analyses and conclusions of this report, being based on interpolation between data points at the project area, may not be completely representative of all site conditions. Conclusions and recommendations of this report are based on the best available data in an effort to comply with current, applicable regulatory requirements.

I. REFERENCES

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North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Resources, Hydrogeology Framework Database. http:/www.ehnr.state.nc.us/Data_and_Modeling/Ground_Water_Databases/frametstnew.php.

Peele's Pump and Tank Company, *Initial Site Assessment Report UST Closure by Removal,* 1993.

R.E. Wright Associates, Inc., *One Well Site Check plus Resample Two Existing Wells Marine Corps Base, Camp Lejeune, North Carolina UST STC-868,* October 5, 1994.

TABLES

TABLE 1

SITE HISTORY - UST SYSTEM INFORMATION

LIMITED SITE ASSESSMENT
UST STC-868

MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

UST ID Number	**Product** (gasoline, diesel, jet fuel, etc.)	**Capacity** (gallons)	**Date Installed** (mm/dd/yy)	**Date Permanently Closed (P), or Still in Use* (C)** (mm/dd/yy)	**Was Release Associated With UST System?** (Yes / No)
Unknown	Used Oil	550	Unknown	(P) 7/23/93	Yes

TABLE 2

SITE HISTORY - UST OWNER/OPERATOR INFORMATION

LIMITED SITE ASSESSMENT
UST STC-868

MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

UST ID Number	Name of Owner or Operator	Dates of Ownership/Operation (mm/dd/yy) to (mm/dd/yy)	Address	Telephone Number
Unknown	Commanding General Marine Corps Base Camp Lejeune, NC	Unknown to 7/23/93	PSC BOX 20004 Marine Corps Base Camp Lejeune, NC 28542	(910) 451-9421

TABLE 3
WELL CONSTRUCTION INFORMATION

INCIDENT NAME and No.: UST STC-868/Pending

Well ID	**Date Installed** (mm/dd/yy)	**Date Water Level Measured** (mm/dd/yy)	**Well Casing Depth** (ft. BLS)	**Screened Interval** (x to y ft. BLS)	**Bottom of Well** (ft. BLS)	**Top of Casing Elevation** (ft.)	**Depth to Water from Top of Casing** (ft.)	**Free-phase Product Thickness** (ft.)	**Groundwater Elevation** (ft.)	**Comments**
USTSTC868-MW04	6/29/2009	7/8/2009	3	3-13	13	Not Measured	6.69	0.00	Not Measured	Monitoring well

ft. BLS = feet below land surface

TABLE 4A SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 8260 + IPE + MTBE

Sample ID	Date Collected	Sample Depth (ft. BLS)	Acetone	cis 1,2-Dichloroethene	trans 1,2-dichloroethene	Methylene Chloride	Tetrachloroethene	Trichloroethene	All Other 8260 Compounds
Contaminant of Concern →									
Residential MSCC (mg/kg)			1,564	156	320	85	12	1.6	Varies
Industrial/Commercial MSCC (mg/kg)			40,880	4,000	8,200	763	110	14	Varies
Soil to Groundwater MSCC (mg/kg)			2.8	0.35	0.54	0.02	0.0074	0.018	Varies
USTSTC868-HA01	6/26/2009	1-2	<0.00604	<0.00112	<0.00099	0.00150 J	<0.00080	0.00494	BMDL
USTSTC868-HA02	6/26/2009	1-2	0.0108 J	<0.00121	<0.00106	0.00120 J	<0.00086	<0.00090	BMDL
USTSTC868-HA03	6/26/2009	1-2	0.0101 J	0.00362 J	0.00396 J	0.00121 J	0.00367 J	**0.0365**	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.00666	<0.00123	<0.00109	0.00201 J	<0.00088	<0.00092	BMDL

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

BMDL = Below Method Detection Limit

MSCC = Maximum Soil Contaminant Concentration

J = Estimated concentration, below calibration range and above MDL

ft. BLS = feet below land surface

< = Less than method detection limit

Bold results indicate concentrations above lowest MSCC.

TABLE 4B SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern →		Bis (2-ethylhexyl) phthalate	Pyrene	All Other 8270 Compounds
	Date Collected	Sample Depth (ft. BLS)			
Residential MSCC (mg/kg)			46	469	Varies
Industrial/Commercial (mg/kg)			410	12,264	Varies
Soil to Groundwater MSCC (mg/kg)			5.6	290	Varies
USTSTC868-HA01	6/26/2009	1-2	0.133 J	0.072 J	BMDL
USTSTC868-HA02	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA03	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.050	<0.044	BMDL

BMDL = Below Method Detection Limit

MSCC = Maximum Soil Contaminant Concentration

J = Estimated concentration, below calibration range and above MDL

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

ft. BLS = feet below land surface

< = Less than method detection limit

TABLE 4C SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH

Sample ID	Contaminant of Concern →		C_5-C_8 Aliphatics	C_9-C_{12} Aliphatics	C_9-C_{10} Aromatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_{11}-C_{22} Aromatics
	Date Collected	Sample Depth (ft. BLS)						
USTSTC868-HA01	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	86	<10.0
USTSTC868-HA02	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA03	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA04	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

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

< = Less than method detection limit

TABLE 4D SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH as compared to NCDENR MSCCs

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3,300	##	34
USTSTC868-HA01	6/26/2009	1-2	<10.0	<10.0	86	<20.0
USTSTC868-HA02	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA03	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA04	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0

All results in milligrams per kilogram (mg/kg)

Health based level > 100%

Considered immobile

MSCC = Maximum Soil Contaminant Concentration

< = Less than method detection limit

TABLE 4E SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and NO.: UST STC-868/Pending

Analytical Method: EPA Method 6010B

Sample ID	Contaminant of Concern →		Chromium	Lead
	Date Collected	Sample Depth (ft. BLS)		
Residential MSCC (mg/kg)			47	400
Industrial/Commercial MSCC (mg/kg)			1,226	400
Soil to Groundwater MSCC (mg/kg)			27	270
USTSTC868-HA01	6/26/2009	1-2	11.5	19.4
USTSTC868-HA02	6/26/2009	1-2	12.0	10.4
USTSTC868-HA03	6/26/2009	1-2	8.75	14.3
USTSTC868-HA04	6/26/2009	1-2	11.6	5.28

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

MSCC = Maximum Soil Contaminant Concentration

TABLE 5A SUMMARY OF GROUNDWATER LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 6200B

Well ID	Contaminant of Concern →		Benzene	sec-Butylbenzene	tert-Butylbenzene	cis-1,2-Dichloroethene	trans-1,2-dichloroethene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Methylene chloride	Naphthalene	n-Propyl benzene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	Other EPA Method 6200B Compounds
	Sample ID	**Date Collected**																	
2L GWQS (µg/L)			1	70	70	70	100	550	70	NE	4.6	21	70	1,000	2.8	350	350	530	Varies
GCL (mg/L)			5,000	8,500	15,000	70,000	100,000	84,500	25,000	NE	4,600	15,500	30,000	257,500	2,800	28,500	25,000	87,500	Varies
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	0.580	0.370 J	0.110 J	3.67	0.790	0.200 J	0.240 J	0.110 J	0.200 J	0.970	0.270 J	0.120 J	1.54	2.16	0.610	1.390 J	BMDL

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

TABLE 5B SUMMARY OF GROUNDWATER LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 625

Well ID	Contaminant of Concern →		Acenaphthylene	All Other EPA Method 625 Compounds
	Sample ID	Date Collected		
GCL (µg/L)			1,965	Varies
2L GWQS (µg/L)			210	Varies
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	1.44 J	BMDL

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

BMDL = Below Method Detection Limit

GCL = Gross Contaminant Level

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

J = Estimated concentration, below calibration range and above MDL

TABLE 5C SUMMARY OF GROUNDWATER LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH

Well ID	Contaminant of Concern →		C_5-C_8 Aliphatics	C_9-C_{12} Aliphatics	C_9-C_{10} Aromatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_{11}-C_{22} Aromatics
	Sample ID	Date Collected						
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	<100	<100	<100	124	991	<100

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

< = Less than method detection limit (MDL)

TABLE 5D SUMMARY OF GROUNDWATER LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH as compared to NCDENR 2L GWQS

Well ID	Contaminant of Concern →		C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
	Sample ID	Date Collected				
GCL (µg/L) 2L GWQS (µg/L)			NE 420	NE 4,200	NE 42,000	NE 210
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	<100	<124*	991	<200

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

NE = None Established

< = Less than method detection limit (MDL)

GCL = Gross Contaminant Level

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

* The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.

TABLE 5E SUMMARY OF GROUNDWATER LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 6010B

Well ID	Contaminant of Concern →		Chromium	Lead
	Sample ID	Date Collected		
2L GWQS (µg/L) GCL (mg/L)			50 50,000	15 15,000
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	0.00000565 J	<0.00000679

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

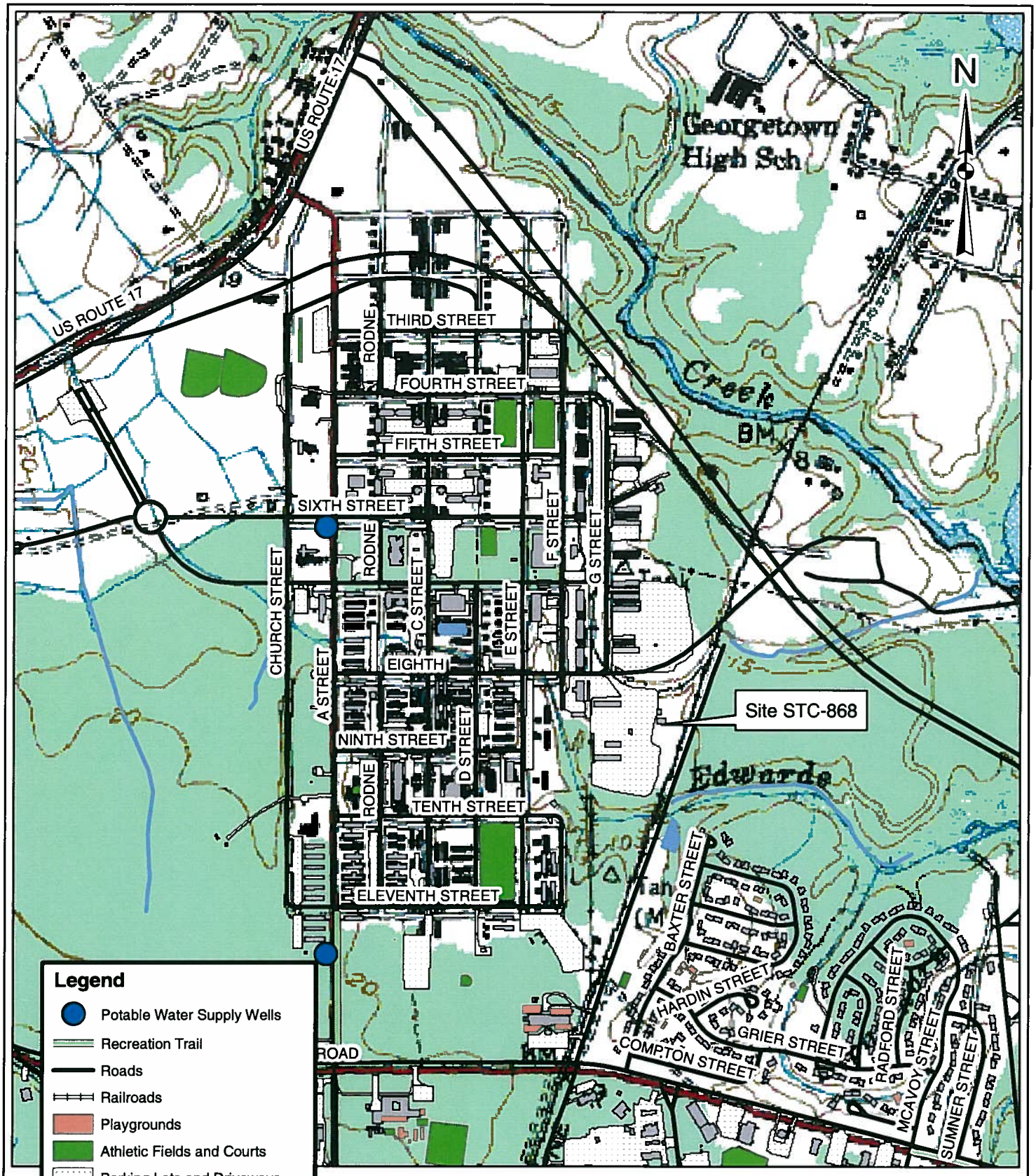
BMDL = Below Method Detection Limit

GCL = Gross Contaminant Level

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

J = Estimated concentration, below calibration range and above MDL

FIGURES



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

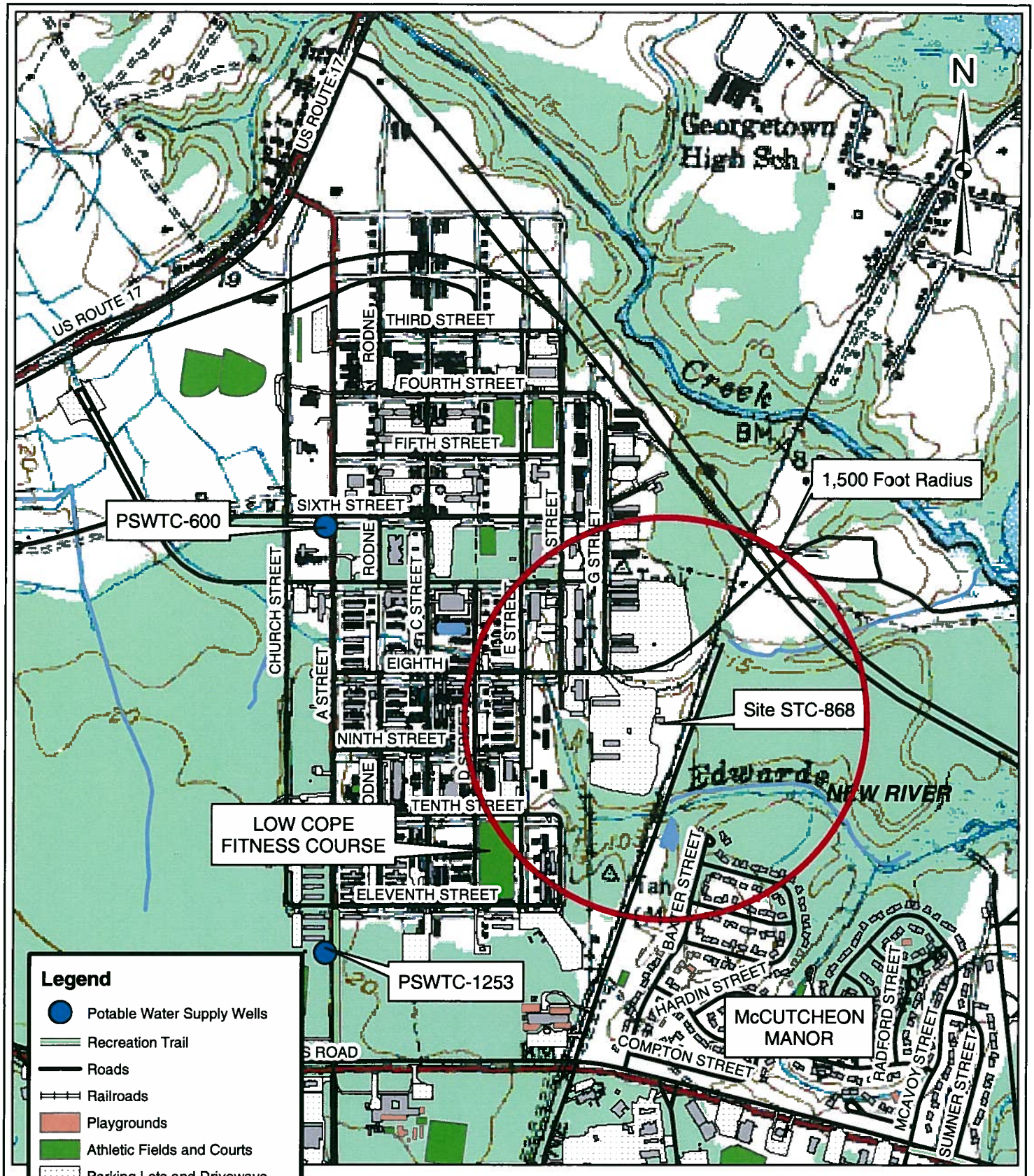
CATLIN
Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT: UST STC-868 LSA
MARINE CORPS BASE
CAMP LEJEUNE, NC

TITLE: **GENERAL LOCATION USGS TOPOGRAPHIC QUADRANGLE**

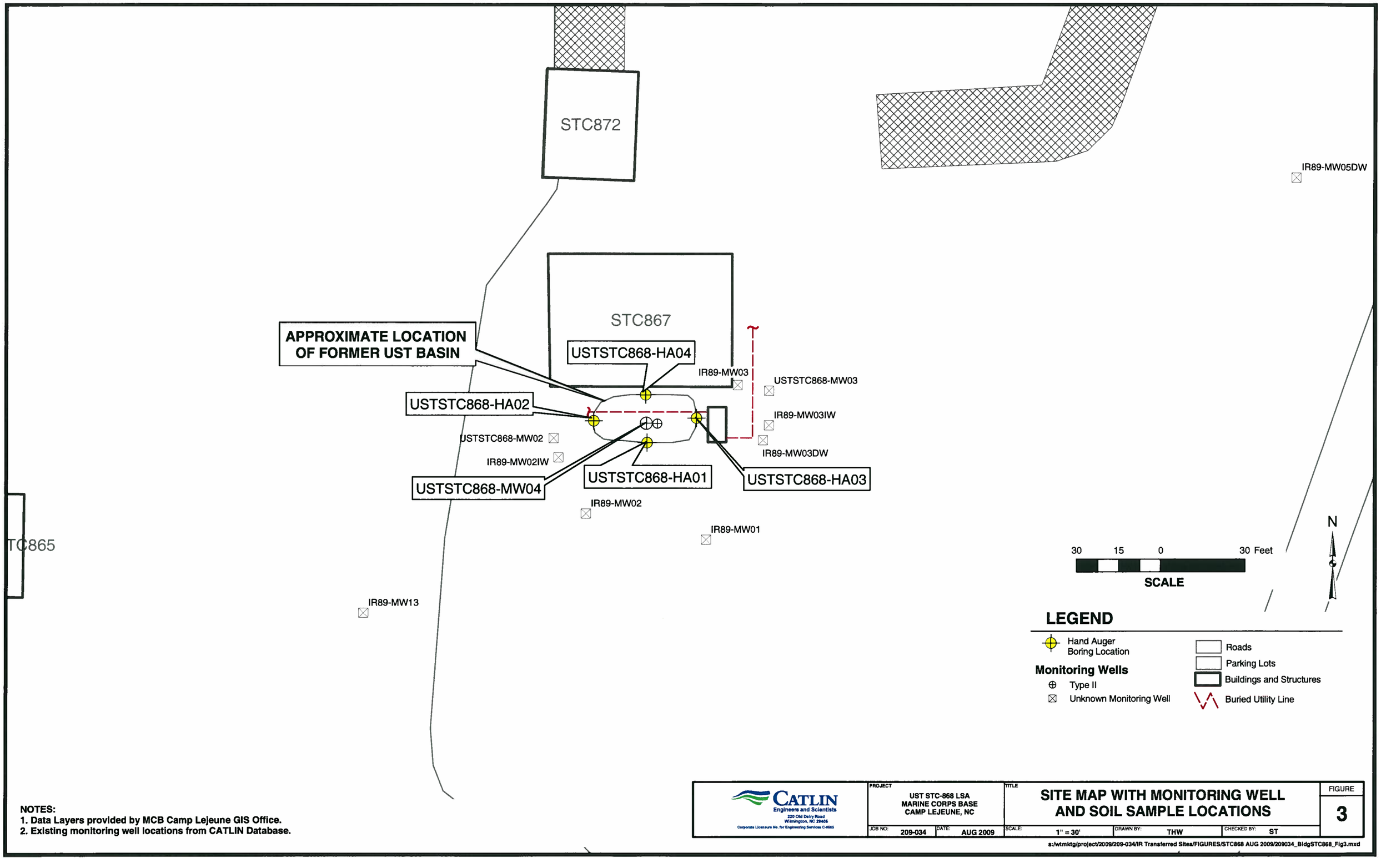
FIGURE 1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
209-034	AUG 2009	AS SHOWN	THW	SAT



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

CATLIN Engineers and Scientists 220 Old Dairy Road Wilmington, NC 28405 Corporate Licensure No. for Engineering Services C-0585	PROJECT UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	TITLE **1,500 FOOT RADIUS WITH WATER SUPPLY WELLS AND PLACES OF PUBLIC ASSEMBLY**				**FIGURE** **2**
	JOB NO. 209-034	DATE AUG 2009	SCALE AS SHOWN	DRAWN BY THW	CHECKED BY SAT	



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

CATLIN Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0665

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH MONITORING WELL AND SOIL SAMPLE LOCATIONS	3

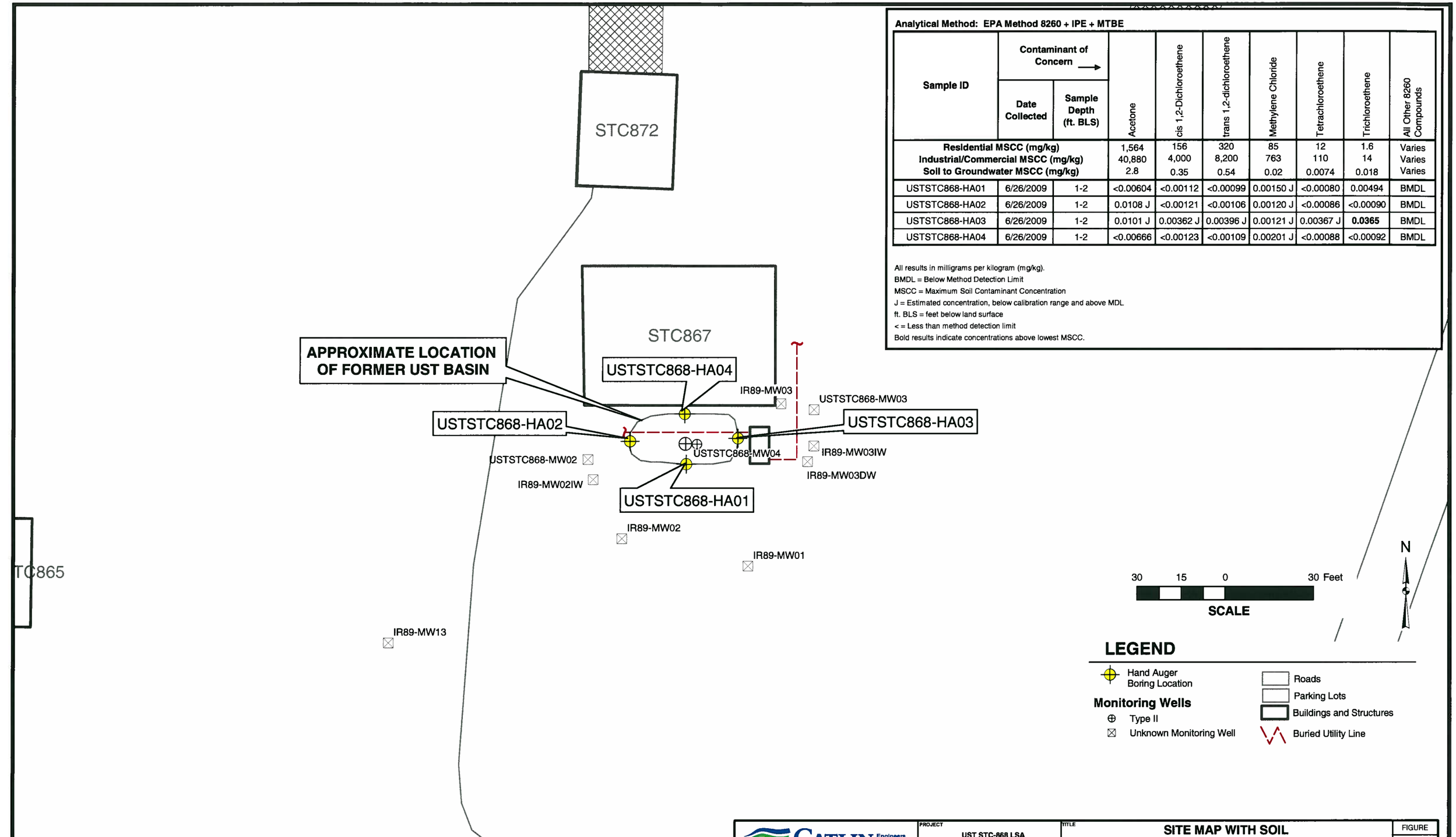
JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig3.mxd

Analytical Method: EPA Method 8260 + IPE + MTBE

Sample ID	Date Collected	Sample Depth (ft. BLS)	Acetone	cis 1,2-Dichloroethene	trans 1,2-dichloroethene	Methylene Chloride	Tetrachloroethene	Trichloroethene	All Other 8260 Compounds
Residential MSCC (mg/kg)			1,564	156	320	85	12	1.6	Varies
Industrial/Commercial MSCC (mg/kg)			40,880	4,000	8,200	763	110	14	Varies
Soil to Groundwater MSCC (mg/kg)			2.8	0.35	0.54	0.02	0.0074	0.018	Varies
USTSTC868-HA01	6/26/2009	1-2	<0.00604	<0.00112	<0.00099	0.00150 J	<0.00080	0.00494	BMDL
USTSTC868-HA02	6/26/2009	1-2	0.0108 J	<0.00121	<0.00106	0.00120 J	<0.00086	<0.00090	BMDL
USTSTC868-HA03	6/26/2009	1-2	0.0101 J	0.00362 J	0.00396 J	0.00121 J	0.00367 J	**0.0365**	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.00666	<0.00123	<0.00109	0.00201 J	<0.00088	<0.00092	BMDL

All results in milligrams per kilogram (mg/kg).
BMDL = Below Method Detection Limit
MSCC = Maximum Soil Contaminant Concentration
J = Estimated concentration, below calibration range and above MDL
ft. BLS = feet below land surface
< = Less than method detection limit
Bold results indicate concentrations above lowest MSCC.



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

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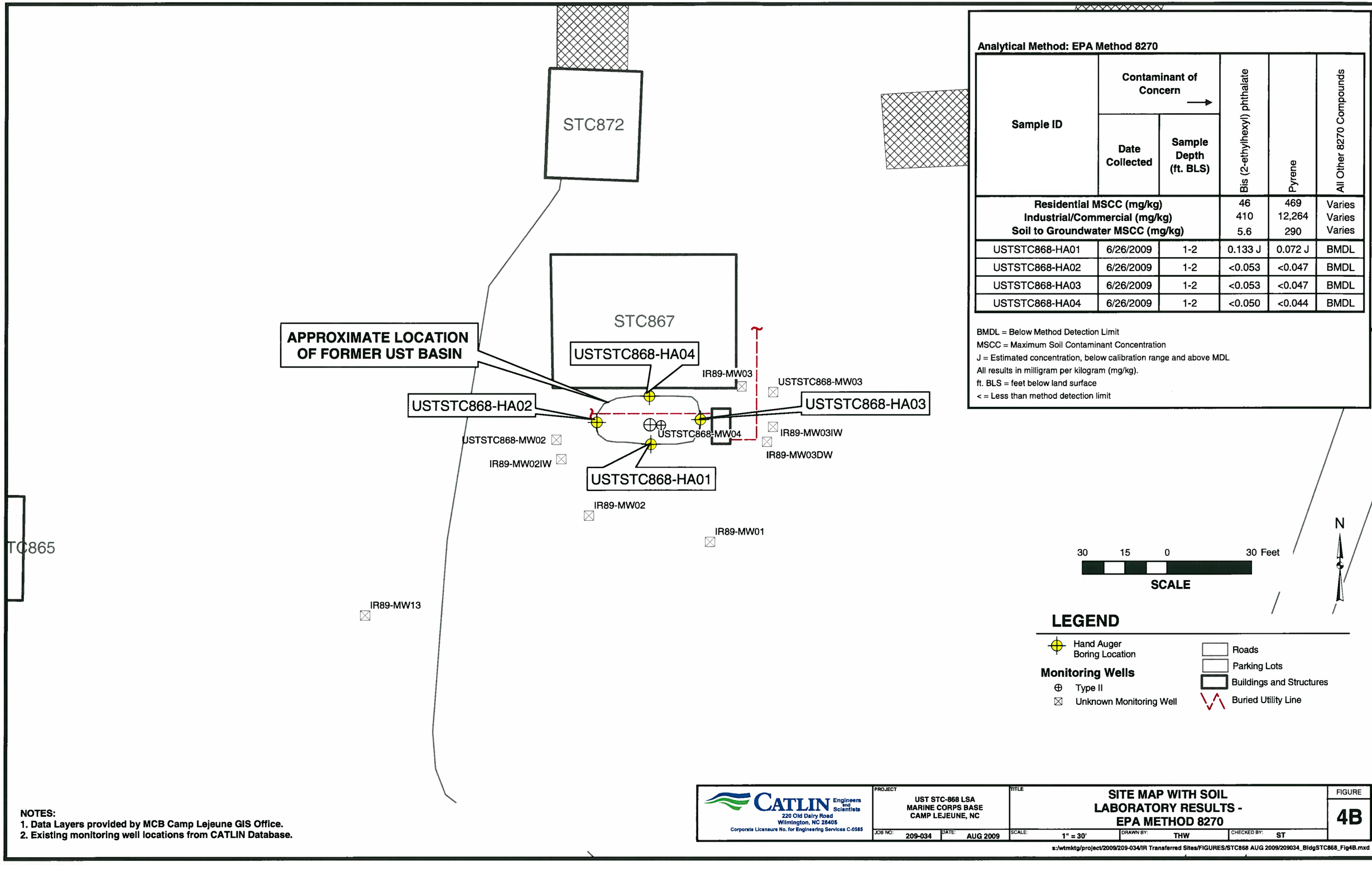
Corporate Licensure No. for Engineering Services C-0585

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH SOIL LABORATORY RESULTS - EPA METHOD 8260 + IPE + MTBE	4A

JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig4A.mxd



Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	Bis (2-ethylhexyl) phthalate	Pyrene	All Other 8270 Compounds
Residential MSCC (mg/kg)			46	469	Varies
Industrial/Commercial (mg/kg)			410	12,264	Varies
Soil to Groundwater MSCC (mg/kg)			5.6	290	Varies
USTSTC868-HA01	6/26/2009	1-2	0.133 J	0.072 J	BMDL
USTSTC868-HA02	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA03	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.050	<0.044	BMDL

BMDL = Below Method Detection Limit
MSCC = Maximum Soil Contaminant Concentration
J = Estimated concentration, below calibration range and above MDL
All results in milligram per kilogram (mg/kg).
ft. BLS = feet below land surface
< = Less than method detection limit

NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

CATLIN Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH SOIL LABORATORY RESULTS - EPA METHOD 8270	4B

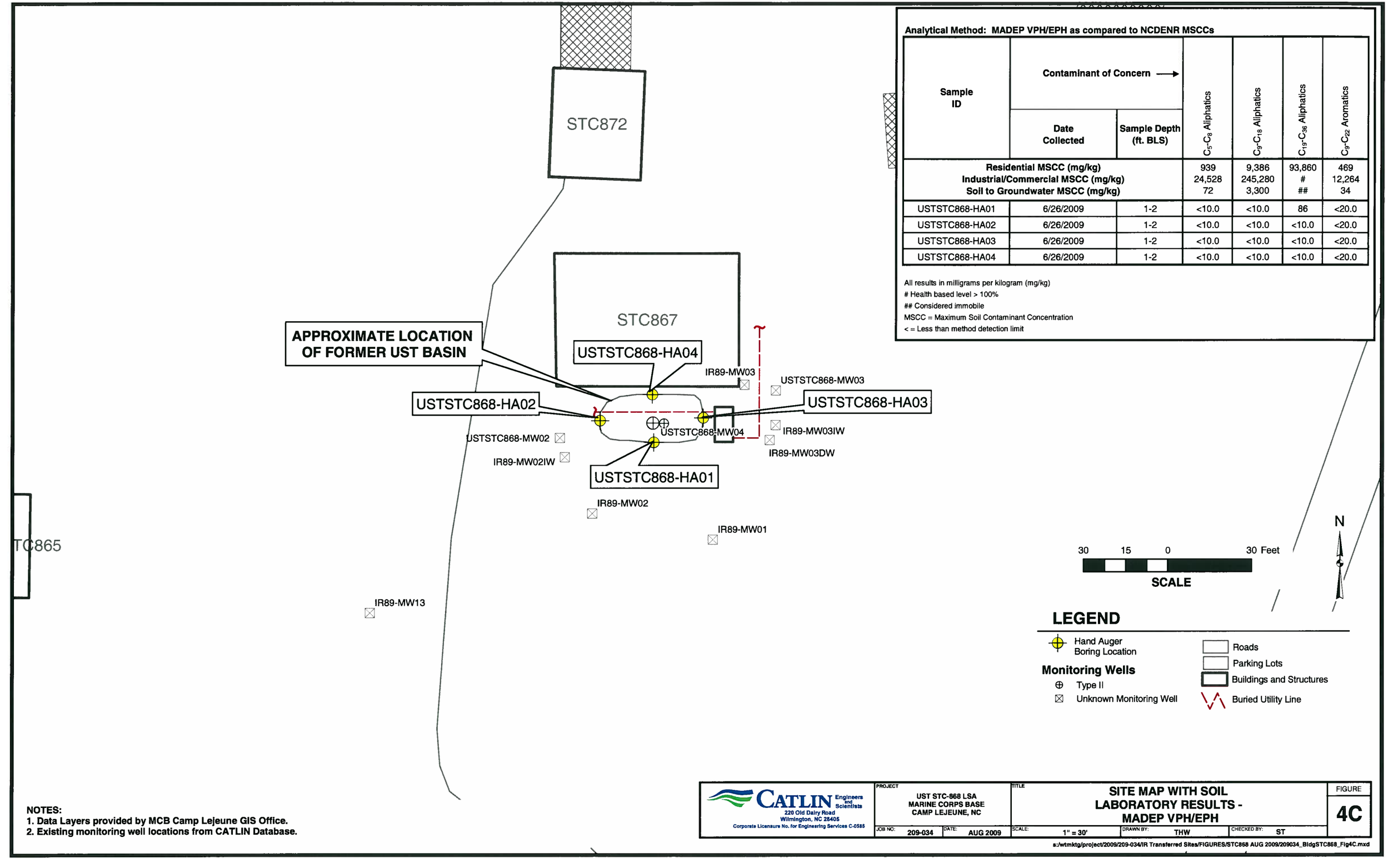
JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig4B.mxd

Analytical Method: MADEP VPH/EPH as compared to NCDENR MSCCs

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3,300	##	34
USTSTC868-HA01	6/26/2009	1-2	<10.0	<10.0	86	<20.0
USTSTC868-HA02	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA03	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA04	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0

All results in milligrams per kilogram (mg/kg)
Health based level > 100%
Considered immobile
MSCC = Maximum Soil Contaminant Concentration
< = Less than method detection limit



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

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220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH SOIL LABORATORY RESULTS - MADEP VPH/EPH	4C

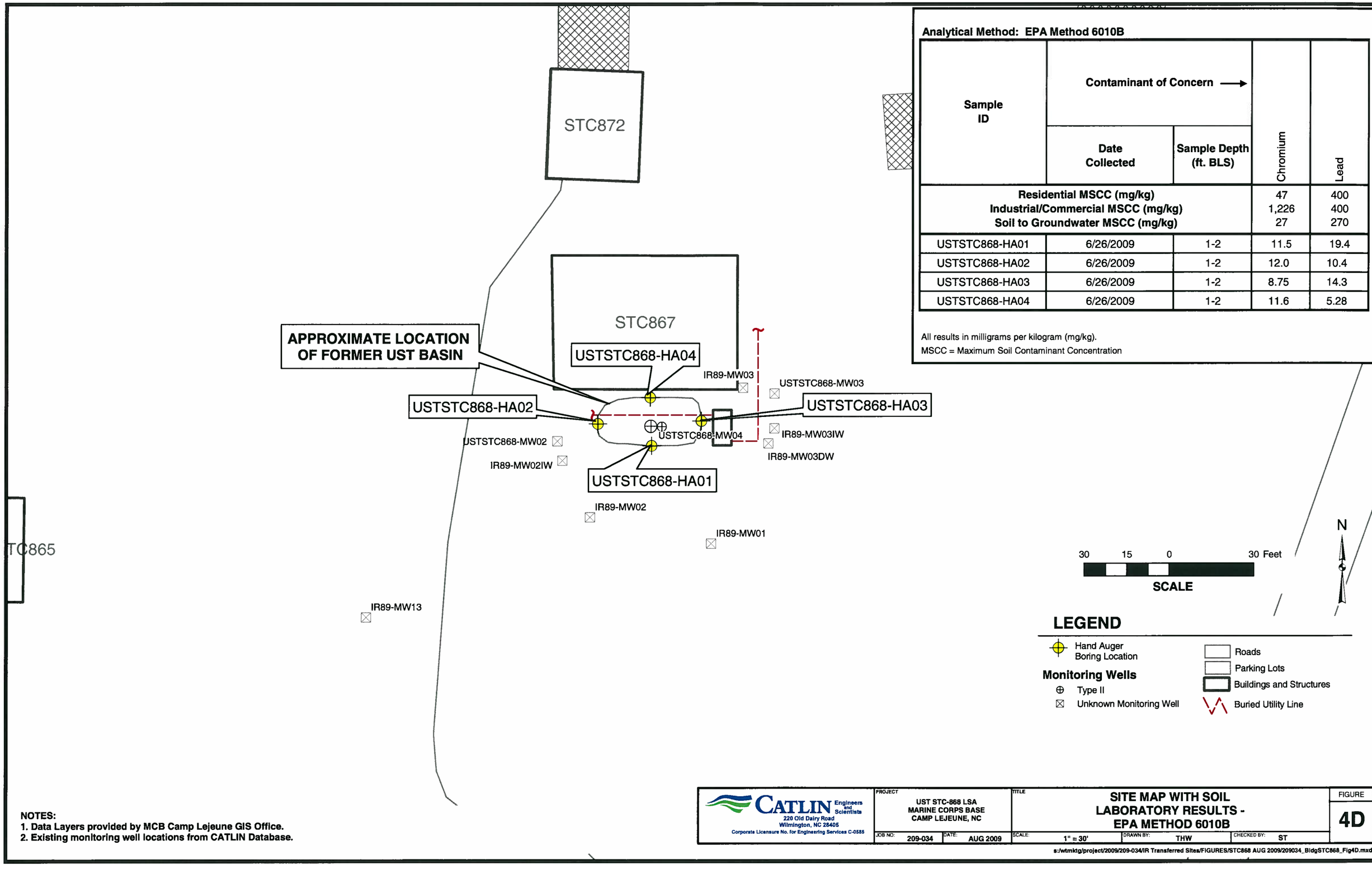
JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig4C.mxd

Analytical Method: EPA Method 6010B

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	Chromium	Lead
Residential MSCC (mg/kg)			47	400
Industrial/Commercial MSCC (mg/kg)			1,226	400
Soil to Groundwater MSCC (mg/kg)			27	270
USTSTC868-HA01	6/26/2009	1-2	11.5	19.4
USTSTC868-HA02	6/26/2009	1-2	12.0	10.4
USTSTC868-HA03	6/26/2009	1-2	8.75	14.3
USTSTC868-HA04	6/26/2009	1-2	11.6	5.28

All results in milligrams per kilogram (mg/kg).
MSCC = Maximum Soil Contaminant Concentration



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

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PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH SOIL LABORATORY RESULTS - EPA METHOD 6010B	4D

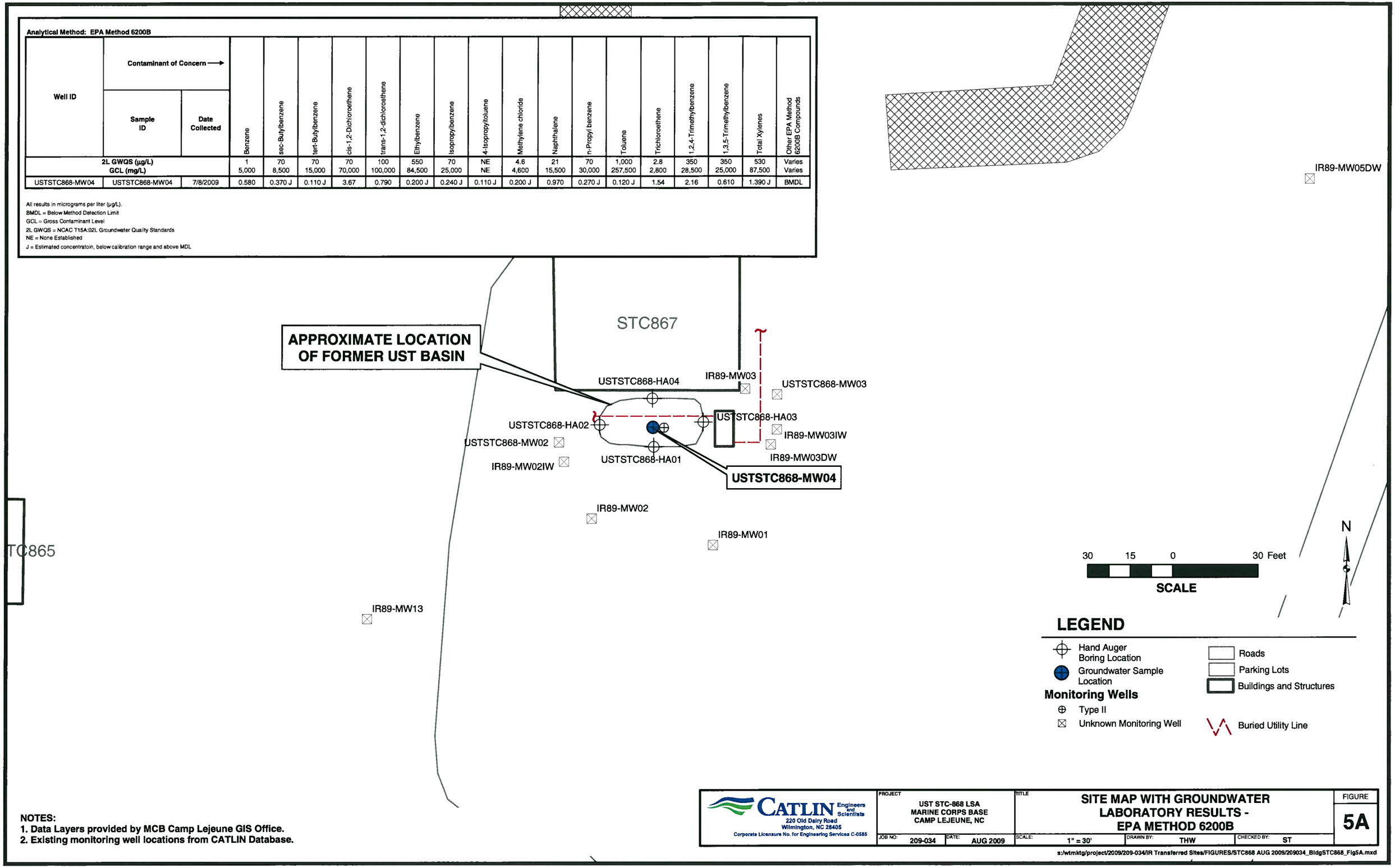
JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig4D.mxd

Analytical Method: EPA Method 6200B

Well ID	Contaminant of Concern →		Benzene	sec-Butylbenzene	tert-Butylbenzene	cis-1,2-Dichloroethene	trans-1,2-dichloroethene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Methylene chloride	Naphthalene	n-Propyl benzene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	Other EPA Method 6200B Compounds
	Sample ID	Date Collected																	
2L GWQS (µg/L) GCL (mg/L)			1 5,000	70 8,500	70 15,000	70 70,000	100 100,000	550 84,500	70 25,000	NE NE	4.6 4,600	21 15,500	70 30,000	1,000 257,500	2.8 2,800	350 28,500	350 25,000	530 87,500	Varies Varies
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	0.580	0.370 J	0.110 J	3.67	0.790	0.200 J	0.240 J	0.110 J	0.200 J	0.970	0.270 J	0.120 J	1.54	2.16	0.610	1.390 J	BMDL

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



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

CATLIN Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH GROUNDWATER LABORATORY RESULTS - EPA METHOD 6200B	5A

JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	AUG 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig5A.mxd

Analytical Method: MADEP VPH/EPH as compared to NCDENR 2L GWQS

Well ID	Contaminant of Concern → Sample ID	Date Collected	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
GCL (µg/L)			NE	NE	NE	NE
2L GWQS (µg/L)			420	4,200	42,000	210
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	<100	<124*	991	<200

All results in micrograms per liter (µg/L).
NE = None Established
< = Less than method detection limit (MDL)
GCL = Gross Contaminant Level
2L GWQS = NCAC T15A:02L Groundwater Quality Standards
* The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.

Analytical Method: EPA Method 6010B

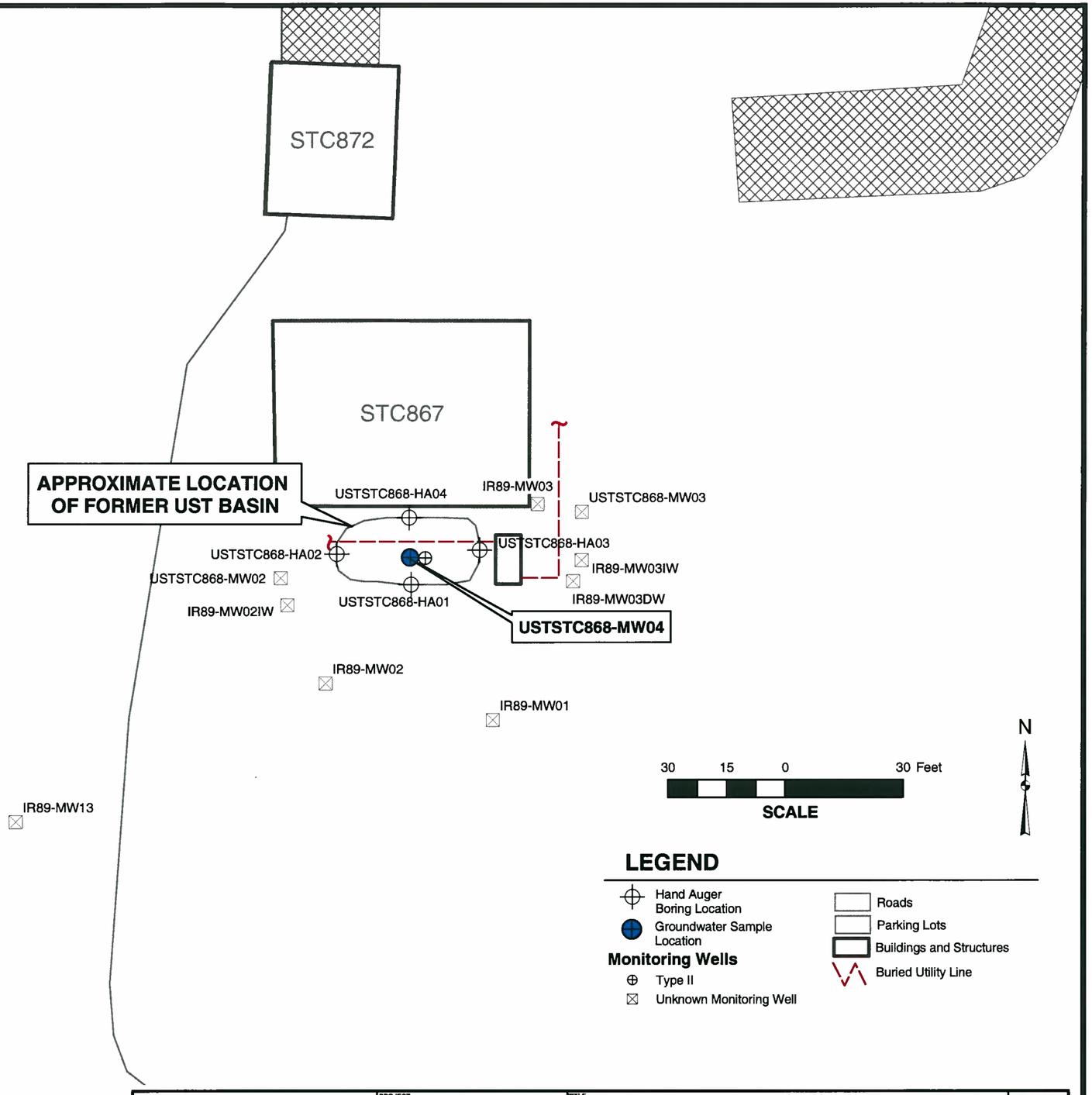
Well ID	Contaminant of Concern → Sample ID	Date Collected	Chromium	Lead
2L GWQS (µg/L)			50	15
GCL (mg/L)			50,000	15,000
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	0.00000565 J	<0.00000679

All results in micrograms per liter (µg/L).
BMDL = Below Method Detection Limit
GCL = Gross Contaminant Level
2L GWQS = NCAC T15A:02L Groundwater Quality Standards
J = Estimated concentration, below calibration range and above MDL

Analytical Method: EPA Method 625

Well ID	Contaminant of Concern → Sample ID	Date Collected	Acenaphthylene	Other EPA Method 625 Compounds
GCL (µg/L)			1,965	Varies
2L GWQS (µg/L)			210	Varies
USTSTC868-MW04	USTSTC868-MW04	7/8/2009	1.44 J	BMDL

All results in micrograms per liter (µg/L).
BMDL = Below Method Detection Limit
GCL = Gross Contaminant Level
2L GWQS = NCAC T15A:02L Groundwater Quality Standards
J = Estimated concentration, below calibration range and above MDL



TC861

NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

CATLIN Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT: UST STC-868 LSA
MARINE CORPS BASE
CAMP LEJEUNE, NC

TITLE: SITE MAP WITH GROUNDWATER LABORATORY RESULTS - EPA METHOD 625, MADEP VPH/EPH AND EPA METHOD 6010B

FIGURE: 5B

JOB NO: 209-034 | DATE: AUG 2009 | SCALE: 1" = 30' | DRAWN BY: THW | CHECKED BY: ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/STC868 AUG 2009/209034_BldgSTC868_Fig5B.mxd

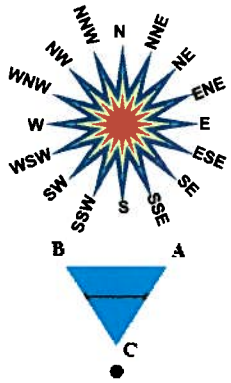
APPENDICES

APPENDIX A

VISUAL HYDROGRAPHIC FRAMEWORK

FrameWork Query Results

- Scroll to bottom half of page for cross-section.
- Framework Map with borehole locations may be viewed in a separate window.
- The triangle to the right shows the relative position of the three boreholes to one another and the beginning (left) and ending (right) sides of the cross-section line.
- The dot indicates the location of the viewer of the cross-section.



Cross-section line is oriented approximately: **WSW-ENE**
(65 degrees)

Well of Interest

Location: 34.731270, -77.449129; **Well Depth:** 15 feet; **Screen Depth:** 5 feet; **Land Surface (estimated):** 15 feet; **Show Map**

Approximate depths to (and elevations of) hydrogeological units (feet):

SURFICIAL
0 (15)

- Hydrogeologic unit top depths estimated to well depth.
- If estimated land surface elevation is higher than actual then subtract the difference from the estimated depths of units.
- If estimated land surface elevation is lower than actual then add the difference to the estimated depths of units.

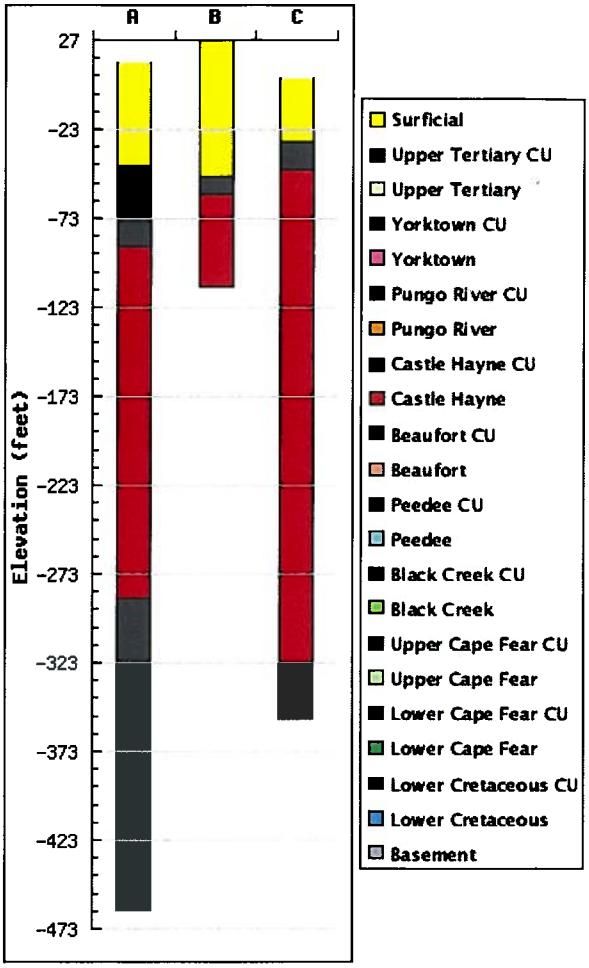
Boreholes

A: USMC Camp Lejeune T-15, X 25C; **Land Surface:** 15 feet; **Location:** 34.740278, -77.451944; Water Levels, Geophysical Logs, Hydrogeologic Units

B: Carl Beacham, X 25G; **Land Surface:** 27 feet; **Location:** 34.725, -77.475; Geophysical Logs, Hydrogeologic Units

C: U.S. Marine Corps Test Well No. 12, X 24F; **Land Surface:** 6 feet; **Location:** 34.7175, -77.416111; Geophysical Logs, Hydrogeologic Units

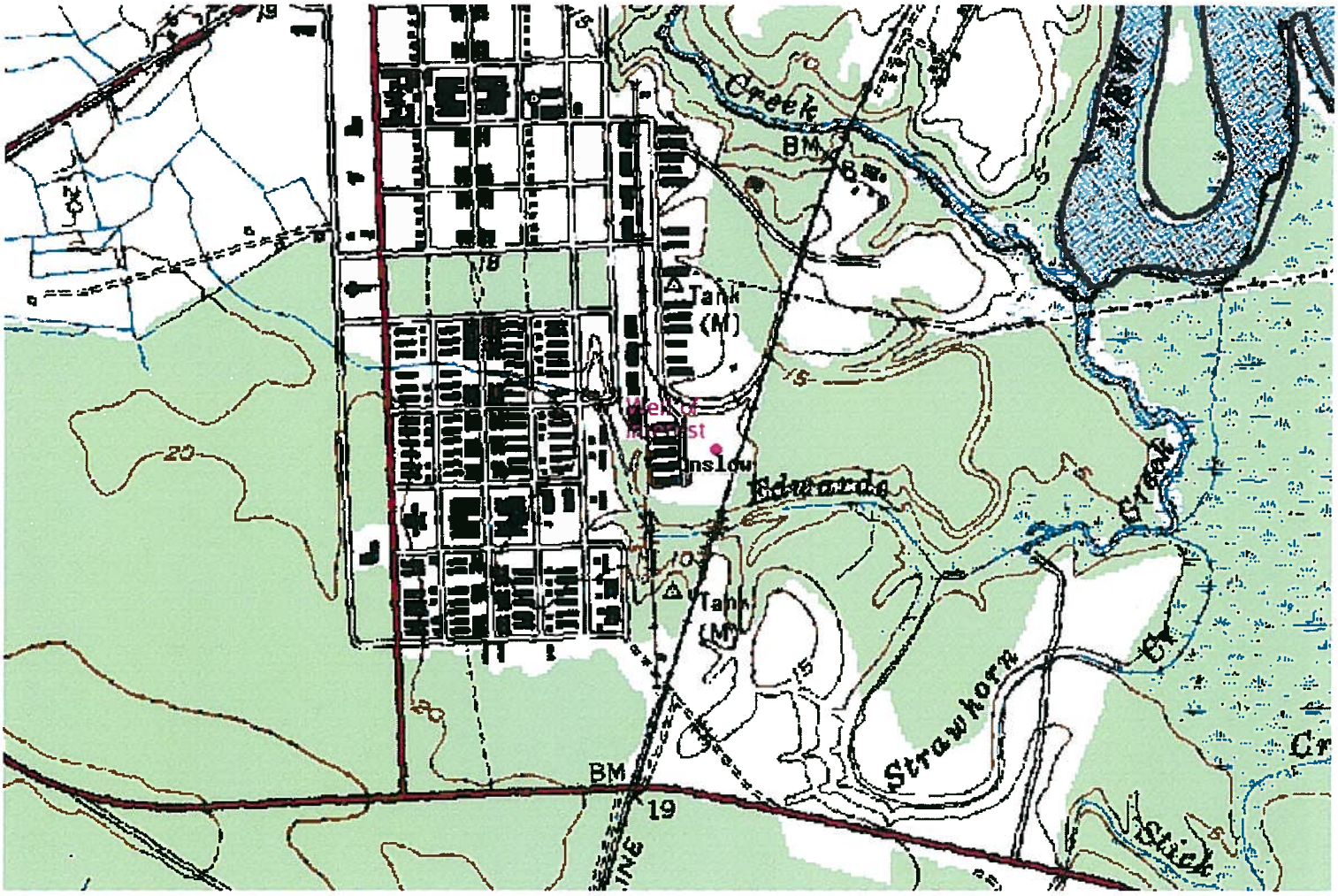
Borehole Hydrogeology



Calculated Cross-Section

North Carolina Department of Environment and Natural Resources

Division of Water Resources



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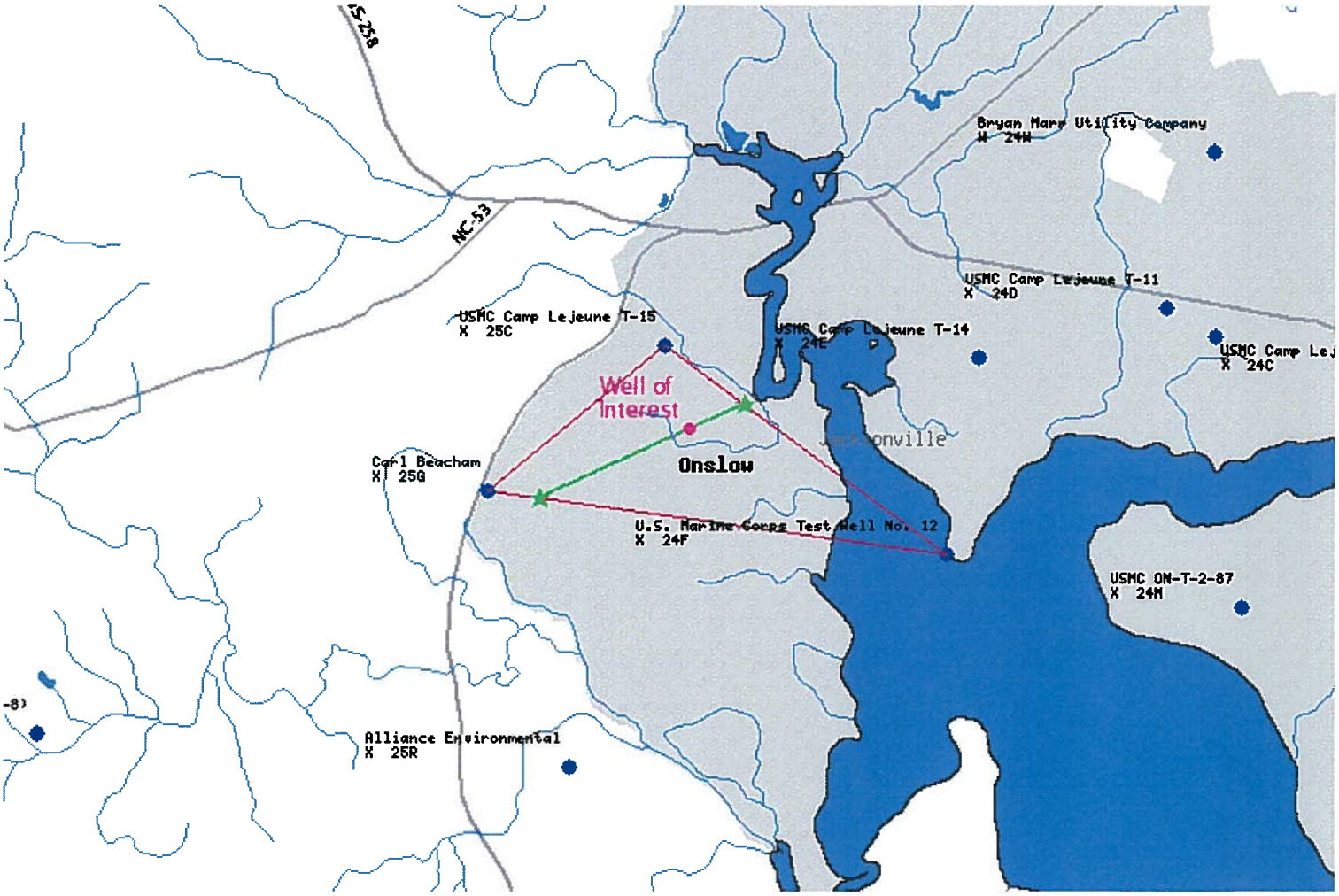
North Carolina Department of Environment and Natural Resources

Division of Water Resources



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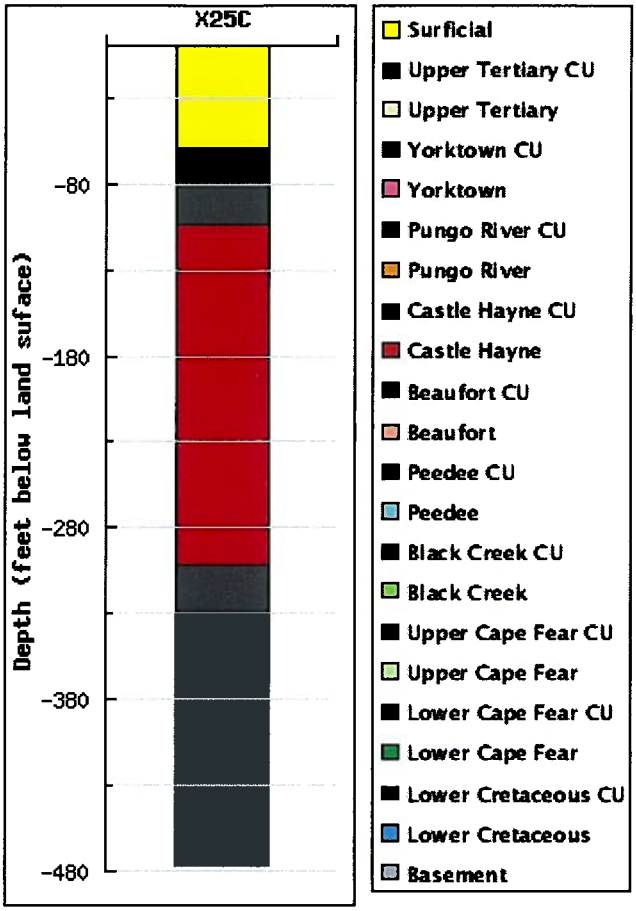
Last Modified: 03.25.2009

DWR Hydrogeologic Framework Detail for USMC Camp Lejeune T-15

Field	Data
County	Onslow
Latitude	34.740278
Longitude	-77.451944
Location Accuracy	Map Show Map
Quad	X 25C
Name link to logs	USMC Camp Lejeune T-15
Depth	477.00
Land Surface	15.00
Upper Tertiary CU	10001
Upper Tertiary	10001
Yorktown CU	10001
Yorktown	10001
Pungo River CU	10001
Pungo River	10001
Castle Hayne CU	-44
Castle Hayne	-89
Beaufort CU	10001
Beaufort	10001
Peedee CU	-287
Peedee	10003
Black Creek CU	10003
Black Creek	10003
Upper Cape Fear CU	10003
Upper Cape Fear	10003
Lower Cape Fear CU	10003
Lower Cape Fear	10003
Lower Cretaceous CU	10000
Lower Cretaceous	10000
Basement	10003

Unit top elevations are shown in table, depths are shown in plot



- 10002 - unit likely exists, but there is no data to pick elevation or correlation is uncertain;
- 10001 - unit does not exist;
- 10000 - unit does not exist and is not penetrated;
- 10003 - unit likely exists, but is not penetrated.

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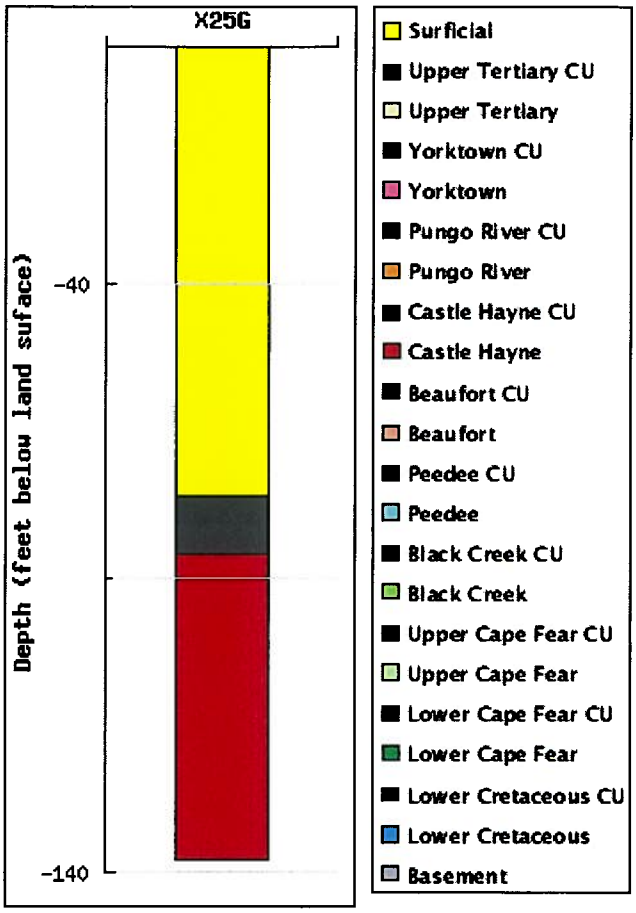
Last Modified: 11.14.2008

DWR Hydrogeologic Framework Detail for Carl Beacham

Field	Data
County	Onslow
Latitude	34.725000
Longitude	-77.475000
Location Accuracy	Map Show Map
Quad	X 25G
Name link to logs	Carl Beacham
Depth	138.00
Land Surface	27.00
Upper Tertiary CU	10001
Upper Tertiary	10001
Yorktown CU	10001
Yorktown	10001
Pungo River CU	10001
Pungo River	10001
Castle Hayne CU	-49
Castle Hayne	-59
Beaufort CU	10003
Beaufort	10003
Peedee CU	10003
Peedee	10003
Black Creek CU	10003
Black Creek	10003
Upper Cape Fear CU	10003
Upper Cape Fear	10003
Lower Cape Fear CU	10003
Lower Cape Fear	10003
Lower Cretaceous CU	10000
Lower Cretaceous	10000
Basement	10003

Unit top elevations are shown in table, depths are shown in plot



- 10002 - unit likely exists, but there is no data to pick elevation or correlation is uncertain;
- 10001 - unit does not exist;
- 10000 - unit does not exist and is not penetrated;
- 10003 - unit likely exists, but is not penetrated.

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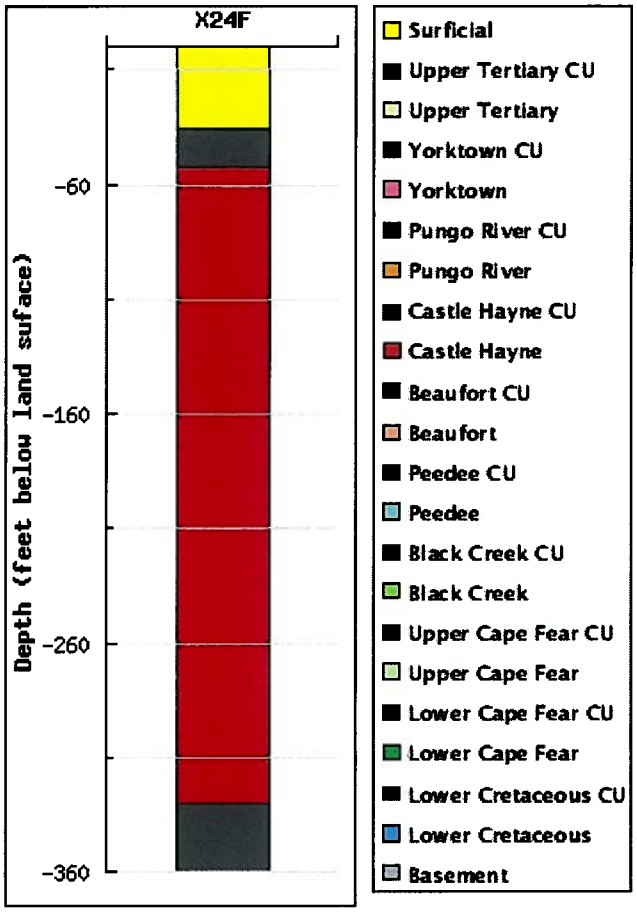
Last Modified: 11.14.2008

DWR Hydrogeologic Framework Database Detail for U.S. Marine Corps Test Well No. 12

Field	Data
County	Onslow
Latitude	34.717500
Longitude	-77.416111
Location Accuracy	Map Show Map
Quad	X 24F
Name link to logs	U.S. Marine Corps Test Well No. 12
Depth	360.00
Land Surface	6.00
Upper Tertiary CU	10001
Upper Tertiary	10001
Yorktown CU	10001
Yorktown	10001
Pungo River CU	10001
Pungo River	10001
Castle Hayne CU	-30
Castle Hayne	-46
Beaufort CU	10001
Beaufort	10001
Peedee CU	-324
Peedee	10003
Black Creek CU	10003
Black Creek	10003
Upper Cape Fear CU	10003
Upper Cape Fear	10003
Lower Cape Fear CU	10003
Lower Cape Fear	10003
Lower Cretaceous CU	10000
Lower Cretaceous	10000
Basement	10003

Unit top elevations are shown in table, depths are shown in plot



- 10002 - unit likely exists, but there is no data to pick elevation or correlation is uncertain;
- 10001 - unit does not exist;
- 10000 - unit does not exist and is not penetrated;
- 10003 - unit likely exists, but is not penetrated.

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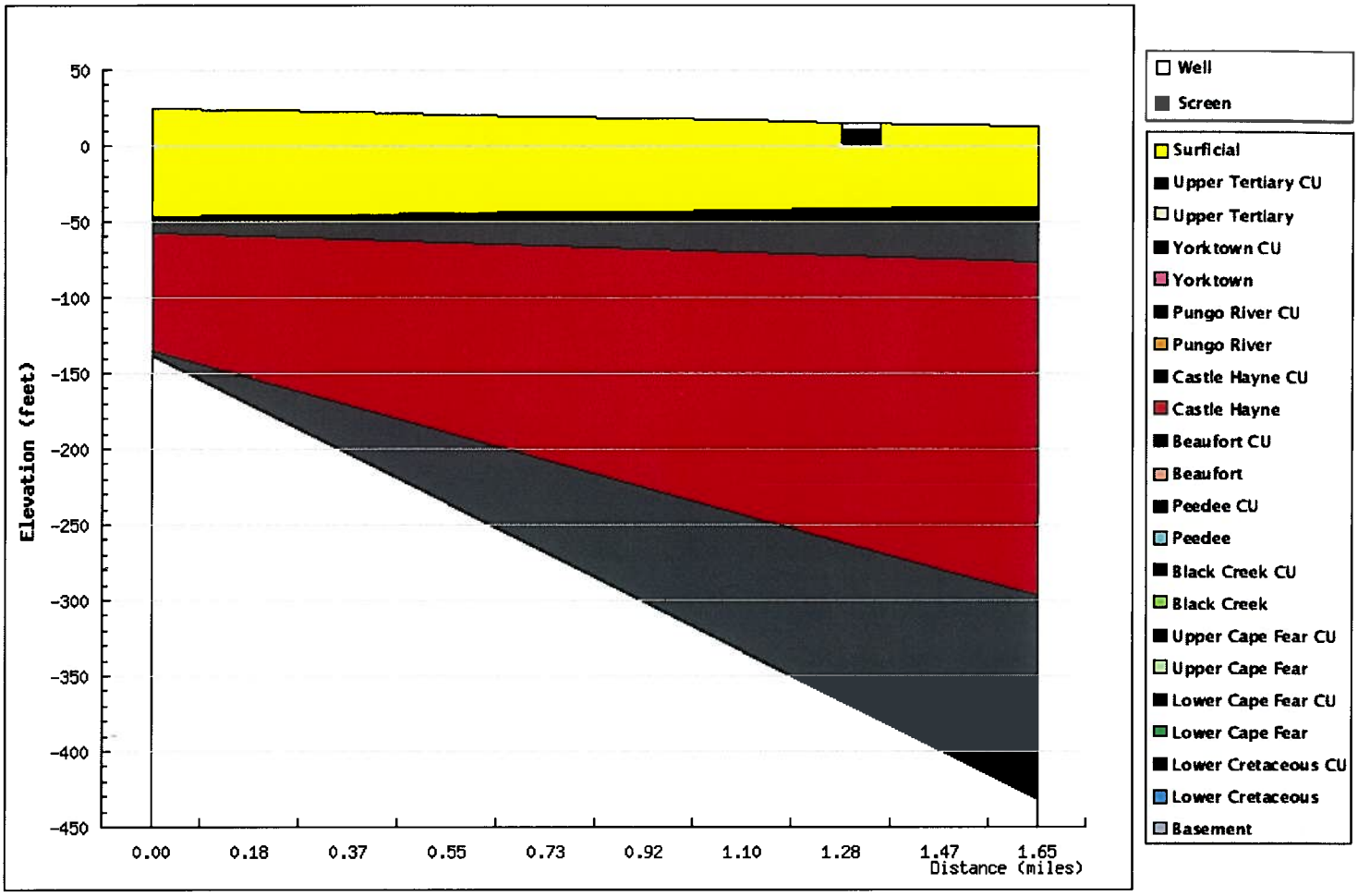
Last Modified: 11.14.2008



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Last Modified: 06.03.2009

APPENDIX B

MONITORING WELL AS-BUILT, AND NORTH CAROLINA WELL CONSTRUCTION RECORDS

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION #: 2869

1. WELL CONTRACTOR:

Bobbie D. Fowler
Well Contractor (Individual) Name

CATLIN Engineers and Scientists
Well Contractor Company Name

STREET ADDRESS 220 Old Dairy Road

Wilmington | North Carolina | 28405
City or Town | State | Zip Code

(910) - 452-5861
Area code - Phone number

2. WELL INFORMATION

SITE WELL ID #(if applicable): USTSTC868 -MW04
STATE WELL PERMIT #(if applicable): N/A
DWQ or OTHER PERMIT # (if applicable): N/A
WELL USE (Check Applicable Box): Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use): _____
DATE DRILLED: 06/29/2009
TIME COMPLETED: 17:00 **AM** ☐ **PM** ☒

3. WELL LOCATION:

CITY: Jacksonville COUNTY: Onslow
UST STC-868, MCB Camp Lejeune,
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING
Slope ☐ Valley ☐ Flat ☒ Ridge ☐ Other: _____

NORTHING: 3,845,988.3
EASTING: 275,772.0
UTM NAD83 (m)
May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topo. map
(Location of well must be shown on a USGS topo map and attached to this form if not using a GPS.)

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

FACILITY ID #(if applicable) N/A
NAME OF FACILITY: N/A
STREET ADDRESS: UST STC-868, MCB Camp Lejeune

Jacksonville | NC
City or Town | State | Zip Code

CONTACT PERSON: Mr. Thomas Burton
STREET ADDRESS: Attn: I&E/ EMD/ EQB/ PSC Box 20004

Camp Lejeune | NC | 28542-0004
City or Town | State | Zip Code

(910)- 451-5068
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 13
b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒
c. **WATER LEVEL Below Top of Casing:** 4.5 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118

e. **YIELD (gpm):** N/A **METHOD OF TEST:** N/A
f. **DISINFECTION: Type** N/A **Amount:** N/A
g. **WATER ZONES** (depth):
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____

6. CASING:

	Depth	Diameter	Thickness/ Weight	Material
From 0	To 3 ft.	2"	Sch. 40	PVC
From ____	To ____ ft.	"		
From ____	To ____ ft.	"		

7. GROUT:

	Depth	Material	Method
From 0	To 1 Ft.	Portland Cement	Surface Pour
From 1	To 2 Ft.	Bent. Pellets	Surface Pour
From ____	To ____ Ft.		

8. SCREEN:

	Depth	Diameter	Slot Size	Material
From 3	To 13 Ft.	2 in.	Slot .010in.	PVC
From ____	To ____ Ft.	____ in.	____ in.	
From ____	To ____ Ft.	____ in.	____ in.	

9. SAND/GRAVEL PACK:

	Depth	Size	Material
From 2	To 13 Ft.	#2 Medium	Torpedo Sand
From ____	To ____ Ft.		
From ____	To ____ Ft.		

10. DRILLING LOG

From	To	Formation Description
		SEE ATTACHED

11. REMARKS:

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

John Wood — 8-7-09
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

Bobbie D. Fowler
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

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

Modified from Form GW-1b Rev. 7/05

WELL LOG

CATLIN Engineers and Scientists
209-034 Wilmington, NC
SHEET 1 OF 1

PROJECT NO.: 209-034	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: UST STC-868		LOGGED BY: Steve Tyler	WELL ID: USTSTC868 -MW04
		DRILLER: Bobbie D. Fowler	
NORTHING: 3845988.3	EASTING: 275772.0	CREW: John Wood	
SYSTEM: UTM NAD83 (m)	BORING LOCATION: See map.		T.O.C. ELEV.:
DRILL MACHINE: Diedrich D-50	METHOD: HSA	0 HOUR DTW: 4.5	TOTAL DEPTH: 13.0
START DATE: 6/29/09	FINISH DATE: 6/29/09	24 HOUR DTW:	WELL DEPTH: 13.0

DEPTH	BLOW COUNT 6in 6in 6in 6in	OVA (ppm)	LAB.	MOIS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	WELL DETAIL
						0.0	LAND SURFACE	2.0 / 0.0
0.0				D		0.5	FILL. Limestone rip-rap	2" Sch. 40 PVC; 1.0
0.5				M			(SM) - Tan to olive SILTY SAND. Moist.	2.0; 3.0
4.0				W		4.0	(SM) - Olive, SILTY f. SAND. Wet at approximately 5' BLS. Old solvent odor.	2" Slot .010 Sch. 40 PVC
						13.0	Boring Terminated at Depth 13.0 ft in silty sand.	13.0 / 13.0

Portland Cement | Bentonite Pellets | #2 Medium Sand

CATLIN BORING LOG 209-034.005.UST STC-868.GPJ CATLIN.GDT 8/7/09

APPENDIX C

CATLIN STANDARD METHODS OF INVESTIGATION

1.0 DATA COLLECTION

1.1 BACKGROUND DATA

Background data and history information relevant to the site investigation is generated through numerous sources. These sources may include, but are not limited to, the following:

- Conversations with the client and regulatory officials involved with the incident.
- Review of pertinent regulatory correspondence.
- Review of previous and existing reports and other technical data.
- Review of available historical records.

1.2 SURVEYS AND POTENTIAL RECEPTOR DATA

Physical survey and potential receptor data are collected in accordance with the intended level of investigation. In general, the purpose is to collect sufficient information for site assessment and corrective action planning.

Individual receptors are identified and evaluated in the context of their potential for contaminant impact. Potential receptors of contamination can include surface water bodies, groundwater supply wells, wellhead protection areas, and subsurface building structures.

1.2.1 Horizontal Survey

Horizontal survey data are generated using either accepted general field surveying techniques, or existing survey maps; or by using a combination of existing data and field generated information. The survey area generally extends to a point at least 50 feet beyond suspected plume boundaries. A receptor scale survey of a larger area surrounding a site will be made if appropriate and necessary.

1.2.2 Vertical Survey

A vertical survey is conducted at the site typically within an accuracy of 0.01 foot. The datum plane is generally assumed unless otherwise noted. Assumed temporary benchmarks (TBM) are selected near ground level. The vertical survey includes such points as top of all well casings, selected ground shots, important utility inverts, utility fluid levels, important surface water levels, and other items determined to be significant.

1.3 DRILLING AND MONITORING WELL/PIEZOMETER INSTALLATION

Necessary permits are applied for and obtained in accordance with federal, state, and local requirements prior to drilling or well construction activities. Additionally, the well locations are scanned for underground utilities prior to conducting intrusive subsurface activities. Wells are installed under applicable licensing requirements, and are designed and constructed in accordance with accepted standards and practices. Any wells purposely installed at off-site locations are permitted through appropriate right-of-entry agreements with all necessary property owners and/or their agents.

1.3.1 Drilling Methods and Subsurface Data Collection

Drilling is accomplished utilizing one or more of the following methods:

Auger Drilling

Auger drilling is the preferred, most often used method of subsurface investigation and is accomplished using a vehicle or trailer mounted drill rig. Continuous flight auger types used vary upon the site and situation; ranging from the 4-inch outside diameter solid stem to the 12-inch outside diameter hollow stem. Auger type is selected based upon appropriateness and/or site-specific requirements.

Hand Augering

Hand augering is utilized when economically and scientifically feasible, or when no other method is suitable. Hand augers typically produce three-inch diameter holes and are generally limited to depths of less than 15 feet.

Direct Push

Direct push methods of subsurface investigation are used generally for soil screening purposes or collection of groundwater samples where permanent wells are not viable.

Other Methods

Other drilling methods, such as mud and air rotary, rock coring, cable tool, and large bucket augering are used when site conditions or project requirements dictate.

Regardless of the drilling method used, the drill rig(s) and all drilling tools are thoroughly cleaned between boreholes to prevent cross introduction of contaminants. Split spoon samples are collected and field-described at intervals of five feet or less, and cuttings are continuously monitored for organic vapors. Drill cuttings are containerized for off-site disposal or are spread on the ground surface in proximity to the well or boring in accordance with North Carolina Department of Environment and Natural Resources (NCDENR) requirements. A geologist or engineer, trained in using visual/manual techniques, is always present during drilling and is

responsible for subsurface contaminant and geologic data collection. Soils are classified in general agreement with the Unified Soils Classification System (USCS).

1.3.2 Hydropunch Installation

Hydropunch penetrometers (Hydropunches) are used to delineate the spatial extent of dissolved and free phase plumes. Soil borings are advanced to the appropriate depth and then the Hydropunch is advanced through the soil boring into undisturbed material. Groundwater samples are collected by pulling back on the body of the Hydropunch and allowing the groundwater to enter the screened portion of the sample chamber. Samples are retrieved using a decontaminated Teflon bailer or peristaltic pump.

1.3.3 Well Installation

Wells are typically constructed of threaded PVC casing and screen. No glues or cements are used in joining PVC components. Well diameter, slot sizes, and protective covers vary depending upon site-specific conditions or situation-specific requirements.

1.3.4 Well Development

Wells are developed by over-pumping or surging using appropriate pumps, blocks, or bailers. Through development, unwanted fine materials are removed from the natural formation surrounding the well. Well development will be performed no sooner than 24-hours after grouting is completed for the Type III wells. Water generated during development is containerized and properly disposed or is discharged onto the ground in proximity of the well in accordance with NCDENR requirements.

1.4 HYDROGEOLOGIC DATA COLLECTION

Data used to help characterize hydrogeologic conditions at a site are obtained through various procedures including, but not necessarily limited to, those described below:

1.4.1 Regional Geology

Information pertaining to the regional geologic framework is compiled from existing publications, maps, and scientific papers.

1.4.2 Site Geology

Shallow site geology is generally determined from field descriptions and borehole samples. Interpretations with regard to hydrogeologically important contacts, zones, fractures, faults, cleavage, and facies changes are made when possible.

1.4.3 Groundwater Occurrence and Characteristics

Groundwater data is obtained utilizing a number of methods and procedures, not limited to the general list below:

Well Water Levels

After well development, wells are allowed to stabilize for a minimum of 24 hours prior to measuring. Water level and free product thickness (where applicable) measurements are performed using an electronic interface probe or steel tape with water/product finding pastes.

The specific gravity of any accumulated product is determined and used to calculate true hydraulic grade from measured water levels. This information is combined with vertical survey data to determine relative potentiometric surface elevations for all wells.

Aquifer Testing

Various aquifer tests may be used to make determinations of hydraulic conductivity. Slug or pumping tests are often used to characterize site hydrogeologic conditions and to develop remedial action alternatives utilizing appropriate pumping technologies.

Other Methods

Other methods may be deemed appropriate for determining various groundwater characteristics. These other methods may include nested well configurations and/or clustered piezometer installations; sieve or pipette analysis; fracture trace analysis; computer modeling; and geophysical logging.

1.5 PETROLEUM HYDROCARBON DATA COLLECTION

1.5.1 Collection Methods

Petroleum hydrocarbon data is obtained through various methods including, but not limited to, the following:

Field Analysis

- Direct thickness measurement of phase separated components using tapes and/or probes.
- Manual vapor analysis using a photoionization detector (PID) or flame ionization detector (FID).
- Detectable odor and visual observation.

Laboratory Analysis

- Laboratory analysis of phase-separated products.

- Laboratory vapor, soil, and groundwater analysis using appropriate EPA Methods.

1.5.2 Field Sampling

Field sampling procedures are performed in accordance with recommended protocol, accepted industry standards, and under appropriate chain-of-custody procedures. Generally, sampling procedures are as follows:

Product Samples

Product samples are obtained using clean equipment and containers. Each is shipped to the analytical laboratory in protective containers.

Vapor Samples

PID/FID readings are measured from soil sample headspace using containerized samples that have been brought to ambient temperature.

Carbon tubes are utilized in conjunction with a laboratory-calibrated vacuum pump to obtain vapor samples. The carbon tubes are sealed and refrigerated for shipment to the analytical laboratory (This method is known as the Carbon Adsorption Method).

Soil Samples

Soil samples are immediately packed into clean containers, and refrigerated for shipment to the analytical laboratory.

Groundwater Samples

Groundwater samples are collected in accordance with the following procedures:

- Creeks/Lakes/Etc.

  Grab samples are obtained.

- Domestic Wells

  Wells are pumped for a time sufficient to completely purge the well and any pressure or holding tanks prior to sampling.

- Monitoring Wells

  Water level measurements are made and well volumes calculated for each well.

  Three well volumes are removed from each well using a thoroughly cleaned Teflon bailer or appropriate purging pump. If it is not possible to

remove three volumes, due to very low yields, a minimum of one volume is removed prior to obtaining a sample.

Where analysis for metals is required, wells are typically sampled utilizing low flow techniques, which reduce turbidity and the potential for matrix interference.

Samples are collected and containerized in a manner that minimizes agitation and contact with the air.

Sampling records are field prepared.

Samples are labeled and proper Chain-of-Custody documents are maintained.

Samples are promptly protectively packed, refrigerated, and shipped to the analytical laboratory for analysis.

2.0 DATA EVALUATION

Data obtained as a result of the site investigation is compiled and evaluated and a report is prepared for client review and distribution to the appropriate agencies. Generally, specific data are evaluated as follows:

- Background data are evaluated in context with the suspected or confirmed problem.
- Survey data are utilized to develop site maps and to evaluate contaminant receptors.
- Well construction records are compiled and presented as part of the report. As-built information is used in combination with other data to evaluate subsurface conditions and monitoring well screen settings as they relate to the investigation.
- Subsurface drilling logs are used to develop geologic cross-sections, fence diagrams, isopaths, structure contours, or other constructions. Regional geologic data are used to obtain an overall framework.
- Hydrogeologic data are used to develop contour maps, flow nets and other constructions. The data is also used to calculate various hydrogeologic parameters that describe aquifer characteristics.
- Hydrocarbon data are utilized to develop various plume geometry and isoconcentration maps.
- All data are compiled and utilized for making specific recommendations with regard to remedial action alternatives.

APPENDIX D

LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION

SGS

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

Report Number: G128-2395

Client Project: UST STC-868

Dear Shane Chasteen,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. 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 Barbara Hager 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 North America, Inc.

Barbara Hager July 8, 2009

Project Manager
Barbara Hager

Date

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

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

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.

MI34.021808.4

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA01
Client Project ID: UST STC-868
Lab Sample ID G128-2395-1B
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:00
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 6.61 g
%Solids: 86.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	0.0437	0.00604	1	7/2/2009	
Benzene	BQL	0.00437	0.00094	1	7/2/2009	
Bromobenzene	BQL	0.00437	0.00090	1	7/2/2009	
Bromochloromethane	BQL	0.00437	0.00150	1	7/2/2009	
Bromodichloromethane	BQL	0.00437	0.00087	1	7/2/2009	
Bromoform	BQL	0.00437	0.00087	1	7/2/2009	
Bromomethane	BQL	0.00437	0.00092	1	7/2/2009	
2-Butanone	BQL	0.0218	0.00474	1	7/2/2009	
n-Butylbenzene	BQL	0.00437	0.00083	1	7/2/2009	
sec-Butylbenzene	BQL	0.00437	0.00088	1	7/2/2009	
tert-Butylbenzene	BQL	0.00437	0.00098	1	7/2/2009	
Carbon disulfide	BQL	0.00437	0.00234	1	7/2/2009	
Carbon tetrachloride	BQL	0.00437	0.00089	1	7/2/2009	
Chlorobenzene	BQL	0.00437	0.00104	1	7/2/2009	
Chloroethane	BQL	0.00437	0.00139	1	7/2/2009	
Chloroform	BQL	0.00437	0.00105	1	7/2/2009	
Chloromethane	BQL	0.00437	0.00099	1	7/2/2009	
2-Chlorotoluene	BQL	0.00437	0.00088	1	7/2/2009	
4-Chlorotoluene	BQL	0.00437	0.00109	1	7/2/2009	
Dibromochloromethane	BQL	0.00437	0.00121	1	7/2/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0218	0.00127	1	7/2/2009	
Dibromomethane	BQL	0.00437	0.00132	1	7/2/2009	
1,2-Dibromoethane (EDB)	BQL	0.00437	0.00099	1	7/2/2009	
1,2-Dichlorobenzene	BQL	0.00437	0.00113	1	7/2/2009	
1,3-Dichlorobenzene	BQL	0.00437	0.00112	1	7/2/2009	
1,4-Dichlorobenzene	BQL	0.00437	0.00092	1	7/2/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0218	0.00121	1	7/2/2009	
1,1-Dichloroethane	BQL	0.00437	0.00093	1	7/2/2009	
1,1-Dichloroethene	BQL	0.00437	0.00129	1	7/2/2009	
1,2-Dichloroethane	BQL	0.00437	0.00115	1	7/2/2009	
cis-1,2-Dichloroethene	BQL	0.00437	0.00112	1	7/2/2009	
trans-1,2-dichloroethene	BQL	0.00437	0.00099	1	7/2/2009	
1,2-Dichloropropane	BQL	0.00437	0.00103	1	7/2/2009	
1,3-Dichloropropane	BQL	0.00437	0.00098	1	7/2/2009	
2,2-Dichloropropane	BQL	0.00437	0.00105	1	7/2/2009	
1,1-Dichloropropene	BQL	0.00437	0.00137	1	7/2/2009	
cis-1,3-Dichloropropene	BQL	0.00437	0.00073	1	7/2/2009	
trans-1,3-Dichloropropene	BQL	0.00437	0.00084	1	7/2/2009	
Dichlorodifluoromethane	BQL	0.00437	0.00115	1	7/2/2009	
Diisopropyl ether (DIPE)	BQL	0.00437	0.00099	1	7/2/2009	
Ethylbenzene	BQL	0.00437	0.00076	1	7/2/2009	
Hexachlorobutadiene	BQL	0.00437	0.00085	1	7/2/2009	
2-Hexanone	BQL	0.0109	0.00283	1	7/2/2009	
Iodomethane	BQL	0.00437	0.00094	1	7/2/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA01
Client Project ID: UST STC-868
Lab Sample ID G128-2395-1B
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:00
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 6.61 g
%Solids: 86.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00437	0.00078	1	7/2/2009	
4-Isopropyltoluene	BQL	0.00437	0.00094	1	7/2/2009	
Methylene chloride	**0.00150**	0.0175	0.00104	1	7/2/2009	J
4-Methyl-2-pentanone	BQL	0.0109	0.00404	1	7/2/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00437	0.00097	1	7/2/2009	
Naphthalene	BQL	0.00437	0.00074	1	7/2/2009	
n-Propyl benzene	BQL	0.00437	0.00110	1	7/2/2009	
Styrene	BQL	0.00437	0.00096	1	7/2/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00437	0.00089	1	7/2/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00437	0.00099	1	7/2/2009	
Tetrachloroethene	BQL	0.00437	0.00080	1	7/2/2009	
Toluene	BQL	0.00437	0.00087	1	7/2/2009	
1,2,3-Trichlorobenzene	BQL	0.00437	0.00091	1	7/2/2009	
1,2,4-Trichlorobenzene	BQL	0.00437	0.00090	1	7/2/2009	
Trichloroethene	**0.00494**	0.00437	0.00083	1	7/2/2009	
1,1,1-Trichloroethane	BQL	0.00437	0.00099	1	7/2/2009	
1,1,2-Trichloroethane	BQL	0.00437	0.00143	1	7/2/2009	
Trichlorofluoromethane	BQL	0.00437	0.00090	1	7/2/2009	
1,2,3-Trichloropropane	BQL	0.00437	0.00108	1	7/2/2009	
1,2,4-Trimethylbenzene	BQL	0.00437	0.00110	1	7/2/2009	
1,3,5-Trimethylbenzene	BQL	0.00437	0.00100	1	7/2/2009	
Vinyl chloride	BQL	0.00437	0.00119	1	7/2/2009	
m-,p-Xylene	BQL	0.00873	0.00168	1	7/2/2009	
o-Xylene	BQL	0.00437	0.00085	1	7/2/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0616	123
Toluene-d8	0.05	0.049	98
4-Bromofluorobenzene	0.05	0.0497	99

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA02
Client Project ID: UST STC-868
Lab Sample ID G128-2395-2A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:15
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 5.84 g
%Solids: 90.9

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	**0.0108**	0.0471	0.00651	1	7/2/2009	J
Benzene	BQL	0.00471	0.00101	1	7/2/2009	
Bromobenzene	BQL	0.00471	0.00097	1	7/2/2009	
Bromochloromethane	BQL	0.00471	0.00162	1	7/2/2009	
Bromodichloromethane	BQL	0.00471	0.00094	1	7/2/2009	
Bromoform	BQL	0.00471	0.00094	1	7/2/2009	
Bromomethane	BQL	0.00471	0.00099	1	7/2/2009	
2-Butanone	BQL	0.0236	0.00512	1	7/2/2009	
n-Butylbenzene	BQL	0.00471	0.00090	1	7/2/2009	
sec-Butylbenzene	BQL	0.00471	0.00095	1	7/2/2009	
tert-Butylbenzene	BQL	0.00471	0.00106	1	7/2/2009	
Carbon disulfide	BQL	0.00471	0.00252	1	7/2/2009	
Carbon tetrachloride	BQL	0.00471	0.00096	1	7/2/2009	
Chlorobenzene	BQL	0.00471	0.00112	1	7/2/2009	
Chloroethane	BQL	0.00471	0.00150	1	7/2/2009	
Chloroform	BQL	0.00471	0.00113	1	7/2/2009	
Chloromethane	BQL	0.00471	0.00106	1	7/2/2009	
2-Chlorotoluene	BQL	0.00471	0.00095	1	7/2/2009	
4-Chlorotoluene	BQL	0.00471	0.00118	1	7/2/2009	
Dibromochloromethane	BQL	0.00471	0.00130	1	7/2/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0236	0.00137	1	7/2/2009	
Dibromomethane	BQL	0.00471	0.00142	1	7/2/2009	
1,2-Dibromoethane (EDB)	BQL	0.00471	0.00106	1	7/2/2009	
1,2-Dichlorobenzene	BQL	0.00471	0.00122	1	7/2/2009	
1,3-Dichlorobenzene	BQL	0.00471	0.00121	1	7/2/2009	
1,4-Dichlorobenzene	BQL	0.00471	0.00099	1	7/2/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0236	0.00130	1	7/2/2009	
1,1-Dichloroethane	BQL	0.00471	0.00100	1	7/2/2009	
1,1-Dichloroethene	BQL	0.00471	0.00139	1	7/2/2009	
1,2-Dichloroethane	BQL	0.00471	0.00124	1	7/2/2009	
cis-1,2-Dichloroethene	BQL	0.00471	0.00121	1	7/2/2009	
trans-1,2-dichloroethene	BQL	0.00471	0.00106	1	7/2/2009	
1,2-Dichloropropane	BQL	0.00471	0.00111	1	7/2/2009	
1,3-Dichloropropane	BQL	0.00471	0.00106	1	7/2/2009	
2,2-Dichloropropane	BQL	0.00471	0.00113	1	7/2/2009	
1,1-Dichloropropene	BQL	0.00471	0.00148	1	7/2/2009	
cis-1,3-Dichloropropene	BQL	0.00471	0.00079	1	7/2/2009	
trans-1,3-Dichloropropene	BQL	0.00471	0.00091	1	7/2/2009	
Dichlorodifluoromethane	BQL	0.00471	0.00124	1	7/2/2009	
Diisopropyl ether (DIPE)	BQL	0.00471	0.00106	1	7/2/2009	
Ethylbenzene	BQL	0.00471	0.00082	1	7/2/2009	
Hexachlorobutadiene	BQL	0.00471	0.00092	1	7/2/2009	
2-Hexanone	BQL	0.0118	0.00305	1	7/2/2009	
Iodomethane	BQL	0.00471	0.00102	1	7/2/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA02
Client Project ID: UST STC-868
Lab Sample ID G128-2395-2A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:15
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 5.84 g
%Solids: 90.9

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00471	0.00084	1	7/2/2009	
4-Isopropyltoluene	BQL	0.00471	0.00101	1	7/2/2009	
Methylene chloride	**0.00120**	0.0188	0.00112	1	7/2/2009	J
4-Methyl-2-pentanone	BQL	0.0118	0.00436	1	7/2/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00471	0.00105	1	7/2/2009	
Naphthalene	BQL	0.00471	0.00080	1	7/2/2009	
n-Propyl benzene	BQL	0.00471	0.00119	1	7/2/2009	
Styrene	BQL	0.00471	0.00104	1	7/2/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00471	0.00096	1	7/2/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00471	0.00106	1	7/2/2009	
Tetrachloroethene	BQL	0.00471	0.00086	1	7/2/2009	
Toluene	BQL	0.00471	0.00094	1	7/2/2009	
1,2,3-Trichlorobenzene	BQL	0.00471	0.00098	1	7/2/2009	
1,2,4-Trichlorobenzene	BQL	0.00471	0.00097	1	7/2/2009	
Trichloroethene	BQL	0.00471	0.00090	1	7/2/2009	
1,1,1-Trichloroethane	BQL	0.00471	0.00106	1	7/2/2009	
1,1,2-Trichloroethane	BQL	0.00471	0.00155	1	7/2/2009	
Trichlorofluoromethane	BQL	0.00471	0.00097	1	7/2/2009	
1,2,3-Trichloropropane	BQL	0.00471	0.00117	1	7/2/2009	
1,2,4-Trimethylbenzene	BQL	0.00471	0.00119	1	7/2/2009	
1,3,5-Trimethylbenzene	BQL	0.00471	0.00107	1	7/2/2009	
Vinyl chloride	BQL	0.00471	0.00128	1	7/2/2009	
m-,p-Xylene	BQL	0.00942	0.00181	1	7/2/2009	
o-Xylene	BQL	0.00471	0.00091	1	7/2/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0636	127
Toluene-d8	0.05	0.0508	102
4-Bromofluorobenzene	0.05	0.05	100

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____ Reviewed By: _____

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA03
Client Project ID: UST STC-868
Lab Sample ID G128-2395-3A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:30
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 6.19 g
%Solids: 89.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	**0.0101**	0.0453	0.00626	1	7/2/2009	J
Benzene	BQL	0.00453	0.00097	1	7/2/2009	
Bromobenzene	BQL	0.00453	0.00093	1	7/2/2009	
Bromochloromethane	BQL	0.00453	0.00156	1	7/2/2009	
Bromodichloromethane	BQL	0.00453	0.00090	1	7/2/2009	
Bromoform	BQL	0.00453	0.00091	1	7/2/2009	
Bromomethane	BQL	0.00453	0.00095	1	7/2/2009	
2-Butanone	BQL	0.0227	0.00492	1	7/2/2009	
n-Butylbenzene	BQL	0.00453	0.00087	1	7/2/2009	
sec-Butylbenzene	BQL	0.00453	0.00092	1	7/2/2009	
tert-Butylbenzene	BQL	0.00453	0.00101	1	7/2/2009	
Carbon disulfide	BQL	0.00453	0.00243	1	7/2/2009	
Carbon tetrachloride	BQL	0.00453	0.00092	1	7/2/2009	
Chlorobenzene	BQL	0.00453	0.00108	1	7/2/2009	
Chloroethane	BQL	0.00453	0.00144	1	7/2/2009	
Chloroform	BQL	0.00453	0.00109	1	7/2/2009	
Chloromethane	BQL	0.00453	0.00102	1	7/2/2009	
2-Chlorotoluene	BQL	0.00453	0.00092	1	7/2/2009	
4-Chlorotoluene	BQL	0.00453	0.00113	1	7/2/2009	
Dibromochloromethane	BQL	0.00453	0.00125	1	7/2/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0227	0.00131	1	7/2/2009	
Dibromomethane	BQL	0.00453	0.00137	1	7/2/2009	
1,2-Dibromoethane (EDB)	BQL	0.00453	0.00102	1	7/2/2009	
1,2-Dichlorobenzene	BQL	0.00453	0.00117	1	7/2/2009	
1,3-Dichlorobenzene	BQL	0.00453	0.00116	1	7/2/2009	
1,4-Dichlorobenzene	BQL	0.00453	0.00095	1	7/2/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0227	0.00125	1	7/2/2009	
1,1-Dichloroethane	BQL	0.00453	0.00096	1	7/2/2009	
1,1-Dichloroethene	BQL	0.00453	0.00134	1	7/2/2009	
1,2-Dichloroethane	BQL	0.00453	0.00120	1	7/2/2009	
cis-1,2-Dichloroethene	**0.00362**	0.00453	0.00116	1	7/2/2009	J
trans-1,2-dichloroethene	**0.00396**	0.00453	0.00102	1	7/2/2009	J
1,2-Dichloropropane	BQL	0.00453	0.00107	1	7/2/2009	
1,3-Dichloropropane	BQL	0.00453	0.00101	1	7/2/2009	
2,2-Dichloropropane	BQL	0.00453	0.00109	1	7/2/2009	
1,1-Dichloropropene	BQL	0.00453	0.00142	1	7/2/2009	
cis-1,3-Dichloropropene	BQL	0.00453	0.00076	1	7/2/2009	
trans-1,3-Dichloropropene	BQL	0.00453	0.00087	1	7/2/2009	
Dichlorodifluoromethane	BQL	0.00453	0.00120	1	7/2/2009	
Diisopropyl ether (DIPE)	BQL	0.00453	0.00102	1	7/2/2009	
Ethylbenzene	BQL	0.00453	0.00079	1	7/2/2009	
Hexachlorobutadiene	BQL	0.00453	0.00088	1	7/2/2009	
2-Hexanone	BQL	0.0113	0.00294	1	7/2/2009	
Iodomethane	BQL	0.00453	0.00098	1	7/2/2009	

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA03
Client Project ID: UST STC-868
Lab Sample ID G128-2395-3A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:30
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 6.19 g
%Solids: 89.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00453	0.00081	1	7/2/2009	
4-Isopropyltoluene	BQL	0.00453	0.00097	1	7/2/2009	
Methylene chloride	**0.00121**	0.0181	0.00108	1	7/2/2009	J
4-Methyl-2-pentanone	BQL	0.0113	0.00420	1	7/2/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00453	0.00101	1	7/2/2009	
Naphthalene	BQL	0.00453	0.00077	1	7/2/2009	
n-Propyl benzene	BQL	0.00453	0.00114	1	7/2/2009	
Styrene	BQL	0.00453	0.00100	1	7/2/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00453	0.00092	1	7/2/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00453	0.00102	1	7/2/2009	
Tetrachloroethene	**0.00367**	0.00453	0.00083	1	7/2/2009	J
Toluene	BQL	0.00453	0.00090	1	7/2/2009	
1,2,3-Trichlorobenzene	BQL	0.00453	0.00094	1	7/2/2009	
1,2,4-Trichlorobenzene	BQL	0.00453	0.00093	1	7/2/2009	
Trichloroethene	**0.0365**	0.00453	0.00087	1	7/2/2009	
1,1,1-Trichloroethane	BQL	0.00453	0.00102	1	7/2/2009	
1,1,2-Trichloroethane	BQL	0.00453	0.00149	1	7/2/2009	
Trichlorofluoromethane	BQL	0.00453	0.00093	1	7/2/2009	
1,2,3-Trichloropropane	BQL	0.00453	0.00112	1	7/2/2009	
1,2,4-Trimethylbenzene	BQL	0.00453	0.00114	1	7/2/2009	
1,3,5-Trimethylbenzene	BQL	0.00453	0.00103	1	7/2/2009	
Vinyl chloride	BQL	0.00453	0.00123	1	7/2/2009	
m-,p-Xylene	BQL	0.00906	0.00174	1	7/2/2009	
o-Xylene	BQL	0.00453	0.00088	1	7/2/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0632	126
Toluene-d8	0.05	0.0496	99
4-Bromofluorobenzene	0.05	0.0491	98

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA04
Client Project ID: UST STC-868
Lab Sample ID G128-2395-4A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:45
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 5.63 g
%Solids: 92.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	0.0482	0.00666	1	7/2/2009	
Benzene	BQL	0.00482	0.00103	1	7/2/2009	
Bromobenzene	BQL	0.00482	0.00099	1	7/2/2009	
Bromochloromethane	BQL	0.00482	0.00166	1	7/2/2009	
Bromodichloromethane	BQL	0.00482	0.00096	1	7/2/2009	
Bromoform	BQL	0.00482	0.00096	1	7/2/2009	
Bromomethane	BQL	0.00482	0.00101	1	7/2/2009	
2-Butanone	BQL	0.0241	0.00523	1	7/2/2009	
n-Butylbenzene	BQL	0.00482	0.00092	1	7/2/2009	
sec-Butylbenzene	BQL	0.00482	0.00097	1	7/2/2009	
tert-Butylbenzene	BQL	0.00482	0.00108	1	7/2/2009	
Carbon disulfide	BQL	0.00482	0.00258	1	7/2/2009	
Carbon tetrachloride	BQL	0.00482	0.00098	1	7/2/2009	
Chlorobenzene	BQL	0.00482	0.00115	1	7/2/2009	
Chloroethane	BQL	0.00482	0.00153	1	7/2/2009	
Chloroform	BQL	0.00482	0.00116	1	7/2/2009	
Chloromethane	BQL	0.00482	0.00109	1	7/2/2009	
2-Chlorotoluene	BQL	0.00482	0.00097	1	7/2/2009	
4-Chlorotoluene	BQL	0.00482	0.00120	1	7/2/2009	
Dibromochloromethane	BQL	0.00482	0.00133	1	7/2/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0241	0.00140	1	7/2/2009	
Dibromomethane	BQL	0.00482	0.00145	1	7/2/2009	
1,2-Dibromoethane (EDB)	BQL	0.00482	0.00109	1	7/2/2009	
1,2-Dichlorobenzene	BQL	0.00482	0.00124	1	7/2/2009	
1,3-Dichlorobenzene	BQL	0.00482	0.00123	1	7/2/2009	
1,4-Dichlorobenzene	BQL	0.00482	0.00101	1	7/2/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0241	0.00133	1	7/2/2009	
1,1-Dichloroethane	BQL	0.00482	0.00102	1	7/2/2009	
1,1-Dichloroethene	BQL	0.00482	0.00143	1	7/2/2009	
1,2-Dichloroethane	BQL	0.00482	0.00127	1	7/2/2009	
cis-1,2-Dichloroethene	BQL	0.00482	0.00123	1	7/2/2009	
trans-1,2-dichloroethene	BQL	0.00482	0.00109	1	7/2/2009	
1,2-Dichloropropane	BQL	0.00482	0.00114	1	7/2/2009	
1,3-Dichloropropane	BQL	0.00482	0.00108	1	7/2/2009	
2,2-Dichloropropane	BQL	0.00482	0.00116	1	7/2/2009	
1,1-Dichloropropene	BQL	0.00482	0.00151	1	7/2/2009	
cis-1,3-Dichloropropene	BQL	0.00482	0.00080	1	7/2/2009	
trans-1,3-Dichloropropene	BQL	0.00482	0.00093	1	7/2/2009	
Dichlorodifluoromethane	BQL	0.00482	0.00127	1	7/2/2009	
Diisopropyl ether (DIPE)	BQL	0.00482	0.00109	1	7/2/2009	
Ethylbenzene	BQL	0.00482	0.00083	1	7/2/2009	
Hexachlorobutadiene	BQL	0.00482	0.00094	1	7/2/2009	
2-Hexanone	BQL	0.0120	0.00312	1	7/2/2009	
Iodomethane	BQL	0.00482	0.00104	1	7/2/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTSTC868-HA04
Client Project ID: UST STC-868
Lab Sample ID G128-2395-4A
Lab Project ID: G128-2395
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 06-26-2009 12:45
Date Received: 6/26/2009
Matrix: Soil
Sample Amount: 5.63 g
%Solids: 92.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00482	0.00086	1	7/2/2009	
4-Isopropyltoluene	BQL	0.00482	0.00103	1	7/2/2009	
Methylene chloride	**0.00201**	0.0193	0.00115	1	7/2/2009	J
4-Methyl-2-pentanone	BQL	0.0120	0.00446	1	7/2/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00482	0.00107	1	7/2/2009	
Naphthalene	BQL	0.00482	0.00082	1	7/2/2009	
n-Propyl benzene	BQL	0.00482	0.00121	1	7/2/2009	
Styrene	BQL	0.00482	0.00106	1	7/2/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00482	0.00098	1	7/2/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00482	0.00109	1	7/2/2009	
Tetrachloroethene	BQL	0.00482	0.00088	1	7/2/2009	
Toluene	BQL	0.00482	0.00096	1	7/2/2009	
1,2,3-Trichlorobenzene	BQL	0.00482	0.00100	1	7/2/2009	
1,2,4-Trichlorobenzene	BQL	0.00482	0.00099	1	7/2/2009	
Trichloroethene	BQL	0.00482	0.00092	1	7/2/2009	
1,1,1-Trichloroethane	BQL	0.00482	0.00109	1	7/2/2009	
1,1,2-Trichloroethane	BQL	0.00482	0.00158	1	7/2/2009	
Trichlorofluoromethane	BQL	0.00482	0.00099	1	7/2/2009	
1,2,3-Trichloropropane	BQL	0.00482	0.00119	1	7/2/2009	
1,2,4-Trimethylbenzene	BQL	0.00482	0.00121	1	7/2/2009	
1,3,5-Trimethylbenzene	BQL	0.00482	0.00110	1	7/2/2009	
Vinyl chloride	BQL	0.00482	0.00131	1	7/2/2009	
m-,p-Xylene	BQL	0.00963	0.00185	1	7/2/2009	
o-Xylene	BQL	0.00482	0.00093	1	7/2/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0649	130
Toluene-d8	0.05	0.0484	97
4-Bromofluorobenzene	0.05	0.0496	99

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____ Reviewed By: _____

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9070209B
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	7/2/2009	
Benzene	BQL	5.00	1.07	1	7/2/2009	
Bromobenzene	BQL	5.00	1.03	1	7/2/2009	
Bromochloromethane	BQL	5.00	1.72	1	7/2/2009	
Bromodichloromethane	BQL	5.00	0.992	1	7/2/2009	
Bromoform	BQL	5.00	1.00	1	7/2/2009	
Bromomethane	BQL	5.00	1.05	1	7/2/2009	
2-Butanone	BQL	25.0	5.43	1	7/2/2009	
n-Butylbenzene	BQL	5.00	0.955	1	7/2/2009	
sec-Butylbenzene	BQL	5.00	1.01	1	7/2/2009	
tert-Butylbenzene	BQL	5.00	1.12	1	7/2/2009	
Carbon disulfide	BQL	5.00	2.68	1	7/2/2009	
Carbon tetrachloride	BQL	5.00	1.02	1	7/2/2009	
Chlorobenzene	BQL	5.00	1.19	1	7/2/2009	
Chloroethane	BQL	5.00	1.59	1	7/2/2009	
Chloroform	BQL	5.00	1.20	1	7/2/2009	
Chloromethane	BQL	5.00	1.13	1	7/2/2009	
2-Chlorotoluene	BQL	5.00	1.01	1	7/2/2009	
4-Chlorotoluene	BQL	5.00	1.25	1	7/2/2009	
Dibromochloromethane	BQL	5.00	1.38	1	7/2/2009	
1,2-Dibromo-3-chloropropane	BQL	25.0	1.45	1	7/2/2009	
Dibromomethane	BQL	5.00	1.51	1	7/2/2009	
1,2-Dibromoethane (EDB)	BQL	5.00	1.13	1	7/2/2009	
1,2-Dichlorobenzene	BQL	5.00	1.29	1	7/2/2009	
1,3-Dichlorobenzene	BQL	5.00	1.28	1	7/2/2009	
1,4-Dichlorobenzene	BQL	5.00	1.05	1	7/2/2009	
trans-1,4-Dichloro-2-butene	BQL	25.0	1.38	1	7/2/2009	
1,1-Dichloroethane	BQL	5.00	1.06	1	7/2/2009	
1,1-Dichloroethene	BQL	5.00	1.48	1	7/2/2009	
1,2-Dichloroethane	BQL	5.00	1.32	1	7/2/2009	
cis-1,2-Dichloroethene	BQL	5.00	1.28	1	7/2/2009	
trans-1,2-dichloroethene	BQL	5.00	1.13	1	7/2/2009	
1,2-Dichloropropane	BQL	5.00	1.18	1	7/2/2009	
1,3-Dichloropropane	BQL	5.00	1.12	1	7/2/2009	
2,2-Dichloropropane	BQL	5.00	1.20	1	7/2/2009	
1,1-Dichloropropene	BQL	5.00	1.57	1	7/2/2009	
cis-1,3-Dichloropropene	BQL	5.00	0.833	1	7/2/2009	
trans-1,3-Dichloropropene	BQL	5.00	0.963	1	7/2/2009	
Dichlorodifluoromethane	BQL	5.00	1.32	1	7/2/2009	
Diisopropyl ether (DIPE)	BQL	5.00	1.13	1	7/2/2009	
Ethylbenzene	BQL	5.00	0.866	1	7/2/2009	
Hexachlorobutadiene	BQL	5.00	0.975	1	7/2/2009	
2-Hexanone	BQL	12.5	3.24	1	7/2/2009	
Iodomethane	BQL	5.00	1.08	1	7/2/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9070209B
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	7/2/2009	
4-Isopropyltoluene	BQL	5.00	1.07	1	7/2/2009	
Methylene chloride	BQL	20.0	1.19	1	7/2/2009	
4-Methyl-2-pentanone	BQL	12.5	4.63	1	7/2/2009	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1.11	1	7/2/2009	
Naphthalene	BQL	5.00	0.850	1	7/2/2009	
n-Propyl benzene	BQL	5.00	1.26	1	7/2/2009	
Styrene	BQL	5.00	1.10	1	7/2/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	1.02	1	7/2/2009	
1,1,2,2-Tetrachloroethane	BQL	5.00	1.13	1	7/2/2009	
Tetrachloroethene	BQL	5.00	0.916	1	7/2/2009	
Toluene	BQL	5.00	0.997	1	7/2/2009	
1,2,3-Trichlorobenzene	BQL	5.00	1.04	1	7/2/2009	
1,2,4-Trichlorobenzene	BQL	5.00	1.03	1	7/2/2009	
Trichloroethene	BQL	5.00	0.954	1	7/2/2009	
1,1,1-Trichloroethane	BQL	5.00	1.13	1	7/2/2009	
1,1,2-Trichloroethane	BQL	5.00	1.64	1	7/2/2009	
Trichlorofluoromethane	BQL	5.00	1.03	1	7/2/2009	
1,2,3-Trichloropropane	BQL	5.00	1.24	1	7/2/2009	
1,2,4-Trimethylbenzene	BQL	5.00	1.26	1	7/2/2009	
1,3,5-Trimethylbenzene	BQL	5.00	1.14	1	7/2/2009	
Vinyl chloride	BQL	5.00	1.36	1	7/2/2009	
m-,p-Xylene	BQL	10.0	1.92	1	7/2/2009	
o-Xylene	BQL	5.00	0.969	1	7/2/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	53.8	108
Toluene-d8	50	48.9	98
4-Bromofluorobenzene	50	51.3	103

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: DVO

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Dilution: 1

Lab Code: NC00919 — Matrix: Soil

LCS: LCS9070209A — Filename: 0702903.D — Date Analyzed: 07/02/09 10:18

LCSD: LCS9070209B — Filename: 0702904.D — Date Analyzed: 07/02/09 10:45

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
acetone	75.0	44.5	59.3	75.0	42.3	56.4	5.00	30	16.7-286
acrolein	300	401	134	300	397	132	1.03	30	16.7-226
acrylonitrile	300	285	94.9	300	304	101	6.67	30	13.3-201
benzene	30.0	27.4	91.3	30.0	26.5	88.4	3.23	30	68.6-132
bromobenzene	30.0	35.2	117	30.0	35.2	117	0.170	30	56.7-146
bromochloromethane	30.0	28.2	94.2	30.0	27.6	92.1	2.18	30	52.5-154
bromodichloromethane	30.0	30.7	102	30.0	31.6	105	3.02	30	65.4-137
bromoform	30.0	39.9	133	30.0	42.4	141	6.03	30	48.3-147
bromomethane	30.0	24.2	80.8	30.0	21.3	71.0	12.9	30	16.7-246
2-butanone	75.0	56.6	75.5	75.0	58.7	78.2	3.49	30	16.7-314
n-butylbenzene	30.0	30.7	102	30.0	29.6	98.7	3.74	30	58.4-135
sec-butylbenzene	30.0	30.1	100	30.0	29.6	98.6	1.71	30	57.2-136
tert-butylbenzene	30.0	31.9	106	30.0	31.1	104	2.54	30	50.8-139
Carbon disulfide	30.0	25.8	86.0	30.0	23.9	79.6	7.81	30	16.7-276
carbon tetrachloride	30.0	31.9	106	30.0	29.3	97.8	8.52	30	61.1-141
chlorobenzene	30.0	32.0	106	30.0	32.4	108	1.87	30	63.0-129
chloroethane	30.0	20.6	68.6	30.0	20.0	66.8	2.66	30	22.5-200
2-chloroethyl vinyl ether	300	306	102	300	329	110	7.10	30	16.7-275
chloroform	30.0	27.6	92.2	30.0	25.2	84.0	9.31	30	65.0-137
chloromethane	30.0	27.5	91.7	30.0	28.6	95.3	3.85	30	16.7-182
2-chlorotoluene	30.0	29.8	99.2	30.0	29.4	97.9	1.32	30	61.1-138
4-chlorotoluene	30.0	29.6	98.8	30.0	29.5	98.4	0.439	30	63.8-134
dibromochloromethane	30.0	35.7	119	30.0	37.1	124	3.62	30	56.0-144
1,2-dibromo-3-chloropropane	150	153	102	150	162	108	5.52	30	16.7-213
1,2-dibromoethane	30.0	33.1	110	30.0	34.9	116	5.26	30	58.8-139
dibromomethane	30.0	29.2	97.5	30.0	31.5	105	7.56	30	54.1-154
1,2-dichlorobenzene	30.0	31.3	104	30.0	31.3	104	0.0958	30	61.5-138
1,3-dichlorobenzene	30.0	31.2	104	30.0	31.4	104	0.319	30	61.5-138
1,4-dichlorobenzene	30.0	31.9	106	30.0	31.8	106	0.283	30	61.1-138
trans-1,4-Dichloro-2-butene	150	158	105	150	166	111	5.07	30	16.7-212
dichlorodifluoromethane	30.0	27.3	91.0	30.0	27.3	91.1	0.110	30	25.4-165
1,1-dichloroethane	30.0	25.7	85.6	30.0	22.7	75.5	12.4	30	62.4-140
1,2-dichloroethane	30.0	28.3	94.5	30.0	27.7	92.4	2.25	30	55.3-152
1,1-dichloroethene	30.0	25.4	84.8	30.0	21.7	72.3	15.9	30	65.4-134
cis-1,2-dichloroethene	30.0	27.4	91.4	30.0	25.3	84.5	7.85	30	63.8-138
trans-1,2-dichloroethene	30.0	26.5	88.5	30.0	22.7	75.7	15.5	30	63.3-139
1,2-dichloropropane	30.0	27.4	91.4	30.0	27.4	91.4	0.0365	30	60.0-139
1,3-dichloropropane	30.0	30.2	101	30.0	31.4	105	3.90	30	62.3-136
2,2-dichloropropane	30.0	28.6	95.2	30.0	25.0	83.2	13.5	30	62.5-140
1,1-dichloropropene	30.0	27.8	92.8	30.0	25.7	85.7	7.99	30	60.9-136
cis-1,3-dichloropropene	30.0	28.1	93.8	30.0	30.1	100	6.60	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: LCS9070209A — ilename: 0702903.D — Date Analyzed: 07/02/09 10:18

LCSD: LCS9070209B — ilename: 0702904.D — Date Analyzed: 07/02/09 10:45

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	30.0	29.1	97.0	30.0	32.0	107	9.62	30	7.27-173
Diisopropyl ether	30.0	27.7	92.2	30.0	26.5	88.3	4.32	30	9.01-172
ethylbenzene	30.0	29.3	97.7	30.0	28.9	96.4	1.34	30	16.7-187
hexachlorobutadiene	30.0	39.0	130	30.0	38.6	129	0.876	30	16.7-173
2-hexanone	75.0	68.7	91.6	75.0	72.5	96.6	5.31	30	16.7-304
Iodomethane	30.0	26.2	87.4	30.0	22.0	73.5	17.2	30	16.7-200
isopropylbenzene	30.0	30.2	101	30.0	29.9	99.7	1.03	30	6.43-167
4-isopropyltoluene	30.0	31.8	106	30.0	30.7	102	3.30	30	6.97-170
Methyl-tert-butyl ether	30.0	29.2	97.2	30.0	26.7	88.9	8.96	30	10.7-173
methylene chloride	30.0	27.8	92.7	30.0	27.0	89.9	3.07	30	8.58-169
4-methyl-2-pentanone	75.0	75.8	101	75.0	87.0	116	13.8	30	16.7-293
naphthalene	30.0	37.0	123	30.0	37.7	126	1.74	30	16.7-175
n-propyl benzene	30.0	28.8	95.9	30.0	28.3	94.3	1.68	30	7.25-172
styrene	30.0	29.9	99.8	30.0	30.0	99.8	0.0334	30	10.2-168
1,1,1,2-tetrachloroethane	30.0	34.6	115	30.0	35.0	116	1.04	30	5.87-177
1,1,2,2-tetrachloroethane	30.0	32.6	109	30.0	34.7	116	6.18	30	10.9-168
tetrachloroethene	30.0	35.5	118	30.0	35.6	119	0.310	30	16.7-195
toluene	30.0	29.1	97.1	30.0	30.6	102	4.92	30	26.6-159
1,2,3-trichlorobenzene	30.0	38.4	128	30.0	38.5	128	0.338	30	4.64-169
1,2,4-trichlorobenzene	30.0	37.4	124	30.0	37.0	124	0.860	30	6.55-165
1,1,1-trichloroethane	30.0	30.0	100	30.0	27.0	90.2	10.4	30	8.40-173
1,1,2-trichloroethane	30.0	31.1	104	30.0	32.5	108	4.46	30	12.2-166
trichloroethene	30.0	29.4	98.1	30.0	29.3	97.8	0.306	30	24.0-158
trichlorofluoromethane	30.0	26.6	88.6	30.0	23.0	76.8	14.3	30	5.64-183
1,2,3-trichloropropane	30.0	31.9	106	30.0	34.4	115	7.42	30	16.7-186
1,2,4-trimethylbenzene	30.0	31.3	104	30.0	30.8	103	1.58	30	8.60-168
1,3,5-trimethylbenzene	30.0	31.2	104	30.0	30.6	102	2.14	30	8.09-168
Vinyl acetate	75.0	67.5	90.0	75.0	65.3	87.1	3.31	30	16.7-225
vinyl chloride	30.0	26.4	87.8	30.0	26.2	87.4	0.456	30	7.56-178
m/p-xylene	60.0	59.0	98.4	60.0	57.9	96.4	2.04	30	8.91-169
o-xylene	30.0	29.9	99.8	30.0	29.8	99.3	0.435	30	9.45-167

System Monitoring Compound Results

		LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	QC LIMITS REC
460-00-4	4-Bromofluorobenzene	50	53.45	107	50	53.44	107	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	50.3	101	50	50.61	101	37.8-170
2037-26-5	Toluene-d8	50	49.35	98.7	50	51.99	104	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: 0 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS: _____

Analyst: _____ Reviewed by: DUO

3B

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: 9070209
Sample	G520-375-3c	6.13 g	0702914.D	2009-07-02 15:18:00	Dilution: 1
MS	G520-375-3c	6.13 g	0702915.D	2009-07-02 15:45:00	Matrix: Soil
MSD	G520-375-3c	6.13 g	0702916.D	2009-07-02 16:12:00	Solids: 83.2

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	QC LIMITS REC
acetone	BQL	29.4	28.8	98.1	29.4	27.5	93.4	4.84	30	6.81-355
acrolein	BQL	294	305	104	294	327	111	7.09	30	0.00-6510
acrylonitrile	BQL	294	238	80.7	294	250	84.9	5.05	30	0.00-5670
benzene	BQL	29.4	22.5	76.5	29.4	23.1	78.5	2.62	30	74.8-133
bromobenzene	BQL	29.4	25.6	87.0	29.4	27.4	93.2	6.92	30	66.1-140
bromochloromethane	BQL	29.4	24.0	81.7*	29.4	23.8	80.8*	1.02	30	85.1-136
bromodichloromethane	BQL	29.4	24.7	84.1	29.4	25.3	86.0	2.23	30	77.4-140
bromoform	BQL	29.4	29.8	101	29.4	30.3	103	1.92	30	74.7-161
bromomethane	BQL	29.4	11.1	37.8	29.4	12.8	43.5	14.1	30	30.4-127
2-butanone	BQL	29.4	46.0	156	29.4	43.0	146	6.64	30	40.9-256
n-butylbenzene	BQL	29.4	19.5	66.2	29.4	21.7	73.6	10.6	30	41.2-147
sec-butylbenzene	BQL	29.4	20.7	70.5	29.4	22.4	76.2	7.81	30	56.7-138
tert-butylbenzene	BQL	29.4	22.7	77.2	29.4	24.2	82.4	6.43	30	60.5-142
Carbon disulfide	BQL	29.4	20.7	70.2	29.4	21.4	72.7	3.40	30	64.3-145
carbon tetrachloride	BQL	29.4	24.5	83.3	29.4	25.4	86.4	3.73	30	64.2-142
chlorobenzene	BQL	29.4	24.1	81.9	29.4	25.7	87.2	6.31	30	66.3-135
chloroethane	BQL	29.4	15.2	51.7	29.4	17.6	59.8	14.4	30	20.7-182
2-chloroethyl vinyl ether	BQL	29.4	250	850*	29.4	272	923*	8.19	30	16.7-283
chloroform	BQL	29.4	22.1	75.1	29.4	22.5	76.5	1.80	30	71.1-143
chloromethane	BQL	29.4	20.4	69.3	29.4	23.8	80.8	15.3	30	69.1-138
2-chlorotoluene	BQL	29.4	22.5	76.6	29.4	23.9	81.3	5.87	30	59.8-144
4-chlorotoluene	BQL	29.4	22.5	76.4	29.4	24.1	81.8	6.87	30	59.0-141
dibromochloromethane	BQL	29.4	28.0	95.3	29.4	28.1	95.6	0.279	30	78.1-141
1,2-dibromo-3-chloropropane	BQL	147	126	85.6	147	125	84.8	0.954	30	43.4-229
1,2-dibromoethane	BQL	29.4	26.6	90.4	29.4	26.8	91.1	0.845	30	78.3-148
dibromomethane	BQL	29.4	25.6	86.9	29.4	25.5	86.6	0.307	30	80.0-150
1,2-dichlorobenzene	BQL	29.4	23.2	78.9	29.4	24.6	83.6	5.87	30	57.5-148
1,3-dichlorobenzene	BQL	29.4	22.7	77.1	29.4	24.2	82.4	6.69	30	55.0-145
1,4-dichlorobenzene	BQL	29.4	22.6	77.0	29.4	24.3	82.7	7.22	30	53.4-146
trans-1,4-Dichloro-2-butene	BQL	147	131	88.9	147	129	87.7	1.29	30	48.9-211
dichlorodifluoromethane	BQL	29.4	19.0	64.8*	29.4	23.4	79.4*	20.3	30	81.6-130
1,1-dichloroethane	BQL	29.4	20.9	71.1*	29.4	21.4	72.9	2.45	30	71.6-139
1,2-dichloroethane	BQL	29.4	23.8	80.8	29.4	23.7	80.5	0.289	30	72.9-146
1,1-dichloroethene	BQL	29.4	20.3	68.9*	29.4	20.5	69.6*	1.01	30	72.0-135
cis-1,2-dichloroethene	BQL	29.4	22.2	75.3*	29.4	23.0	78.0	3.48	30	76.9-134
trans-1,2-dichloroethene	BQL	29.4	20.9	71.1*	29.4	21.0	71.3*	0.328	30	72.0-135
1,2-dichloropropane	BQL	29.4	23.4	79.5	29.4	23.5	80.0	0.543	30	76.1-136
1,3-dichloropropane	BQL	29.4	25.3	85.9	29.4	26.0	88.4	2.79	30	83.2-137
2,2-dichloropropane	BQL	29.4	21.4	72.8	29.4	21.7	73.8	1.36	30	58.0-150
1,1-dichloropropene	BQL	29.4	22.1	75.3	29.4	23.0	78.2	3.82	30	68.5-137
cis-1,3-dichloropropene	BQL	29.4	23.6	80.1	29.4	23.9	81.3	1.40	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: 9070209

EPA Sample No.: G520-375-3c, G520-375-3c, G520-375-3c | Dilution: 1

Filenames: 0702914.D, 0702915.D, 0702916.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 #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	BQL	29.4	24.0	81.7	29.4	24.3	82.6	1.01	30	44.7-144
Diisopropyl ether	BQL	29.4	23.2	79.0*	29.4	23.8	80.8	2.25	30	79.4-122
ethylbenzene	BQL	29.4	22.6	77.0	29.4	23.6	80.1	3.95	30	73.8-126
hexachlorobutadiene	BQL	29.4	20.7	70.4	29.4	23.9	81.1	14.2	30	51.8-134
2-hexanone	BQL	29.4	55.8	190*	29.4	54.3	185*	2.67	30	41.6-111
Iodomethane	BQL	29.4	19.2	65.3	29.4	19.7	67.0	2.62	30	40.6-126
isopropylbenzene	BQL	29.4	22.2	75.5	29.4	23.7	80.6	6.54	30	74.3-123
4-isopropyltoluene	BQL	29.4	21.5	73.0*	29.4	23.4	79.6	8.65	30	74.6-122
Methyl-tert-butyl ether	BQL	29.4	24.3	82.5	29.4	23.6	80.3	2.74	30	66.5-136
methylene chloride	BQL	118	22.9	19.4*	118	23.0	19.5*	0.470	30	48.6-155
4-methyl-2-pentanone	BQL	29.4	69.6	237*	29.4	67.0	228*	3.92	30	6.88-166
naphthalene	BQL	29.4	25.7	87.4	29.4	27.9	94.9	8.23	30	55.1-140
n-propyl benzene	BQL	29.4	20.9	70.9*	29.4	22.3	75.7	6.50	30	71.6-128
styrene	BQL	29.4	23.2	78.7	29.4	24.2	82.1	4.23	30	73.2-123
1,1,1,2-tetrachloroethane	BQL	29.4	26.7	90.6	29.4	27.7	94.3	3.96	30	69.4-120
1,1,2,2-tetrachloroethane	BQL	29.4	26.8	91.0	29.4	26.6	90.6	0.440	30	75.7-136
tetrachloroethene	BQL	29.4	24.8	84.5	29.4	26.8	91.2	7.67	30	45.8-153
toluene	BQL	29.4	23.4	79.5	29.4	24.2	82.2	3.38	30	66.4-128
1,2,3-trichlorobenzene	BQL	29.4	23.6	80.2	29.4	26.8	91.3	12.9	30	61.0-126
1,2,4-trichlorobenzene	BQL	29.4	23.0	78.1	29.4	25.7	87.4	11.2	30	60.6-125
1,1,1-trichloroethane	BQL	29.4	22.9	77.9*	29.4	23.7	80.6	3.45	30	78.4-121
1,1,2-trichloroethane	BQL	29.4	25.9	88.0	29.4	26.1	88.8	0.905	30	64.8-128
trichloroethene	BQL	29.4	23.5	80.0*	29.4	24.2	82.4*	2.95	30	84.9-136
trichlorofluoromethane	BQL	29.4	18.1	61.5*	29.4	21.6	73.3*	17.6	30	76.8-132
1,2,3-trichloropropane	BQL	29.4	25.8	87.8	29.4	26.0	88.5	0.756	30	10.0-218
1,2,4-trimethylbenzene	BQL	29.4	22.4	76.3	29.4	23.9	81.4	6.47	30	31.0-172
1,3,5-trimethylbenzene	BQL	29.4	22.3	75.7	29.4	23.8	80.8	6.52	30	67.7-132
Vinyl acetate	BQL	73.6	47.2	64.2	73.6	48.9	66.5	3.55	30	0.00-355
vinyl chloride	BQL	29.4	19.2	65.4*	29.4	22.6	76.8	16.0	30	68.1-137
m/p-xylene	BQL	58.8	45.8	77.8*	58.8	48.1	81.7	4.85	30	79.8-118
o-xylene	BQL	29.4	23.5	79.9*	29.4	24.3	82.6	3.32	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	49.93	99.9	50	50.81	102	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	53.78	108	50	49.59	99.2	37.8-170
2037-26-5	Toluene-d8	50	48.88	97.8	50	49.3	98.6	58.8-144

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

* Values outside of QC limits

MS Spike Recovery: 19 failure(s) out of 72. MSD Spike Recovery: 10 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS: _____

Analyst: _____ Reviewed by: DVO

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTSTC868-HA01
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-1H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32.23 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:00
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 86.6

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.358	0.055	1	6/30/2009	
Acenaphthylene	BQL	0.358	0.050	1	6/30/2009	
Anthracene	BQL	0.358	0.049	1	6/30/2009	
Benzo[a]anthracene	BQL	0.358	0.049	1	6/30/2009	
Benzo[a]pyrene	BQL	0.358	0.052	1	6/30/2009	
Benzo[b]fluoranthene	BQL	0.358	0.050	1	6/30/2009	
Benzo[g,h,i]perylene	BQL	0.358	0.062	1	6/30/2009	
Benzo[k]fluoranthene	BQL	0.358	0.051	1	6/30/2009	
Benzoic Acid	BQL	1.79	0.442	1	6/30/2009	
Bis(2-chloroethoxy)methane	BQL	0.358	0.053	1	6/30/2009	
Bis(2-chloroethyl)ether	BQL	0.358	0.073	1	6/30/2009	
Bis(2-chloroisopropyl)ether	BQL	0.358	0.058	1	6/30/2009	
Bis(2-ethylhexyl)phthalate	**0.133**	0.358	0.055	1	6/30/2009	J
4-bromophenyl phenyl ether	BQL	0.358	0.063	1	6/30/2009	
Butylbenzylphthalate	BQL	0.358	0.053	1	6/30/2009	
2-Chloronaphthalene	BQL	0.358	0.050	1	6/30/2009	
2-Chlorophenol	BQL	0.358	0.046	1	6/30/2009	
4-Chloro-3-methylphenol	BQL	0.358	0.052	1	6/30/2009	
4-Chloroaniline	BQL	1.79	0.058	1	6/30/2009	
4-Chlorophenyl phenyl ether	BQL	0.358	0.053	1	6/30/2009	
Chrysene	BQL	0.358	0.034	1	6/30/2009	
Dibenzo[a,h]anthracene	BQL	0.358	0.046	1	6/30/2009	
Dibenzofuran	BQL	0.358	0.051	1	6/30/2009	
Di-n-Butylphthalate	BQL	0.358	0.052	1	6/30/2009	
1,2-Dichlorobenzene	BQL	0.358	0.061	1	6/30/2009	
1,3-Dichlorobenzene	BQL	0.358	0.058	1	6/30/2009	
1,4-Dichlorobenzene	BQL	0.358	0.052	1	6/30/2009	
3,3'-Dichlorobenzidine	BQL	0.717	0.059	1	6/30/2009	
2,4-Dichlorophenol	BQL	0.358	0.039	1	6/30/2009	
Diethylphthalate	BQL	0.358	0.048	1	6/30/2009	
Dimethylphthalate	BQL	0.358	0.056	1	6/30/2009	
2,4-Dimethylphenol	BQL	0.358	0.065	1	6/30/2009	
Di-n-octylphthalate	BQL	0.358	0.055	1	6/30/2009	
4,6-Dinitro-2-methylphenol	BQL	1.79	0.043	1	6/30/2009	
2,4-Dinitrophenol	BQL	1.79	0.047	1	6/30/2009	
2,4-Dinitrotoluene	BQL	0.358	0.055	1	6/30/2009	
2,6-Dinitrotoluene	BQL	0.358	0.059	1	6/30/2009	
Fluoranthene	BQL	0.358	0.058	1	6/30/2009	
Fluorene	BQL	0.358	0.056	1	6/30/2009	
Hexachlorobenzene	BQL	0.358	0.078	1	6/30/2009	
Hexachlorobutadiene	BQL	0.358	0.065	1	6/30/2009	
Hexachlorocyclopentadiene	BQL	0.717	0.070	1	6/30/2009	
Hexachloroethane	BQL	0.358	0.056	1	6/30/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.358	0.042	1	6/30/2009	
Isophorone	BQL	0.358	0.052	1	6/30/2009	
2-Methylnaphthalene	BQL	0.358	0.058	1	6/30/2009	
2-Methylphenol	BQL	0.358	0.055	1	6/30/2009	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTSTC868-HA01
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-1H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32.23 g

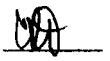
Analyzed By: DCS
Date Collected: 6/26/2009 12:00
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 86.6

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.358	0.047	1	6/30/2009	
Naphthalene	BQL	0.358	0.050	1	6/30/2009	
2-Nitroaniline	BQL	0.358	0.048	1	6/30/2009	
3-Nitroaniline	BQL	1.79	0.053	1	6/30/2009	
4-Nitroaniline	BQL	1.79	0.048	1	6/30/2009	
Nitrobenzene	BQL	0.358	0.048	1	6/30/2009	
2-Nitrophenol	BQL	0.358	0.052	1	6/30/2009	
4-Nitrophenol	BQL	1.79	0.062	1	6/30/2009	
Diphenylamine *	BQL	0.358	0.058	1	6/30/2009	
Pentachlorophenol	BQL	1.79	0.033	1	6/30/2009	
Phenanthrene	BQL	0.358	0.050	1	6/30/2009	
Phenol	BQL	0.358	0.049	1	6/30/2009	
Pyrene	**0.072**	0.358	0.049	1	6/30/2009	J
1,2,4-Trichlorobenzene	BQL	0.358	0.065	1	6/30/2009	
2,4,5-Trichlorophenol	BQL	0.358	0.053	1	6/30/2009	
2,4,6-Trichlorophenol	BQL	0.358	0.032	1	6/30/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
2-Fluorophenol	10	9	90
Nitrobenzene-d5	10	7.5	75
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	10	7.4	74
4-Terphenyl-d14	10	8.2	82

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: USTSTC868-HA02
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-2H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:15
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 90.88

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.344	0.053	1	6/30/2009	
Acenaphthylene	BQL	0.344	0.048	1	6/30/2009	
Anthracene	BQL	0.344	0.047	1	6/30/2009	
Benzo[a]anthracene	BQL	0.344	0.047	1	6/30/2009	
Benzo[a]pyrene	BQL	0.344	0.050	1	6/30/2009	
Benzo[b]fluoranthene	BQL	0.344	0.048	1	6/30/2009	
Benzo[g,h,i]perylene	BQL	0.344	0.060	1	6/30/2009	
Benzo[k]fluoranthene	BQL	0.344	0.049	1	6/30/2009	
Benzoic Acid	BQL	1.72	0.425	1	6/30/2009	
Bis(2-chloroethoxy)methane	BQL	0.344	0.051	1	6/30/2009	
Bis(2-chloroethyl)ether	BQL	0.344	0.070	1	6/30/2009	
Bis(2-chloroisopropyl)ether	BQL	0.344	0.055	1	6/30/2009	
Bis(2-ethylhexyl)phthalate	BQL	0.344	0.053	1	6/30/2009	
4-bromophenyl phenyl ether	BQL	0.344	0.061	1	6/30/2009	
Butylbenzylphthalate	BQL	0.344	0.051	1	6/30/2009	
2-Chloronaphthalene	BQL	0.344	0.048	1	6/30/2009	
2-Chlorophenol	BQL	0.344	0.044	1	6/30/2009	
4-Chloro-3-methylphenol	BQL	0.344	0.050	1	6/30/2009	
4-Chloroaniline	BQL	1.72	0.056	1	6/30/2009	
4-Chlorophenyl phenyl ether	BQL	0.344	0.051	1	6/30/2009	
Chrysene	BQL	0.344	0.033	1	6/30/2009	
Dibenzo[a,h]anthracene	BQL	0.344	0.044	1	6/30/2009	
Dibenzofuran	BQL	0.344	0.049	1	6/30/2009	
Di-n-Butylphthalate	BQL	0.344	0.050	1	6/30/2009	
1,2-Dichlorobenzene	BQL	0.344	0.058	1	6/30/2009	
1,3-Dichlorobenzene	BQL	0.344	0.056	1	6/30/2009	
1,4-Dichlorobenzene	BQL	0.344	0.050	1	6/30/2009	
3,3'-Dichlorobenzidine	BQL	0.688	0.057	1	6/30/2009	
2,4-Dichlorophenol	BQL	0.344	0.038	1	6/30/2009	
Diethylphthalate	BQL	0.344	0.046	1	6/30/2009	
Dimethylphthalate	BQL	0.344	0.053	1	6/30/2009	
2,4-Dimethylphenol	BQL	0.344	0.062	1	6/30/2009	
Di-n-octylphthalate	BQL	0.344	0.053	1	6/30/2009	
4,6-Dinitro-2-methylphenol	BQL	1.72	0.041	1	6/30/2009	
2,4-Dinitrophenol	BQL	1.72	0.045	1	6/30/2009	
2,4-Dinitrotoluene	BQL	0.344	0.052	1	6/30/2009	
2,6-Dinitrotoluene	BQL	0.344	0.057	1	6/30/2009	
Fluoranthene	BQL	0.344	0.055	1	6/30/2009	
Fluorene	BQL	0.344	0.054	1	6/30/2009	
Hexachlorobenzene	BQL	0.344	0.075	1	6/30/2009	
Hexachlorobutadiene	BQL	0.344	0.063	1	6/30/2009	
Hexachlorocyclopentadiene	BQL	0.688	0.067	1	6/30/2009	
Hexachloroethane	BQL	0.344	0.054	1	6/30/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.344	0.041	1	6/30/2009	
Isophorone	BQL	0.344	0.050	1	6/30/2009	
2-Methylnaphthalene	BQL	0.344	0.056	1	6/30/2009	
2-Methylphenol	BQL	0.344	0.053	1	6/30/2009	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTSTC868-HA02
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-2H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:15
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 90.88

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.344	0.045	1	6/30/2009	
Naphthalene	BQL	0.344	0.048	1	6/30/2009	
2-Nitroaniline	BQL	0.344	0.046	1	6/30/2009	
3-Nitroaniline	BQL	1.72	0.051	1	6/30/2009	
4-Nitroaniline	BQL	1.72	0.046	1	6/30/2009	
Nitrobenzene	BQL	0.344	0.046	1	6/30/2009	
2-Nitrophenol	BQL	0.344	0.050	1	6/30/2009	
4-Nitrophenol	BQL	1.72	0.060	1	6/30/2009	
Diphenylamine *	BQL	0.344	0.055	1	6/30/2009	
Pentachlorophenol	BQL	1.72	0.032	1	6/30/2009	
Phenanthrene	BQL	0.344	0.048	1	6/30/2009	
Phenol	BQL	0.344	0.047	1	6/30/2009	
Pyrene	BQL	0.344	0.047	1	6/30/2009	
1,2,4-Trichlorobenzene	BQL	0.344	0.062	1	6/30/2009	
2,4,5-Trichlorophenol	BQL	0.344	0.051	1	6/30/2009	
2,4,6-Trichlorophenol	BQL	0.344	0.031	1	6/30/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	7.4	74
Phenol-d6	10	8.9	89
2,4,6-Tribromophenol	10	7.4	74
4-Terphenyl-d14	10	9.4	94

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: USTSTC868-HA03
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-3H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32.66 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:30
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 88.99

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.344	0.053	1	6/30/2009	
Acenaphthylene	BQL	0.344	0.048	1	6/30/2009	
Anthracene	BQL	0.344	0.047	1	6/30/2009	
Benzo[a]anthracene	BQL	0.344	0.047	1	6/30/2009	
Benzo[a]pyrene	BQL	0.344	0.050	1	6/30/2009	
Benzo[b]fluoranthene	BQL	0.344	0.048	1	6/30/2009	
Benzo[g,h,i]perylene	BQL	0.344	0.060	1	6/30/2009	
Benzo[k]fluoranthene	BQL	0.344	0.049	1	6/30/2009	
Benzoic Acid	BQL	1.72	0.425	1	6/30/2009	
Bis(2-chloroethoxy)methane	BQL	0.344	0.051	1	6/30/2009	
Bis(2-chloroethyl)ether	BQL	0.344	0.070	1	6/30/2009	
Bis(2-chloroisopropyl)ether	BQL	0.344	0.055	1	6/30/2009	
Bis(2-ethylhexyl)phthalate	BQL	0.344	0.053	1	6/30/2009	
4-bromophenyl phenyl ether	BQL	0.344	0.061	1	6/30/2009	
Butylbenzylphthalate	BQL	0.344	0.051	1	6/30/2009	
2-Chloronaphthalene	BQL	0.344	0.048	1	6/30/2009	
2-Chlorophenol	BQL	0.344	0.044	1	6/30/2009	
4-Chloro-3-methylphenol	BQL	0.344	0.050	1	6/30/2009	
4-Chloroaniline	BQL	1.72	0.056	1	6/30/2009	
4-Chlorophenyl phenyl ether	BQL	0.344	0.051	1	6/30/2009	
Chrysene	BQL	0.344	0.033	1	6/30/2009	
Dibenzo[a,h]anthracene	BQL	0.344	0.044	1	6/30/2009	
Dibenzofuran	BQL	0.344	0.049	1	6/30/2009	
Di-n-Butylphthalate	BQL	0.344	0.050	1	6/30/2009	
1,2-Dichlorobenzene	BQL	0.344	0.058	1	6/30/2009	
1,3-Dichlorobenzene	BQL	0.344	0.056	1	6/30/2009	
1,4-Dichlorobenzene	BQL	0.344	0.050	1	6/30/2009	
3,3'-Dichlorobenzidine	BQL	0.688	0.057	1	6/30/2009	
2,4-Dichlorophenol	BQL	0.344	0.038	1	6/30/2009	
Diethylphthalate	BQL	0.344	0.046	1	6/30/2009	
Dimethylphthalate	BQL	0.344	0.053	1	6/30/2009	
2,4-Dimethylphenol	BQL	0.344	0.062	1	6/30/2009	
Di-n-octylphthalate	BQL	0.344	0.053	1	6/30/2009	
4,6-Dinitro-2-methylphenol	BQL	1.72	0.041	1	6/30/2009	
2,4-Dinitrophenol	BQL	1.72	0.045	1	6/30/2009	
2,4-Dinitrotoluene	BQL	0.344	0.052	1	6/30/2009	
2,6-Dinitrotoluene	BQL	0.344	0.057	1	6/30/2009	
Fluoranthene	BQL	0.344	0.055	1	6/30/2009	
Fluorene	BQL	0.344	0.054	1	6/30/2009	
Hexachlorobenzene	BQL	0.344	0.075	1	6/30/2009	
Hexachlorobutadiene	BQL	0.344	0.063	1	6/30/2009	
Hexachlorocyclopentadiene	BQL	0.688	0.067	1	6/30/2009	
Hexachloroethane	BQL	0.344	0.054	1	6/30/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.344	0.041	1	6/30/2009	
Isophorone	BQL	0.344	0.050	1	6/30/2009	
2-Methylnaphthalene	BQL	0.344	0.056	1	6/30/2009	
2-Methylphenol	BQL	0.344	0.053	1	6/30/2009	

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTSTC868-HA03
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-3H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 32.66 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:30
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 88.99

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.344	0.045	1	6/30/2009	
Naphthalene	BQL	0.344	0.048	1	6/30/2009	
2-Nitroaniline	BQL	0.344	0.046	1	6/30/2009	
3-Nitroaniline	BQL	1.72	0.051	1	6/30/2009	
4-Nitroaniline	BQL	1.72	0.046	1	6/30/2009	
Nitrobenzene	BQL	0.344	0.046	1	6/30/2009	
2-Nitrophenol	BQL	0.344	0.050	1	6/30/2009	
4-Nitrophenol	BQL	1.72	0.060	1	6/30/2009	
Diphenylamine *	BQL	0.344	0.055	1	6/30/2009	
Pentachlorophenol	BQL	1.72	0.032	1	6/30/2009	
Phenanthrene	BQL	0.344	0.048	1	6/30/2009	
Phenol	BQL	0.344	0.047	1	6/30/2009	
Pyrene	BQL	0.344	0.047	1	6/30/2009	
1,2,4-Trichlorobenzene	BQL	0.344	0.062	1	6/30/2009	
2,4,5-Trichlorophenol	BQL	0.344	0.051	1	6/30/2009	
2,4,6-Trichlorophenol	BQL	0.344	0.031	1	6/30/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
2-Fluorophenol	10	8.9	89
Nitrobenzene-d5	10	7.5	75
Phenol-d6	10	8.4	84
2,4,6-Tribromophenol	10	7.7	77
4-Terphenyl-d14	10	9.2	92

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

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

Reviewed By: MPA

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTSTC868-HA04
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-4H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 33.29 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:45
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 92.21

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.326	0.050	1	7/6/2009	
Acenaphthylene	BQL	0.326	0.046	1	7/6/2009	
Anthracene	BQL	0.326	0.044	1	7/6/2009	
Benzo[a]anthracene	BQL	0.326	0.045	1	7/6/2009	
Benzo[a]pyrene	BQL	0.326	0.047	1	7/6/2009	
Benzo[b]fluoranthene	BQL	0.326	0.045	1	7/6/2009	
Benzo[g,h,i]perylene	BQL	0.326	0.057	1	7/6/2009	
Benzo[k]fluoranthene	BQL	0.326	0.046	1	7/6/2009	
Benzoic Acid	BQL	1.63	0.402	1	7/6/2009	
Bis(2-chloroethoxy)methane	BQL	0.326	0.048	1	7/6/2009	
Bis(2-chloroethyl)ether	BQL	0.326	0.066	1	7/6/2009	
Bis(2-chloroisopropyl)ether	BQL	0.326	0.052	1	7/6/2009	
Bis(2-ethylhexyl)phthalate	BQL	0.326	0.050	1	7/6/2009	
4-bromophenyl phenyl ether	BQL	0.326	0.058	1	7/6/2009	
Butylbenzylphthalate	BQL	0.326	0.048	1	7/6/2009	
2-Chloronaphthalene	BQL	0.326	0.045	1	7/6/2009	
2-Chlorophenol	BQL	0.326	0.041	1	7/6/2009	
4-Chloro-3-methylphenol	BQL	0.326	0.048	1	7/6/2009	
4-Chloroaniline	BQL	1.63	0.053	1	7/6/2009	
4-Chlorophenyl phenyl ether	BQL	0.326	0.048	1	7/6/2009	
Chrysene	BQL	0.326	0.031	1	7/6/2009	
Dibenzo[a,h]anthracene	BQL	0.326	0.042	1	7/6/2009	
Dibenzofuran	BQL	0.326	0.046	1	7/6/2009	
Di-n-Butylphthalate	BQL	0.326	0.048	1	7/6/2009	
1,2-Dichlorobenzene	BQL	0.326	0.055	1	7/6/2009	
1,3-Dichlorobenzene	BQL	0.326	0.053	1	7/6/2009	
1,4-Dichlorobenzene	BQL	0.326	0.047	1	7/6/2009	
3,3'-Dichlorobenzidine	BQL	0.652	0.054	1	7/6/2009	
2,4-Dichlorophenol	BQL	0.326	0.036	1	7/6/2009	
Diethylphthalate	BQL	0.326	0.044	1	7/6/2009	
Dimethylphthalate	BQL	0.326	0.051	1	7/6/2009	
2,4-Dimethylphenol	BQL	0.326	0.059	1	7/6/2009	
Di-n-octylphthalate	BQL	0.326	0.050	1	7/6/2009	
4,6-Dinitro-2-methylphenol	BQL	1.63	0.039	1	7/6/2009	
2,4-Dinitrophenol	BQL	1.63	0.042	1	7/6/2009	
2,4-Dinitrotoluene	BQL	0.326	0.050	1	7/6/2009	
2,6-Dinitrotoluene	BQL	0.326	0.054	1	7/6/2009	
Fluoranthene	BQL	0.326	0.052	1	7/6/2009	
Fluorene	BQL	0.326	0.051	1	7/6/2009	
Hexachlorobenzene	BQL	0.326	0.071	1	7/6/2009	
Hexachlorobutadiene	BQL	0.326	0.059	1	7/6/2009	
Hexachlorocyclopentadiene	BQL	0.652	0.064	1	7/6/2009	
Hexachloroethane	BQL	0.326	0.051	1	7/6/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.326	0.038	1	7/6/2009	
Isophorone	BQL	0.326	0.048	1	7/6/2009	
2-Methylnaphthalene	BQL	0.326	0.053	1	7/6/2009	
2-Methylphenol	BQL	0.326	0.050	1	7/6/2009	

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTSTC868-HA04
Client Project ID: UST STC-868
Lab Sample ID: G128-2395-4H
Lab Project ID: G128-2395
Report Basis: Dry weight
Initial Weight: 33.29 g

Analyzed By: DCS
Date Collected: 6/26/2009 12:45
Date Received: 6/26/2009
Date Extracted: 6/29/2009
Matrix: Soil
% Solids: 92.21

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.326	0.042	1	7/6/2009	
Naphthalene	BQL	0.326	0.046	1	7/6/2009	
2-Nitroaniline	BQL	0.326	0.044	1	7/6/2009	
3-Nitroaniline	BQL	1.63	0.048	1	7/6/2009	
4-Nitroaniline	BQL	1.63	0.044	1	7/6/2009	
Nitrobenzene	BQL	0.326	0.043	1	7/6/2009	
2-Nitrophenol	BQL	0.326	0.048	1	7/6/2009	
4-Nitrophenol	BQL	1.63	0.057	1	7/6/2009	
Diphenylamine *	BQL	0.326	0.052	1	7/6/2009	
Pentachlorophenol	BQL	1.63	0.030	1	7/6/2009	
Phenanthrene	BQL	0.326	0.046	1	7/6/2009	
Phenol	BQL	0.326	0.044	1	7/6/2009	
Pyrene	BQL	0.326	0.044	1	7/6/2009	
1,2,4-Trichlorobenzene	BQL	0.326	0.059	1	7/6/2009	
2,4,5-Trichlorophenol	BQL	0.326	0.049	1	7/6/2009	
2,4,6-Trichlorophenol	BQL	0.326	0.029	1	7/6/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	9	90
2,4,6-Tribromophenol	10	8	80
4-Terphenyl-d14	10	12	120

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: PB14531
Lab Project ID:
Report Basis: Dry Weight
Initial Weight: 32 g

Analyzed By: DCS
Date Collected:
Date Received:
Date Extracted: 6/29/2009
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	7/7/2009	
Acenaphthylene	BQL	313	43.7	1	7/7/2009	
Anthracene	BQL	313	42.5	1	7/7/2009	
Benzo[a]anthracene	BQL	313	42.8	1	7/7/2009	
Benzo[a]pyrene	BQL	313	45.0	1	7/7/2009	
Benzo[b]fluoranthene	BQL	313	43.4	1	7/7/2009	
Benzo[g,h,i]perylene	BQL	313	54.4	1	7/7/2009	
Benzo[k]fluoranthene	BQL	313	44.4	1	7/7/2009	
Benzoic Acid	BQL	1560	386	1	7/7/2009	
Bis(2-chloroethoxy)methane	BQL	313	45.9	1	7/7/2009	
Bis(2-chloroethyl)ether	BQL	313	63.4	1	7/7/2009	
Bis(2-chloroisopropyl)ether	BQL	313	50.3	1	7/7/2009	
Bis(2-ethylhexyl)phthalate	BQL	313	47.8	1	7/7/2009	
4-bromophenyl phenyl ether	BQL	313	55.3	1	7/7/2009	
Butylbenzylphthalate	BQL	313	46.2	1	7/7/2009	
2-Chloronaphthalene	BQL	313	43.4	1	7/7/2009	
2-Chlorophenol	BQL	313	39.7	1	7/7/2009	
4-Chloro-3-methylphenol	BQL	313	45.6	1	7/7/2009	
4-Chloroaniline	BQL	1560	50.9	1	7/7/2009	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	7/7/2009	
Chrysene	BQL	313	30.0	1	7/7/2009	
Dibenzo[a,h]anthracene	BQL	313	40.0	1	7/7/2009	
Dibenzofuran	BQL	313	44.1	1	7/7/2009	
Di-n-Butylphthalate	BQL	313	45.6	1	7/7/2009	
1,2-Dichlorobenzene	BQL	313	52.8	1	7/7/2009	
1,3-Dichlorobenzene	BQL	313	50.6	1	7/7/2009	
1,4-Dichlorobenzene	BQL	313	45.3	1	7/7/2009	
3,3'-Dichlorobenzidine	BQL	625	51.6	1	7/7/2009	
2,4-Dichlorophenol	BQL	313	34.1	1	7/7/2009	
Diethylphthalate	BQL	313	41.9	1	7/7/2009	
Dimethylphthalate	BQL	313	48.4	1	7/7/2009	
2,4-Dimethylphenol	BQL	313	56.6	1	7/7/2009	
Di-n-octylphthalate	BQL	313	48.1	1	7/7/2009	
4,6-Dinitro-2-methylphenol	BQL	1560	37.2	1	7/7/2009	
2,4-Dinitrophenol	BQL	1560	40.6	1	7/7/2009	
2,4-Dinitrotoluene	BQL	313	47.5	1	7/7/2009	
2,6-Dinitrotoluene	BQL	313	51.6	1	7/7/2009	
Fluoranthene	BQL	313	50.3	1	7/7/2009	
Fluorene	BQL	313	48.8	1	7/7/2009	
Hexachlorobenzene	BQL	313	67.8	1	7/7/2009	
Hexachlorobutadiene	BQL	313	56.9	1	7/7/2009	
Hexachlorocyclopentadiene	BQL	625	60.9	1	7/7/2009	
Hexachloroethane	BQL	313	48.8	1	7/7/2009	
Indeno(1,2,3-c,d)pyrene	BQL	313	36.9	1	7/7/2009	
Isophorone	BQL	313	45.6	1	7/7/2009	
2-Methylnaphthalene	BQL	313	50.9	1	7/7/2009	
2-Methylphenol	BQL	313	47.8	1	7/7/2009	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB14531
Lab Project ID:
Report Basis: Dry Weight
Initial Weight: 32 g

Analyzed By: DCS
Date Collected:
Date Received:
Date Extracted: 6/29/2009
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	313	40.6	1	7/7/2009	
Naphthalene	BQL	313	43.7	1	7/7/2009	
2-Nitroaniline	BQL	313	41.9	1	7/7/2009	
3-Nitroaniline	BQL	1560	45.9	1	7/7/2009	
4-Nitroaniline	BQL	1560	41.9	1	7/7/2009	
Nitrobenzene	BQL	313	41.6	1	7/7/2009	
2-Nitrophenol	BQL	313	45.6	1	7/7/2009	
4-Nitrophenol	BQL	1560	54.4	1	7/7/2009	
Diphenylamine *	BQL	313	50.3	1	7/7/2009	
Pentachlorophenol	BQL	1560	28.8	1	7/7/2009	
Phenanthrene	BQL	313	43.7	1	7/7/2009	
Phenol	BQL	313	42.5	1	7/7/2009	
Pyrene	BQL	313	42.5	1	7/7/2009	
1,2,4-Trichlorobenzene	BQL	313	56.3	1	7/7/2009	
2,4,5-Trichlorophenol	BQL	313	46.6	1	7/7/2009	
2,4,6-Trichlorophenol	BQL	313	27.8	1	7/7/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.5	95
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	9.8	98
Phenol-d6	10	9.1	91
2,4,6-Tribromophenol	10	7.9	79
4-Terphenyl-d14	10	12.7	127

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

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

Reviewed By: 

SGS North America, 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: LCS14531

Sample wt/vol: 32 (g) Lab File ID: 0703614.D

Level: (low/med) LOW

% Moisture: 0% Decanted:(Y/N) N Date Analyzed: 07/05/09 22:04

Concentrated Extract Volume: 10000 (µL) Dilution Factor: 1

Injection Volume: 1 (µL) Extraction: (Type) SOXH

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
83-32-9	Acenaphthene	3125	2620	83.9	73.3-108
208-96-8	Acenaphthylene	3125	2750	88.1	76.0-113
120-12-7	Anthracene	3125	2430	77.7	67.6-104
56-55-3	Benzo[a]anthracene	3125	2460	78.8	71.6-113
50-32-8	Benzo[a]pyrene	3125	2220	71.1	68.1-116
205-99-2	Benzo[b]fluoranthene	3125	2020	64.5	61.3-129
191-24-2	Benzo[g,h,i]perylene	3125	2370	75.8	62.4-136
207-08-9	Benzo[k]fluoranthene	3125	2480	79.4	72.8-117
65-85-0	Benzoic Acid	3125	1390	44.4	9.27-93.0
100-51-6	Benzyl Alcohol	3125	2920	93.4	71.8-108
111-91-1	Bis(2-chloroethoxy)methane	3125	2910	93.1	72.8-110
111-44-4	Bis(2-chloroethyl)ether	3125	2720	87.1	72.1-110
108-60-1	Bis(2-chloroisopropyl)ether	3125	2890	92.5	68.4-107
117-81-7	Bis(2-ethylhexyl)phthalate	3125	2670	85.5	71.1-120
101-55-3	4-bromophenyl phenyl ether	3125	2380	76.3	68.1-107
85-68-7	Butylbenzylphthalate	3125	2530	81.1	70.3-120
106-47-8	4-Chloroaniline	3125	2630	84.0	43.7-101
59-50-7	4-Chloro-3-methylphenol	3125	2990	95.8	76.4-125
91-58-7	2-Chloronaphthalene	3125	2310	74.0	61.2-88.4
95-57-8	2-Chlorophenol	3125	2760	88.2	72.5-108
7005-72-3	4-Chlorophenyl phenyl ether	3125	2740	87.6	69.8-111
218-01-9	Chrysene	3125	2610	83.4	70.0-111
84-74-2	Di-n-Butylphthalate	3125	2740	87.6	72.1-111
117-84-0	Di-n-octylphthalate	3125	2610	83.4	70.4-126
53-70-3	Dibenzo[a,h]anthracene	3125	2140	68.6	64.9-133
132-64-9	Dibenzofuran	3125	2680	85.9	73.7-111
95-50-1	1,2-Dichlorobenzene	3125	2660	85.2	71.0-103
541-73-1	1,3-Dichlorobenzene	3125	2620	83.7	70.0-102
106-46-7	1,4-Dichlorobenzene	3125	2650	84.7	72.2-103
91-94-1	3,3'-Dichlorobenzidine	3125	2580	82.7	64.9-110
120-83-2	2,4-Dichlorophenol	3125	2860	91.6	74.6-115
84-66-2	Diethylphthalate	3125	2650	84.7	63.6-117
105-67-9	2,4-Dimethylphenol	3125	2730	87.3	71.2-112
131-11-3	Dimethylphthalate	3125	2680	85.6	72.9-111
534-52-1	4,6-Dinitro-2-methylphenol	3125	2310	73.8	33.0-122
51-28-5	2,4-Dinitrophenol	3125	2550	81.5	11.2-121
121-14-2	2,4-Dinitrotoluene	3125	2620	83.7	69.5-117
606-20-2	2,6-Dinitrotoluene	3125	2600	83.2	67.2-116
206-44-0	Fluoranthene	3125	2620	83.9	71.2-109
86-73-7	Fluorene	3125	2690	86.2	72.4-112
118-74-1	Hexachlorobenzene	3125	2660	85.0	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: LCS14531

Sample wt/vol: 32 (g) Lab File ID: 0703614.D

Level: (low/med) LOW

% Moisture: 0% Decanted:(Y/N) N Date Analyzed: 07/05/09 22:04

Concentrated Extract Volume: 10000 (µL) Dilution Factor: 1

Injection Volume: 1 (µL) Extraction: (Type) SOXH

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
87-68-3	Hexachlorobutadiene	3125	2760	88.3	73.1-114
77-47-4	Hexachlorocyclopentadiene	3125	3560	114	0.00-854
67-72-1	Hexachloroethane	3125	2660	85.2	70.9-106
193-39-5	Indeno(1,2,3-c,d)pyrene	3125	2260	72.4	65.2-135
78-59-1	Isophorone	3125	2880	92.1	76.7-116
90-12-0	1-Methylnaphthalene	3125	2610	83.5	73.1-108
91-57-6	2-Methylnaphthalene	3125	3120	99.7	75.3-113
95-48-7	2-Methylphenol	3125	2750	88.0	69.4-110
108-39-4	4-Methylphenol	6250	6030	96.6	70.0-116
621-64-7	N-Nitrosodi-n-propylamine	3125	2960	94.6	69.7-117
86-30-6	Diphenylamine	3125	2520	80.6	69.1-105
91-20-3	Naphthalene	3125	2820	90.1	78.4-115
88-74-4	2-Nitroaniline	3125	2260	72.4	65.0-109
99-09-2	3-Nitroaniline	3125	2440	78.0	57.4-102
100-01-6	4-Nitroaniline	3125	2540	81.4	62.8-113
98-95-3	Nitrobenzene	3125	2930	93.7	72.7-113
88-75-5	2-Nitrophenol	3125	2750	88.0	71.8-113
100-02-7	4-Nitrophenol	3125	2410	77.0	39.6-116
87-86-5	Pentachlorophenol	3125	2340	74.9	49.8-106
85-01-8	Phenanthrene	3125	2570	82.3	70.9-110
108-95-2	Phenol	3125	2890	92.4	72.1-106
129-00-0	Pyrene	3125	2520	80.6	71.9-112
110-86-1	Pyridine	3125	2350	75.3	31.1-97.3
120-82-1	1,2,4-Trichlorobenzene	3125	2700	86.5	73.6-107
95-95-4	2,4,5-Trichlorophenol	3125	2510	80.4	69.1-114
88-06-2	2,4,6-Trichlorophenol	3125	2580	82.4	71.2-112

System Monitoring Compound Results		Spike Added (µg/kg)	Spike Result (µg/kg)	Percent Rec. (%)	Percent Recovery (%)
118-79-6	2,4,6-Tribromophenol	3125	2370	75.8	41.1-129
321-60-8	2-Fluorobiphenyl	3125	2720	86.9	56.4-116
367-12-4	2-Fluorophenol	3125	2780	89.0	41.8-123
1718-51-0	4-Terphenyl-d14	3125	2860	91.6	43.8-140
4165-60-0	Nitrobenzene-d5	3125	2980	95.2	46.1-117
13127-88-3	Phenol-d6	3125	2890	92.5	47.9-125

LCS Spike Recovery: 0 out of 67 outside of limits.

Analyst: _____

SGS North America, Inc.

SGS Environmental Services, Inc.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, In Lab Code: NC00919

	EPA Sample No.:	Filenames:	Date Analyzed	Inst: MSD6
Sample:	G128-2395-1H	0630612.D	2009-06-30 18:46:00	Batch: 6063009
MS:	G128-2395-1I	0630613.D	2009-06-30 19:12:00	Dilution: 1
MSD:	G128-2395-1J	0630614.D	2009-06-30 19:36:00	

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	QC LIMITS REC
Acenaphthene	BQL	3610	2410	66.8*	3510	2700	77.0	14.2	30	71.0-125
Acenaphthylene	BQL	3610	2530	70.1*	3510	2770	79.0	11.9	30	73.0-140
Anthracene	BQL	3610	2550	70.7	3510	2840	81.0	13.6	30	66.9-119
Benzo[a]anthracene	BQL	3610	2350	65.1	3510	2610	74.5	13.4	30	51.8-127
Benzo[a]pyrene	BQL	3610	2080	57.5*	3510	2300	65.4*	12.9	30	78.5-137
Benzo[b]fluoranthene	BQL	3610	1790	49.7*	3510	2010	57.4*	14.4	30	62.3-134
Benzo[g,h,i]perylene	BQL	3610	2160	59.8	3510	2420	68.9	14.1	30	56.2-149
Benzo[k]fluoranthene	BQL	3610	1910	53.0*	3510	2200	62.7*	16.8	30	79.7-133
Benzoic Acid	BQL	3610	895	24.8	3510	891	25.4	2.39	30	0.00-140
Benzyl Alcohol	BQL	3610	2830	78.3	3510	3290	93.8	18.0	30	66.8-114
Bis(2-chloroethoxy)methane	BQL	3610	2660	73.6	3510	3010	85.7	15.2	30	71.4-123
Bis(2-chloroethyl)ether	BQL	3610	2400	66.4	3510	2730	77.8	15.8	30	64.0-120
Bis(2-chloroisopropyl)ether	BQL	3610	2430	67.4	3510	2680	76.3	12.4	30	60.5-123
Bis(2-ethylhexyl)phthalate	BQL	3610	2600	72.1	3510	2850	81.1	11.7	30	68.5-134
4-bromophenyl phenyl ether	BQL	3610	2580	71.6	3510	2750	78.4	9.07	30	65.2-127
Butylbenzylphthalate	BQL	3610	2540	70.4	3510	2800	79.8	12.5	30	64.4-133
4-Chloroaniline	BQL	3610	2400	66.4	3510	2780	79.1	17.5	30	25.1-237
4-Chloro-3-methylphenol	BQL	3610	2610	72.4*	3510	3070	87.4	18.8	30	80.0-115
2-Chloronaphthalene	BQL	3610	2030	56.1*	3510	2230	63.5*	12.4	30	70.3-124
2-Chlorophenol	BQL	3610	2770	76.8*	3510	3270	93.3	19.4	30	77.1-111
4-Chlorophenyl phenyl ether	BQL	3610	1880	52.0*	3510	2060	58.6*	11.9	30	72.8-125
Chrysene	BQL	3610	2460	68.1*	3510	2790	79.6	15.6	30	72.7-124
Di-n-Butylphthalate	BQL	3610	2780	77.0	3510	3020	86.1	11.2	30	67.9-125
Di-n-octylphthalate	BQL	3610	2180	60.4	3510	2500	71.2	16.4	30	48.9-162
Dibenzo[a,h]anthracene	BQL	3610	2110	58.5*	3510	2320	66.1	12.2	30	58.6-146
Dibenzofuran	BQL	3610	2440	67.7*	3510	2660	75.8	11.3	30	70.6-115
1,2-Dichlorobenzene	BQL	3610	2570	71.3*	3510	2940	83.8	16.1	30	73.3-121
1,3-Dichlorobenzene	BQL	3610	2580	71.6	3510	2920	83.1	14.9	30	69.7-119
1,4-Dichlorobenzene	BQL	3610	2570	71.3	3510	2940	83.7	16.0	30	70.6-117
3,3'-Dichlorobenzidine	BQL	3610	2390	66.1	3510	2850	81.2	20.5	30	14.2-302
2,4-Dichlorophenol	BQL	3610	2910	80.6	3510	3410	97.2	18.7	30	74.5-115
Diethylphthalate	BQL	3610	2350	65.0*	3510	2590	73.7	12.5	30	70.8-127
2,4-Dimethylphenol	BQL	3610	2910	80.7*	3510	3380	96.2	17.5	30	85.4-138
Dimethylphthalate	BQL	3610	2500	69.2	3510	2860	81.4	16.2	30	68.5-122
4,6-Dinitro-2-methylphenol	BQL	3610	2930	81.2	3510	3110	88.5	8.60	30	39.4-126
2,4-Dinitrophenol	BQL	3610	1980	54.8	3510	2100	59.7	8.56	30	20.4-130
2,4-Dinitrotoluene	BQL	3610	2380	66.0*	3510	2570	73.1	10.2	30	67.6-136
2,6-Dinitrotoluene	BQL	3610	2570	71.2	3510	2900	82.5	14.7	30	69.3-131
Fluoranthene	BQL	3610	2640	73.1	3510	2910	82.9	12.5	30	64.6-129
Fluorene	BQL	3610	2060	57.2*	3510	2240	63.8*	10.9	30	72.4-128
Hexachlorobenzene	BQL	3610	2590	71.7	3510	2750	78.4	8.93	30	62.9-124

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

* Values outside of QC limits

COMMENTS: _____

SGS North America, Inc.

SGS Environmental Services, Inc.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919 Inst: MSD6

EPA Sample No.: G128-2395-1H, G128-2395-1I, G128-2395-1J Batch: 6063009

Filenames: 0630612.D, 0630613.D, 0630614.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	QC LIMITS REC
Hexachlorobutadiene	BQL	3610	2320	64.3*	3510	2700	76.9	17.8	30	69.1-118
Hexachlorocyclopentadiene	BQL	3610	1120	31.1	3510	1220	34.9	11.5	30	-10.4 176
Hexachloroethane	BQL	3610	2350	65.0*	3510	2610	74.5	13.6	30	68.0 122
Indeno(1,2,3-c,d)pyrene	BQL	3610	2150	59.7	3510	2390	68.1	13.1	30	29.1-157
Isophorone	BQL	3610	2410	66.7	3510	2790	79.5	17.5	30	65.2-143
1-Methylnaphthalene	BQL	3610	2410	66.9*	3510	2730	77.9	15.2	30	68.0-130
2-Methylnaphthalene	BQL	3610	2690	74.6	3510	3130	89.3	17.9	30	74.1-111
2-Methylphenol	BQL	3610	2720	75.3*	3510	3120	89.0	16.7	30	78.7-116
4-Methylphenol	BQL	7220	4980	69.0*	7020	5830	83.0	18.4	30	71.2-101
N-Nitrosodi-n-propylamine	BQL	3610	2050	56.8*	3510	2380	67.8*	17.7	30	74.3-133
Diphenylamine	BQL	3610	2780	77.0	3510	3050	87.0	12.2	30	73.6-208
Naphthalene	BQL	3610	2440	67.7	3510	2790	79.5	16.0	30	49.9-137
2-Nitroaniline	BQL	3610	1870	51.7*	3510	2060	58.6*	12.5	30	70.0-129
3-Nitroaniline	BQL	3610	2410	66.9*	3510	2690	76.5*	13.4	30	76.6-356
4-Nitroaniline	BQL	3610	2360	65.5	3510	2690	76.5	15.5	30	50.8-178
Nitrobenzene	BQL	3610	2380	65.8*	3510	2760	78.5	17.6	30	71.4-122
2-Nitrophenol	BQL	3610	2850	79.0	3510	3380	96.3	19.7	30	63.3-112
4-Nitrophenol	BQL	3610	2000	55.4*	3510	2180	62.2	11.6	30	56.8-133
Pentachlorophenol	BQL	3610	2280	63.3	3510	2630	74.8	16.7	30	29.2-108
Phenanthrene	BQL	3610	2560	70.8	3510	2780	79.2	11.2	30	55.8-128
Phenol	BQL	3610	2740	75.9	3510	3140	89.4	16.3	30	71.2-120
Pyrene	BQL	3610	2440	67.5*	3510	2850	81.2	18.4	30	68.5-140
Pyridine	BQL	3610	2230	61.8	3510	2770	78.8	24.2	30	50.0-150
1,2,4-Trichlorobenzene	BQL	3610	2490	69.1	3510	2870	81.7	16.7	30	68.9-119
2,4,5-Trichlorophenol	BQL	3610	2490	68.9*	3510	2790	79.5	14.3	30	72.4-118
2,4,6-Trichlorophenol	BQL	3610	2420	67.0*	3510	2760	78.7	16.1	30	67.9-116

System Monitoring Compound Results		Spike Added (µg/kg)	MS Result (µg/kg)	MS Rec. (%)	Spike Added (µg/kg)	MSD Result (µg/kg)	MSD Rec. (%)	Percent Recovery (%)
118-79-6	2,4,6-Tribromophenol	10	70.4	70.4	10	80.2	80.2	41.1-129
321-60-8	2-Fluorobiphenyl	10	69.6	69.6	10	81.4	81.4	56.4-116
367-12-4	2-Fluorophenol	10	82	82.0	10	99.1	99.1	41.8-123
1718-51-0	4-Terphenyl-d14	10	74.7	74.7	10	91.8	91.8	43.8-140
4165-60-0	Nitrobenzene-d5	10	69.2	69.2	10	84.3	84.3	46.1-117
13127-88-3	Phenol-d6	10	80	80.0	10	94.2	94.2	47.9-125

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

* Values outside of QC limits

MS Spike Recovery: 30 out of 67 outside of limits. MSD Spike Recovery: 9 out of 67 outside of limits

RPD: 0 out of 67 outside of limits

COMMENTS: _____

_____

Analyst: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA01
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	06/26/09 12:00
Date Received	06/26/09
Date Extracted	06/26/09
Date Analyzed	06/29/09 22:02 - 06/29/09 22:02
Dry Weight	86.6
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	85.0		70	130
Surrogate % Recovery - FID	103		70	130

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

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

Lab Info: g128-2395-1e	Lab Info: g128-2395-1e
FID Info: VP062909/026F0101.D	PID Info: VP062909/026R0101.D

Reviewed By:

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA02
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	06/26/09 12:15
Date Received	06/26/09
Date Extracted	06/26/09
Date Analyzed	06/29/09 22:29 - 06/29/09 22:29
Dry Weight	90.9
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	83.9		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: g128-2395-2e	Lab Info: g128-2395-2e
FID Info: VP062909/027F0101.D	PID Info: VP062909/027R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA03
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	06/26/09 12:30
Date Received	06/26/09
Date Extracted	06/26/09
Date Analyzed	06/29/09 22:55 - 06/29/09 22:55
Dry Weight	89.0
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	Limits Upper
Surrogate % Recovery - PID	84.3		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: g128-2395-3e	Lab Info: g128-2395-3e
FID Info: VP062909/028F0101.D	PID Info: VP062909/028R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA04
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	06/26/09 12:45
Date Received	06/26/09
Date Extracted	06/26/09
Date Analyzed	06/29/09 23:22 - 06/29/09 23:22
Dry Weight	92.2
Dilution Factor	1 - 1

Analytical Results			
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags
C_5-C_8 Aliphatics**	BQL	10.0	
C_9-C_{12} Aliphatics**	BQL	10.0	
C_9-C_{10} Aromatics**	BQL	10.0	

	Percent Recovery	Flags	Limits Lower	Limits Upper
Surrogate % Recovery - PID	84.7		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:	g128-2395-4e	Lab Info:	g128-2395-4e
FID Info:	VP062909/029F0101.D	PID Info:	VP062909/029R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: _____

Project Name: _____

Sample Information	
Sample Identification	vblk4062909a
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	
Date Received	
Date Extracted	
Date Analyzed	06/29/09 12:55 - 06/29/09 12:55
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	Limits Upper
Surrogate % Recovery - PID	82.9		70	130
Surrogate % Recovery - FID	103		70	130

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

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

Lab Info:	vblk4062909a	Lab Info:	vblk4062909a
FID Info:	VP062909/006F0101.D	PID Info:	VP062909/006R0101.D

Reviewed By: _____

SGS North America, Inc.

LABORATORY CONTROL SPIKE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	LCS4062909A	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		8.45				
C9-C12 Aliphatics		4.97				
C9-C10 Aromatics		2.14				
Total VPH	16.0	15.6	97.5	70.0	130	

Surrogate Standards	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
Surrogate - PID	100	83.8	83.8	70.0	130	
Surrogate - FID	100	106	106	70.0	130	

Reviewed By: _____

SGS North America, Inc.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	g128-2390-1a	Analyzed By:	DVO	
MS Sample ID:	g128-2390-1a	Matrix:	Soil	
MSD Sample ID:	g128-2390-1a	Percent Solids:	80.9	%
Lab Project ID:	Batch QC for VP062909			
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	7.26	-	19.10	-	-	-	
C9-C12 Aliphatics	6.26	-	10.50	-	-	-	
C9-C10 Aromatics	4.3400	-	6.76	-	-	-	
Total VPH	17.9	18.3	36.3	101.0	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	-	18.90	-	-	-	
C9-C12 Aliphatics	-	10.50	-	-	-	
C9-C10 Aromatics	-	6.74	-	-	-	
Total VPH	18.3	36.1	99.7	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	36.3	36.1	1	20	

Reviewed By: _____

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

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	8.80	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	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 06/29/09 Filename: VP062909/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	-4.9	±25%
C_9-C_{12} Aliphatics	200	16	2.1	±25%
C_9-C_{10} Aromatics	200	16	16.5	±25%

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

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

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	8.80	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	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 06/29/09 Filename: VP062909/037F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	-18.8	±25%
C_9-C_{12} Aliphatics	200	16	-6.0	±25%
C_9-C_{10} Aromatics	200	16	8.2	±25%

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

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA01
Sample Matrix	Soil
Date Collected	06/26/09 12:00
Date Received	06/26/09
Date Extracted	06/29/09
Date Analyzed	07/02/09 13:40 - 07/02/09 14:09
Dry Weight	86.6
Dilution Factor	1 - 1
Initial weight (g)	12.17
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	86.0	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	94.2		40	140
Aromatic (ortho-terphenyl)	90.7		40	140
Fractionation 1 (2-bromonaphthalene)	88.6		40	140
Fractionation 2 (2-fluorobiphenyl)	92.6		40	140

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

Lab Info: G128-2395-1K	Lab Info: G128-2395-1K
Aliphatic: EP070209/008F0801.D	Aromatic: EP070209/009F0901.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA02
Sample Matrix	Soil
Date Collected	06/26/09 12:15
Date Received	06/26/09
Date Extracted	06/29/09
Date Analyzed	07/02/09 14:37 - 07/02/09 15:05
Dry Weight	90.9
Dilution Factor	1 - 1
Initial weight (g)	12.20
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)	97.8		40	140
Aromatic (ortho-terphenyl)	89.5		40	140
Fractionation 1 (2-bromonaphthalene)	96.8		40	140
Fractionation 2 (2-fluorobiphenyl)	99.1		40	140

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

Lab Info: G128-2395-2I	Lab Info: G128-2395-2I
Aliphatic: EP070209/010F1001.D	Aromatic: EP070209/011F1101.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA03
Sample Matrix	Soil
Date Collected	06/26/09 12:30
Date Received	06/26/09
Date Extracted	06/29/09
Date Analyzed	07/02/09 15:34 - 07/02/09 16:02
Dry Weight	89.0
Dilution Factor	1 - 1
Initial weight (g)	13.48
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)	93.0		40	140
Aromatic (ortho-terphenyl)	87.0		40	140
Fractionation 1 (2-bromonaphthalene)	97.0		40	140
Fractionation 2 (2-fluorobiphenyl)	102		40	140

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

Lab Info: G128-2395-3I	Lab Info: G128-2395-3I
Aliphatic: EP070209/012F1201.D	Aromatic: EP070209/013F1301.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-HA04
Sample Matrix	Soil
Date Collected	06/26/09 12:45
Date Received	06/26/09
Date Extracted	06/29/09
Date Analyzed	07/02/09 16:31 - 07/02/09 16:59
Dry Weight	92.2
Dilution Factor	1 - 1
Initial weight (g)	12.89
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)	69.9		40	140
Aromatic (ortho-terphenyl)	47.9		40	140
Fractionation 1 (2-bromonaphthalene)	48.5		40	140
Fractionation 2 (2-fluorobiphenyl)	49.9		40	140

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

Lab Info: G128-2395-4I	Lab Info: G128-2395-4I
Aliphatic: EP070209/014F1401.D	Aromatic: EP070209/015F1501.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: _____

Project Name: _____

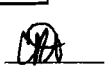
Sample Information	
Sample Identification	PB14533
Sample Matrix	Soil
Date Collected	
Date Received	
Date Extracted	06/29/09
Date Analyzed	07/02/09 12:43 - 07/02/09 13:12
Dry Weight	100
Dilution Factor	1 - 1
Initial weight (g)	12.0
Final Volume (mL)	10.0

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)	93.2		40	140
Aromatic (ortho-terphenyl)	90.1		40	140
Fractionation 1 (2-bromonaphthalene)	67.5		40	140
Fractionation 2 (2-fluorobiphenyl)	71.1		40	140

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

Lab Info: PB14533	Lab Info: PB14533
Aliphatic: EP070209/006F0601.D	Aromatic: EP070209/007F0701.D

Reviewed By: 

SGS North America, Inc.

LABORATORY CONTROL SPIKE RESULTS

by Method EPH

SGS Environmental Services, Inc.

Lab Sample ID:	LCS14533	Analyzed By:	EAW	
Lab Project ID:	Batch QC	Matrix:	Soil	
Report Basis:	Dry	Percent Solids:	81	%
		Initial Amount:	12.0	g
		Final Volume:	10.0	mL

Analytical QC Results Summary

Analyte	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	8.33	5.35	64.2	40.0	140	
C19-C36 Aliphatics	8.33	7.26	87.1	40.0	140	
C11-C22 Aromatics	8.33	6.99	83.9	40.0	140	

Surrogate Standards	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
Aliphatic (COD)	40.0	37.1	92.8	40.0	140	
Aromatic (OTP)	40.0	36.3	90.8	40.0	140	
Frac1 (2-BRN)	100	93.7	93.7	40.0	140	
Frac2 (2-FBP)	100	95.8	95.8	40.0	140	

Fractionation Breakthrough	Aliphatic Fraction area	Aromatic Fraction area	Break through (%)	Limit (%)	Qualifier
Naphthalene	0	550	0.00	≤5	

Reviewed By: _____

SGS North America, Inc.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS

by Method EPH

SGS Environmental Services, Inc.

Lab Sample ID:	G128-2395-4I	Analyzed By:	EAW	
MS Sample ID:	G128-2395-4J	Matrix:	Soil	
MSD Sample ID:	G128-2395-4K	Percent Solids:	92.2	%
Report Basis:	Dry	Batch ID:	14533	

Matrix Spike Results Summary

Analyte*	Sample Amount mg/Kg	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	0.00	8.39	6.08	72.5	40.0	140	
C19-C36 Aliphatics	0.00	8.39	7.46	88.9	40.0	140	
C11-C22 Aromatics	0.175	8.39	3.32	37.5	40.0	140	*

Matrix Spike Duplicate Results Summary

Analyte*	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	8.61	6.24	72.5	40.0	140	
C19-C36 Aliphatics	8.61	8.51	98.9	40.0	140	
C11-C22 Aromatics	8.61	7.99	90.8	40.0	140	

Analyte*	MS Amount mg/Kg	MSD Amount mg/Kg	RPD Value (%)	RPD Limit (%)	Qualifier
C9-C18 Aliphatics	6.08	6.24	2.60	≤50	
C19-C36 Aliphatics	7.46	8.51	13.1	≤50	
C11-C22 Aromatics	3.32	7.99	82.6	≤50	*

* = Range value from spiked compounds only.

Reviewed By: _____

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 04/27/09

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	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/02/09 / 07/02/09

Filenames: ep070209/001f0101.d / ep070209/002f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	7.4	≤±25%
C19-C36 Aliphatics	100	16.7	10.4	≤±25%
C11-C22 Aromatics	100	16.7	-0.2	≤±25%

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

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 04/27/09

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	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/02/09 / 07/02/09

Filenames: ep070209/022f2201.d / ep070209/023f2301.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	12.5	≤±25%
C19-C36 Aliphatics	100	16.7	17.2	≤±25%
C11-C22 Aromatics	100	16.7	3.7	≤±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

Results for Metals

Client Sample ID:	USTSTC868-HA01			Analyzed By:	PSW
Client Project ID:	UST STC-868			Date Collected:	6/26/2009 12:00
Lab Sample ID:	G128-2395-1			Date Received:	6/26/2009
Lab Project ID:	G128-2395			Matrix:	SOIL
ICP InitWt/Vol:	0.54 g	Final Vol:	50 mL	Solids	86.60
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	14543				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**11.5**	1.07	0.127	1	MG/KG	6010B	7/1/2009	
Lead	**19.4**	1.07	0.662	1	MG/KG	6010B	7/1/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS

Results for Metals

Client Sample ID:	USTSTC868-HA02			Analyzed By:	PSW
Client Project ID:	UST STC-868			Date Collected:	6/26/2009 12:15
Lab Sample ID:	G128-2395-2			Date Received:	6/26/2009
Lab Project ID:	G128-2395			Matrix:	SOIL
ICP InitWt/Vol:	0.51 g	Final Vol:	50 mL	Solids	90.88
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	14543				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**12.0**	1.08	0.128	1	MG/KG	6010B	7/1/2009	
Lead	**10.4**	1.08	0.668	1	MG/KG	6010B	7/1/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS

Results for Metals

Client Sample ID:	USTSTC868-HA03			Analyzed By:	PSW
Client Project ID:	UST STC-868			Date Collected:	6/26/2009 12:30
Lab Sample ID:	G128-2395-3			Date Received:	6/26/2009
Lab Project ID:	G128-2395			Matrix:	SOIL
ICP InitWt/Vol:	0.56 g	Final Vol:	50 mL	Solids	88.99
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	14543				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**8.75**	1.00	0.119	1	MG/KG	6010B	7/1/2009	
Lead	**14.3**	1.00	0.621	1	MG/KG	6010B	7/1/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS

Results for Metals

Client Sample ID:	USTSTC868-HA04			Analyzed By:	PSW
Client Project ID:	UST STC-868			Date Collected:	6/26/2009 12:45
Lab Sample ID:	G128-2395-4			Date Received:	6/26/2009
Lab Project ID:	G128-2395			Matrix:	SOIL
ICP InitWt/Vol:	0.52 g	Final Vol:	50 mL	Solids	92.21
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	14543				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**11.6**	1.04	0.124	1	MG/KG	6010B	7/1/2009	
Lead	**5.28**	1.04	0.645	1	MG/KG	6010B	7/1/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS

Results for Metals

Client Sample ID:	Lab Blank			Analyzed By:	PSW
Client Project ID:				Date Collected:	
Lab Sample ID:	pb14543			Date Received:	
Lab Project ID:				Matrix:	SOIL
ICP InitWt/Vol:	0.55 g	Final Vol:	50 mL	Solids	100.00
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	14543				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	BQL	0.909	0.108	1	MG/KG	6010B	7/1/2009	
Lead	BQL	0.909	0.563	1	MG/KG	6010B	7/1/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS

METALS Results for LCS/LCD

ICP Batch: 14543
HG Batch:
Other:

Matrix: SOIL
Units: MG/KG

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit Lower	Limit Upper	RPD	RPD Limit
Chromium	37.0	36.9	99.7	37.2	101	80	120	0.810	20
Lead	37.0	36.1	97.6	35.2	95.1	80	120	2.52	20

Reviewed By: 

SGS North America, Inc.

MS/MSD Results for METALS

Lab ID: G563-302-1
MS Lab ID: G563-302-1
MSD Lab ID: G563-302-1
ICP Batch: 14543
HG Batch: 14581
Other:

Analyzed By: PSW
Matrix: Soil
Units: MG/KG
Solids: 75.19

Analyte	Sample Result	SA MS	MS Result	MS %REC		SA MSD	MSD Result	MSD %REC		Limit Lower	Limit Upper	RPD	RPD Limit
Chromium	41.5	48.4	59.7	37.6	*	48.4	58.9	36.0	*	75	125	1.35	20
Lead	11	48.4	54.3	89.5		48.4	56.9	94.8		75	125	4.68	20

Comments

*=Out of Limits
NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By:

SGS

CHAIN OF CUSTODY RECORD
SGS North America Inc.

Locations Nationwide
- Alaska
- Maryland
- New Jersey
- New York
- North Carolina
- Ohio

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098368

SGS Reference: G128-2395

PAGE 1 OF 1

(1)
CLIENT: CATLIN ENG. & SCI.
CONTACT: SHANE CHASTEEN PHONE NO:(910) 452-5861
PROJECT: UST STC-868 SITE/PWSID#:
REPORTS TO: SHANE CHASTEEN FAX NO.:( )
INVOICE TO: SHEILA SMITH QUOTE #: DOD
P.O. NUMBER: 290626-07

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE (C=COMP G=GRAB)	Preservatives Used	Analysis Required (3): EPA 8260/5035	EPA 8270	MADEP EPH/VPH	Cr/Pb 6010B	REMARKS
6/29/09 (VS MSMS)	UST STC868-HA01	6-26-09	1200	Soil	7			✓	✓	✓	✓	○ PLS. REPORT
	UST STC868-HA02		1215					✓	✓	✓	✓	LOW RUNS
	UST STC868-HA03		1230					✓	✓	✓	✓	
	UST STC868-HA04		1245					✓	✓	✓	✓	○ SUMMARY
												EDD FORMAT

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
	6-26-09	1610	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Shipping Carrier:
Shipping Ticket No:
Special Deliverable Requirements:
Samples Received Cold? (Circle) YES NO
Temperature°C: 5.9°C
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Special Instructions:
Requested Turnaround Time:
☐ RUSH _____ Date Needed ☒ STD

N.C. Certification #481

SGS North America, Inc.

Page 56 of 56

SGS

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

Report Number: G128-2410

Client Project: UST STC-868

Dear Shane Chasteen,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. 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 Barbara Hager at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America, Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America, Inc.

Barbara Hager July 22, 2009

Project Manager
Barbara Hager

Date

5500 Business Dr., Wilmington, NC 28405 t (910) 350-1903 f (910) 350-1557 www.us.sgs.com

Member of the SGS Group

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

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

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.

Results for Volatiles
by GCMS 6200B

Client Sample ID: USTSTC868-MW04
Client Project ID: UST STC-868
Lab Sample ID: G128-2410-1B
Lab Project ID: G128-2410

Analyzed By: MJC
Date Collected: 7/8/2009 9:15
Date Received: 7/9/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Benzene	**0.580**	0.500	0.0650	1	7/16/2009	
Bromobenzene	BQL	0.500	0.0560	1	7/16/2009	
Bromochloromethane	BQL	0.500	0.101	1	7/16/2009	
Bromodichloromethane	BQL	0.500	0.0760	1	7/16/2009	
Bromoform	BQL	0.500	0.120	1	7/16/2009	
Bromomethane	BQL	0.500	0.133	1	7/16/2009	
n-Butylbenzene	BQL	0.500	0.109	1	7/16/2009	
sec-Butylbenzene	**0.370**	0.500	0.0840	1	7/16/2009	J
tert-Butylbenzene	**0.110**	0.500	0.0500	1	7/16/2009	J
Carbon tetrachloride	BQL	0.500	0.0870	1	7/16/2009	
Chlorobenzene	BQL	0.500	0.0820	1	7/16/2009	
Chloroethane	BQL	0.500	0.106	1	7/16/2009	
Chloroform	BQL	0.500	0.0790	1	7/16/2009	
Chloromethane	BQL	0.500	0.146	1	7/16/2009	
2-Chlorotoluene	BQL	0.500	0.0990	1	7/16/2009	
4-Chlorotoluene	BQL	0.500	0.0800	1	7/16/2009	
Dibromochloromethane	BQL	0.500	0.0900	1	7/16/2009	
1,2-Dibromo-3-chloropropane	BQL	5.00	1.21	1	7/16/2009	
Dibromomethane	BQL	0.500	0.113	1	7/16/2009	
1,2-Dibromoethane (EDB)	BQL	0.500	0.124	1	7/16/2009	
1,2-Dichlorobenzene	BQL	0.500	0.127	1	7/16/2009	
1,3-Dichlorobenzene	BQL	0.500	0.0810	1	7/16/2009	
1,4-Dichlorobenzene	BQL	0.500	0.0790	1	7/16/2009	
1,1-Dichloroethane	BQL	0.500	0.0740	1	7/16/2009	
1,1-Dichloroethene	BQL	0.500	0.0890	1	7/16/2009	
1,2-Dichloroethane	BQL	0.500	0.0790	1	7/16/2009	
cis-1,2-Dichloroethene	**3.67**	0.500	0.0650	1	7/16/2009	
trans-1,2-dichloroethene	**0.790**	0.500	0.0890	1	7/16/2009	
1,2-Dichloropropane	BQL	0.500	0.0940	1	7/16/2009	
1,3-Dichloropropane	BQL	0.500	0.127	1	7/16/2009	
2,2-Dichloropropane	BQL	0.500	0.0590	1	7/16/2009	
1,1-Dichloropropene	BQL	0.500	0.0720	1	7/16/2009	
cis-1,3-Dichloropropene	BQL	0.500	0.0760	1	7/16/2009	
trans-1,3-Dichloropropene	BQL	0.500	0.0760	1	7/16/2009	
Dichlorodifluoromethane	BQL	5.00	0.0940	1	7/16/2009	
Diisopropyl ether (DIPE)	BQL	0.500	0.0730	1	7/16/2009	
Ethylbenzene	**0.200**	0.500	0.0770	1	7/16/2009	J
Hexachlorobutadiene	BQL	0.500	0.228	1	7/16/2009	
Isopropylbenzene	**0.240**	0.500	0.0710	1	7/16/2009	J
4-Isopropyltoluene	**0.110**	0.500	0.0480	1	7/16/2009	J
Methylene chloride	**0.200**	5.00	0.0980	1	7/16/2009	J
Methyl-tert-butyl ether (MTBE)	BQL	0.500	0.0670	1	7/16/2009	
Naphthalene	**0.970**	0.500	0.133	1	7/16/2009	
n-Propyl benzene	**0.270**	0.500	0.0800	1	7/16/2009	J
Styrene	BQL	0.500	0.0850	1	7/16/2009	

Results for Volatiles
by GCMS 6200B

Client Sample ID: USTSTC868-MW04
Client Project ID: UST STC-868
Lab Sample ID: G128-2410-1B
Lab Project ID: G128-2410

Analyzed By: MJC
Date Collected: 7/8/2009 9:15
Date Received: 7/9/2009
Matrix: Water
Sample Amount: 5 mL

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
1,1,1,2-Tetrachloroethane	BQL	0.500	0.0900	1	7/16/2009	
1,1,2,2-Tetrachloroethane	BQL	0.500	0.115	1	7/16/2009	
Tetrachloroethene	BQL	0.500	0.0690	1	7/16/2009	
Toluene	**0.120**	0.500	0.0760	1	7/16/2009	J
1,2,3-Trichlorobenzene	BQL	0.500	0.190	1	7/16/2009	
1,2,4-Trichlorobenzene	BQL	0.500	0.119	1	7/16/2009	
Trichloroethene	**1.54**	0.500	0.0540	1	7/16/2009	
1,1,1-Trichloroethane	BQL	0.500	0.0540	1	7/16/2009	
1,1,2-Trichloroethane	BQL	0.500	0.182	1	7/16/2009	
Trichlorofluoromethane	BQL	0.500	0.111	1	7/16/2009	
1,2,3-Trichloropropane	BQL	0.500	0.120	1	7/16/2009	
1,2,4-Trimethylbenzene	**2.16**	0.500	0.0650	1	7/16/2009	
1,3,5-Trimethylbenzene	**0.610**	0.500	0.0740	1	7/16/2009	
Vinyl chloride	BQL	0.500	0.149	1	7/16/2009	
m-,p-Xylene	**0.990**	1.00	0.0980	1	7/16/2009	J
o-Xylene	**0.400**	0.500	0.0650	1	7/16/2009	J

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	12.6	126
Toluene-d8	10	9.3	93
4-Bromofluorobenzene	10	9.32	93

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTSTC868-MW04
Client Project ID: UST STC-868
Lab Sample ID: G128-2410-1L
Lab Project ID: G128-2410

Initial/Final Amt: 905 mL / 5.0 mL

Analyzed By: EAW
Date Collected: 7/8/2009 9:15
Date Received: 7/9/2009
Date Extracted: 7/10/2009
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	5.52	0.823	1	7/14/2009	
Acenaphthylene	**1.44**	5.52	0.823	1	7/14/2009	J
Anthracene	BQL	5.52	0.967	1	7/14/2009	
Benzo[a]anthracene	BQL	5.52	0.751	1	7/14/2009	
Benzo[a]pyrene	BQL	5.52	0.702	1	7/14/2009	
Benzo[b]fluoranthene	BQL	5.52	0.790	1	7/14/2009	
Benzo[g,h,i]perylene	BQL	5.52	0.680	1	7/14/2009	
Benzo[k]fluoranthene	BQL	5.52	0.608	1	7/14/2009	
Bis(2-chloroethoxy)methane	BQL	5.52	1.14	1	7/14/2009	
Bis(2-chloroethyl)ether	BQL	5.52	1.15	1	7/14/2009	
Bis(2-chloroisopropyl)ether	BQL	5.52	1.08	1	7/14/2009	
Bis(2-ethylhexyl)phthalate	BQL	5.52	0.453	1	7/14/2009	
4-bromophenyl phenyl ether	BQL	5.52	0.862	1	7/14/2009	
Butylbenzylphthalate	BQL	5.52	0.492	1	7/14/2009	
2-Chloronaphthalene	BQL	5.52	0.956	1	7/14/2009	
2-Chlorophenol	BQL	5.52	1.29	1	7/14/2009	
4-Chloro-3-methylphenol	BQL	5.52	0.878	1	7/14/2009	
4-Chlorophenyl phenyl ether	BQL	5.52	3.60	1	7/14/2009	
Chrysene	BQL	5.52	0.613	1	7/14/2009	
Dibenzo[a,h]anthracene	BQL	5.52	0.486	1	7/14/2009	
Di-n-Butylphthalate	BQL	5.52	0.912	1	7/14/2009	
3,3'-Dichlorobenzidine	BQL	11.0	1.35	1	7/14/2009	
2,4-Dichlorophenol	BQL	5.52	1.24	1	7/14/2009	
Diethylphthalate	BQL	5.52	0.818	1	7/14/2009	
Dimethylphthalate	BQL	5.52	0.613	1	7/14/2009	
2,4-Dimethylphenol	BQL	5.52	1.79	1	7/14/2009	
Di-n-octylphthalate	BQL	5.52	0.641	1	7/14/2009	
4,6-Dinitro-2-methylphenol	BQL	27.6	0.608	1	7/14/2009	
2,4-Dinitrophenol	BQL	27.6	0.707	1	7/14/2009	
2,4-Dinitrotoluene	BQL	5.52	0.591	1	7/14/2009	
2,6-Dinitrotoluene	BQL	5.52	0.718	1	7/14/2009	
Diphenylamine *	BQL	5.52	0.630	1	7/14/2009	
Fluoranthene	BQL	5.52	0.779	1	7/14/2009	
Fluorene	BQL	5.52	0.801	1	7/14/2009	
Hexachlorobenzene	BQL	5.52	0.558	1	7/14/2009	
Hexachlorobutadiene	BQL	5.52	0.840	1	7/14/2009	
Hexachlorocyclopentadiene	BQL	11.0	11.0	1	7/14/2009	
Hexachloroethane	BQL	5.52	0.823	1	7/14/2009	
Indeno(1,2,3-c,d)pyrene	BQL	5.52	2.52	1	7/14/2009	
Isophorone	BQL	5.52	0.978	1	7/14/2009	
Naphthalene	BQL	5.52	1.01	1	7/14/2009	
Nitrobenzene	BQL	5.52	1.16	1	7/14/2009	
2-Nitrophenol	BQL	5.52	1.36	1	7/14/2009	
4-Nitrophenol	BQL	27.6	1.19	1	7/14/2009	
N-Nitrosodi-n-propylamine	BQL	5.52	1.66	1	7/14/2009	
Pentachlorophenol	BQL	27.6	1.56	1	7/14/2009	
Phenanthrene	BQL	5.52	0.492	1	7/14/2009	

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTSTC868-MW04
Client Project ID: UST STC-868
Lab Sample ID: G128-2410-1L
Lab Project ID: G128-2410

Initial/Final Amt: 905 mL / 5.0 mL

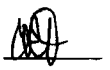
Analyzed By: EAW
Date Collected: 7/8/2009 9:15
Date Received: 7/9/2009
Date Extracted: 7/10/2009
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Phenol	BQL	5.52	1.17	1	7/14/2009	
Pyrene	BQL	5.52	2.28	1	7/14/2009	
1,2,4-Trichlorobenzene	BQL	5.52	0.796	1	7/14/2009	
2,4,6-Trichlorophenol	BQL	5.52	1.02	1	7/14/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
2-Fluorophenol	10	6.8	68
Nitrobenzene-d5	10	7.4	74
Phenol-d6	10	6.9	69
2,4,6-Tribromophenol	10	8.7	87
4-Terphenyl-d14	10	7.8	78

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

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

Reviewed By: 

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: USTSTC868-MW04
Client Project ID: UST STC-868
Lab Sample ID: G128-2410-1L
Lab Project ID: G128-2410
Sample Wt/Vol: 905 ML
Dilution: 1

Analyzed By: DES
Date Collected: 7/8/2009 9:15
Date Received: 7/9/2009
Date Extracted: 7/10/2009
Date Analyzed: 7/14/2009
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result ug/L
1	Ketone, Unknown	6.91			171
2	Unknown	5.27			10.2
3	Unknown	4.26			7.89
4	Unknown	5.21			6.61
5	2(3H)-Benzothiazolone	7.80	934-34-9	95	4.72
6	Alcohol, Unknown	3.97			3.68
7	Alcohol, Unknown	8.47			3.56
8	Alkane, Unknown	4.05			2.27

Comment:

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

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

Reviewed by: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-MW04
Sample Matrix	Water
Collection Option (for Soil)*	NA
Date Collected	07/08/09 09:15
Date Received	07/09/09
Date Extracted	07/13/09 19:17 - 07/13/09 19:17
Date Analyzed	07/13/09 19:17 - 07/13/09 19:17
Dry Weight	NA
Dilution Factor	1 - 1

Analytical Results			
Analyte	Result µg/L	Report Limit µg/L	Flags
C_5-C_8 Aliphatics**	BQL	100	
C_9-C_{12} Aliphatics**	BQL	100	
C_9-C_{10} Aromatics**	BQL	100	

	Percent Recovery	Flags	Limits Lower	Limits Upper
Surrogate % Recovery - PID	91.7		70	130
Surrogate % Recovery - FID	108		70	130

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

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

Lab Info: g128-2410-1d	Lab Info: g128-2410-1d
FID Info: VP071309/021F0101.D	PID Info: VP071309/021R0101.D

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

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	8.80	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	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 07/13/09 Filename: VP071309/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	14.9 ✓	±25%
C_9-C_{12} Aliphatics	200	16	-1.6 ✓	±25%
C_9-C_{10} Aromatics	200	16	18.6 ✓	±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 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

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	8.80	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	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 07/13/09 Filename: VP071309/018F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	7.8 ✓	±25%
C_9-C_{12} Aliphatics	200	16	-5.8 ✓	±25%
C_9-C_{10} Aromatics	200	16	10.4 ✓	±25%

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

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

Calibration Ranges and Limits

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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	8.80	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	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 07/13/09 Filename: VP071309/027F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	-1.8 ✓	±25%
C_9-C_{12} Aliphatics	200	16	-9.7 ✓	±25%
C_9-C_{10} Aromatics	200	16	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

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: UST STC-868

Sample Information	
Sample Identification	USTSTC868-MW04
Sample Matrix	Water
Date Collected	07/08/09 09:15
Date Received	07/09/09
Date Extracted	07/13/09
Date Analyzed	07/21/09 09:05 - 07/18/09 17:52
Dry Weight	NA
Dilution Factor	1 - 1
Initial Volume (mL)	919
Final Volume (mL)	5.0

Analytical Results			
Analytes**	Result µg/L	Report Limit µg/L	Flags
C9-C18 Aliphatics	124	100	
C19-C36 Aliphatics	991	100	
C11-C22 Aromatics	BQL	100	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	53.8		40	140
Aromatic (ortho-terphenyl)	46.6		40	140
Fractionation 1 (2-bromonaphthalene)	76.4		40	140
Fractionation 2 (2-fluorobiphenyl)	80.2		40	140

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

Lab Info: G128-2410-1P	Lab Info: G128-2410-1P
Aliphatic: EP072009/041F3901.D	Aromatic: EP071709/057F5301.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 07/17/09

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	14.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	16.98	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	7.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/17/09, 07/18/09

Filenames: ep071709/036f3201.d, ep071709/037f3302.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	10.3	≤±25%
C19-C36 Aliphatics	100	16.7	10.6	≤±25%
C11-C22 Aromatics	100	16.7	10.8	≤±25%

MDL = Method Detection Limit
ML = Minimum Limit
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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: 07/17/09

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	14.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	16.98	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	7.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/17/09, 07/18/09

Filenames: ep071709/058f5402.d, ep071709/059f5501.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	8.2	≤±25%
C19-C36 Aliphatics	100	16.7	9.6	≤±25%
C11-C22 Aromatics	100	16.7	7.7	≤±25%

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EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 07/17/09

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	14.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	16.98	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	7.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/20/09, 07/20/09

Filenames: ep072009/024f2202.d, ep072009/023f2102.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	14.5	≤±25%
C19-C36 Aliphatics	100	16.7	13.0	≤±25%
C11-C22 Aromatics	100	16.7	9.9	≤±25%

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EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 07/17/09

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	14.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	16.98	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	7.33	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 07/21/09
07/21/09

Filenames: ep072109/001f0101.d
ep072109/002f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	11.8	≤±25%
C19-C36 Aliphatics	100	16.7	13.3	≤±25%
C11-C22 Aromatics	100	16.7	0.3	≤±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

Results for Metals

Client Sample ID:	USTSTC868-MW04	Analyzed By:	PSW
Client Project ID:	UST STC-868	Date Collected:	7/8/2009 09:15
Lab Sample ID:	G128-2410-1	Date Received:	7/9/2009
Lab Project ID:	G128-2410	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	Final Vol:		
Prep Batch:	14624		

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**0.00565**	0.0100	0.00146	1	MG/L	6010B	7/14/2009	J
Lead	BQL	0.0100	0.00679	1	MG/L	6010B	7/14/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By:

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(1)

CLIENT: CATLIN Eng. & Sci
CONTACT: SHANE CHASTEEN PHONE NO:(910) 452-5861
PROJECT: UST STC-868 SITE/PWSID#:
REPORTS TO: E-MAIL:
SHANE CHASTEEN FAX NO.:( )
INVOICE TO: QUOTE # DOD
SHEILA SMITH P.O. NUMBER 290708-05

SGS Reference: 6126-2410

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	Analysis Required (3) EPA 625+TICs	MADEP EPH	MADEP VPH	Cr/Pb Both	EPA 6200 B	REMARKS
	USTSTC 868-MW04	7-8-09	0915	GW	10	3 VOA		✓	✓	✓	✓	✓	- PLS REPORT LOW RUNS
													- SUMMARY EDD FORMAT

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:	Date	Time
	7-8-09 T.P.	1450		7/8/09 T.P.	14:50
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:
Shipping Ticket No:
Samples Received Cold? (Circle) YES NO
Temperature °C: 5.9 °F
Special Deliverable Requirements:
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Special Instructions:
Requested Turnaround Time:
☐ RUSH _____ Date Needed
☒ STD

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

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