CATLIN
ENGINEERS and SCIENTISTS

Post Office Box 10279
Wilmington, NC 28404-0279
Telephone: (910) 452-5861
Fax: (910) 452-7563

June 22, 2004

Commander
Naval Facilities Engineering Command
Atlantic Division
6506 Hampton Blvd., Bldg. A
Norfolk, Virginia 23508

Attention: EV32JC, Mr. John D. Conway, P.G.

Re: **FINAL** Soil Assessment Report
H-30
Marine Corps Base
Camp Lejeune, North Carolina

Navy Contract No. N62470-01-D-3009
Delivery Order No. 0100
CATLIN Project No. 203-080

Dear Mr. Conway:

CATLIN Engineers and Scientists (CATLIN) is pleased to submit the FINAL Soil Assessment Report document for the above referenced site. We have reviewed the comments to the referenced draft Soil Assessment Report and offer the following responses to the comments/concerns offered by Ms. Hall.

Soil Assessment Report
H-30
EMD Comments (6/2/2004)

1. **Public Notice**
   - **... I think we'll need to do public notice since we're proposing residential vice cleaning up the C9-C22 to the S-T-GW level, which is lower than the residential level. Make sense? Compare G and H5.**

   Acknowledged: Section G has been revised to recommend that contaminated soils be remediated to the lower of the Residential or STGW MSCCs. Public notice will still be required since we are leaving groundwater contamination in excess of the 2L GWQS.

CATLIN Engineers and Scientists appreciates the opportunity to continue to provide services to LANTDIV and the MCB on your environmental projects. We look forward to hearing from you soon.

Sincerely,

Michael E. Mason, P.E.
CATLIN Program Manager

Attachments: Final SAR

cc: Ms. Pamela Argilan - Code AQ 11B Contracts (correspondence only)
Commanding General, Attn: Director I&E/EMD/EQB (2 copies)

203080_SAR_final ltr.doc

SOIL ASSESSMENT REPORT

FOR

BUILDING H-30
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

NCDENR UST INCIDENT NO. PENDING
RICK CLASSIFICATION: LOW RISK
LAND USE CLASSIFICATION: RESIDENTIAL

June 22, 2004

CONTRACT NO. N62470-01-D-3009
DELIVERY ORDER NO. 0100
CATLIN PROJECT NO. 203-080

PREPARED BY:

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

REPRODUCTIONS

This report has been prepared on behalf of and exclusively for the use of LANTDIV. This report and findings contained herein shall not, in whole or in part, be disseminated or conveyed to any parties other than LANTDIV, or be used or relied upon by any other party, in whole or in part, without the prior written consent of LANTDIV and CATLIN Engineers and Scientists.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

APPENDIX A	**BORING LOGS**
APPENDIX B	**NORTH CAROLINA WELL CONSTRUCTION RECORDS (NOT USED)**
APPENDIX C	**FIELD MEASUREMENTS (NOT USED)**
APPENDIX D	**STANDARD PROCEDURES**
APPENDIX E	**LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION**
APPENDIX F	**UST CLOSURE SAMPLING RESULTS (NOT USED)**

LIST OF ACRONYMS

2000 Guidelines	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater
2001 Guidelines	Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)
2L GWQS	NCAC T15A:02L Groundwater Quality Standards
ARO	Asheville Regional Office
AS	Air Sparge
AST	Aboveground Storage Tank
BDL	Below Detection Limit
BN	Base/Neutral (extractables)
BNA	Base/Neutral/Acid (extractables)
BQL	Below Quantitation Limit
BLS	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAP	Corrective Action Plan
CATLIN	CATLIN Engineers and Scientists (Formerly RC&A)
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
CNP	Carbon Nitrogen Phosphorous
CPT	Cone Penetrometer Test
DEM	Division of Environmental Management
DIPE	Diisopropyl Ether
DO	Dissolved Oxygen
DOD	Department of Defense
DPT	Direct Push Technology
DWQ	Division of Water Quality
DWM	Division of Waste Management
DTW	Depth to Water
EAD	Environmental Affairs Department
EDB	Ethylene di-bromide
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
EQB	Environmental Quality Branch
Fe	Iron
FID	Flame Ionization Detector
FOD	Foreign Object Debris
FRO	Fayetteville Regional Office
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System

Guidelines Vol. I	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks (May 1998)
Guidelines Vol. II	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume II, Petroleum Underground Storage Tanks (January 2, 1998)
HDPE	High Density Polyethylene
I/C	Industrial/Commercial
ID	Identification
I&E	Installations and Environment Department
IGWQS	Interim Groundwater Quality Standards
IPE	Isopropyl Ether
LANTDIV	Atlantic Division
LSA	Limited Site Assessment
LUST	Leaking Underground Storage Tank
m-	meta
m	meter
MADEP	Massachusetts Department of Environmental Protection
MCALF	Marine Corps Auxiliary Landing Field
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCOLF	Marine Corps Outlying Landing Field
MDL	Method Detection Limit
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
MRO	Mooresville Regional Office
MSCC	Maximum Soil Contaminant Concentration
MSL	Mean Sea Level
MTBE	Methyl tertiary butyl ether
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Litre
NA	Not Analyzed
N/A	Not Applicable
NC	North Carolina
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOC	North Carolina Department of Corrections
NCDOT	North Carolina Department of Transportation
NCSP	North Carolina State Plane
NCSPA	North Carolina State Ports Authority
NE	None Established
NM	Not Measured
NMT	No Measurable Thickness
NS	Not Sampled
o-	ortho
OVA	Organic Vapor Analyzer
p-	para
PAH	Polynuclear Aromatic Hydrocarbons
Pb	Lead
PPB	Parts Per Billion
PPM	Parts Per Million

PID	Photo Ionization Detector
PQL	Practical Quantitation Limit
PVC	Polyvinyl chloride
RBCA	Risk-Based Corrective Action
RCRA	Resource Conservation and Recovery Act
Res	Residential
ROI	Radius of Influence
RRO	Raleigh Regional Office
SAR	Soil Assessment Report
SOW	Scope of Work
STGW	Soil-to-Groundwater
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compound
TDHF	Toxicologically Defined Hydrocarbons Fractions
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TOC	Top of Casing
TPH	Total Petroleum Hydrocarbons
US	United States
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbons
WaRO	Washington Regional Office
WiRO	Wilmington Regional Office
WSRO	Winston-Salem Regional Office

SOIL ASSESSMENT REPORT

A. TITLE PAGE

DATE OF REPORT: June 22, 2004
Facility ID: N/A UST Incident Number (if known): Pending
Site Name: Building H-30
Site Location: Marine Corps Base, Camp Lejeune
Nearest City/Town: Jacksonville County: Onslow
Risk Classification: Low Risk Land Use Classification: Residential

UST Owner: Commanding General – MCB Camp Lejeune
I&E/EMD/EQB
Address: PSC Box 20004
MCB Camp Lejeune, NC 28542 Phone: (910) 451-5068

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: N/A
Address: N/A Phone: N/A

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

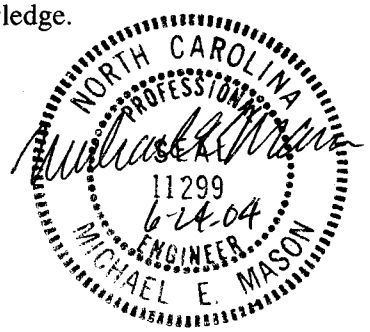
Release Information

Date Discovered: 07/92
Longitude: 77° 21'49" W **Latitude:** 34° 40'37" N
Estimated Quantity of Release: Unknown
Cause of Release: Release associated w/ USTs and associated piping.
Source of Release (e.g. Piping/UST):
Possible leaking UST and/or associated piping

Sizes and contents of UST system(s) from which the release occurred:
Two, 560-gallon No. 2 fuel oil USTs used for heating the former men's servant's quarters for the Naval Hospital Clinic.

I, **Michael E. Mason** 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. EXECUTIVE SUMMARY

The project is located at the former Building H-30 aboard the MCB Camp Lejeune, North Carolina. Building H-30 was used as the men's servant quarters for the Naval Hospital Clinic, and was heated using fuel oil from two 560-gallon USTs.

In July 1992, the USTs were removed and as part of the closure reporting requirements, soil samples were collected and laboratory analyzed. Laboratory results indicated that the UST system had released hydrocarbons into the subsurface. Laboratory analysis of soil samples collected from the former UST basin ranged from below quantitative limits (BQL) to 270 mg/Kg.

The site has been the subject of a number of reports since the USTs were removed including a Three Well Site Check Report, a Site Assessment Report, a Risk Characterization Assessment Report, a Corrective Action Plan and a number of Monitoring Reports. These subsequent investigations yielded the following findings:

- Free product was encountered in the subsurface of the site during the Leaking Underground Storage Tank Site Assessment in 1996; however, no free-product has been observed during any of the sampling events since beginning semi-annually in 1998.
- Dissolved hydrocarbons were discovered within the groundwater at the site; however, as of the most recent sampling event no concentrations were detected in excess of any established Gross Contaminant Levels (GCLs).

The Risk Characterization Assessment Report by LAW (1999) recommended that the site be classified Intermediate Risk, based on the presence of free product encountered during tank closure activities. It was determined that the subject site may be classified Low Risk once free product had been removed. Based on the fact that free product has not been detected at the site since 1998, the site should now qualify for Low Risk status.

This Soil Assessment Report has been conducted in response to a request for additional soil sampling, made by Mr. Bruce Reed in an email dated Friday, June 15, 2001, subject titled "H-30 Soil Removal Action?". As part of the SAR field activities, CATLIN personnel conducted a soil sampling event on April 7, 2004 in and around the approximate location of the former tank basin. Five soil borings were advanced using hand auger techniques, and samples were collected from each boring for laboratory analysis. Analytical results revealed an EPH hydrocarbon fraction in excess of the established Residential MSCCs in soil sample USTH30-SB05.

Due to the apparent limited extent of soil contamination, soils with contaminant concentrations in excess of the lower of the Residential or STGW MSCCs are proposed for excavation. Excavation is proposed around the suspect soil boring location, not to advance below the shallow water table. As the site is classified as Residential and Low Risk, following soil excavation and verification of clean up, this site will meet the requirements for closure and No Further Action Status will be requested with Land Use Restrictions as part of a Soil Cleanup Report and Site Closure Request.

C. SITE HISTORY

Building H-30 was used as the Men's Servants Quarters for the Naval Hospital Clinic. The site was heated by use of No. 2 fuel oil supplied from two 560-gallon USTs. In July 1992, the USTs were removed from the site. The building was demolished shortly after removal of the USTs. History and owner /operator information is included on Tables 1 and 2.

The following are known previous reports:

REPORT TITLE	*DATE*	*AUTHOR*
Underground Storage Tank Closure Report	08/92	Edgerton Environmental Services, Inc.
Three Well Site Check Report Building H30	08/25/93	Groundwater Technology Government Services, Inc.
Leaking Underground Storage Tank Site Assessment Report, Building H30, Volumes I and II	06/05/96	Law Engineering and Environmental Services, Inc.
Remedial Strategy/Pilot Study Recommendation Letter	11/12/96	Law Engineering and Environmental Services, Inc.
(Draft) Corrective Action Plan for the Recovery of Free Product and the Restoration of Petroleum Contaminated Groundwater by Natural Attenuation and Degradation	09/12/97	Law Engineering and Environmental Services, Inc.
Report of Natural Attenuation Monitoring, Former Building H30	02/16/98	Law Engineering and Environmental Services, Inc.
Second Natural Attenuation Monitoring Report, Building H30	09/03/98	Law Engineering and Environmental Services, Inc.
Risk Characterization Assessment Report	12/99	Law Engineering and Environmental Services, Inc.
First Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2	12/12/00	Law Engineering and Environmental Services, Inc.
Second Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2	05/23/01	Law Engineering and Environmental Services, Inc.

The results of these investigations indicate the following:

UST Removal/Closure

- Two 560-gallon, No. 2 fuel oil USTs were removed in reportedly good condition in July 1992.
- A "small" amount of residual product was released from one UST during removal activities.
- A sheen was observed on groundwater in the excavation.
- 1,200 gallons of fluid was pumped from the excavation.
- Five soil samples were collected and analyzed per EPA Methods 5030 and 3550.
- Depth of samples is unknown.
- Excavated soils were backfilled after the USTs were removed.
- Laboratory analysis of soil samples collected from the former UST basin ranged from below quantitative limits to 270 mg/Kg.

Three Well Site Check

- Three Type II monitoring wells were installed around the former UST basins.
- Depth to Water (DTW) was gauged from two to six feet BLS.
- Soil samples collected from each well location were analyzed per EPA Methods 5030 and 3550. Resulting laboratory analyses were below laboratory detection limits for all parameters analyzed.
- Groundwater samples were analyzed per EPA Method 602. Resulting laboratory analyses revealed concentrations of benzene (10 µg/L) above NCDENR Groundwater Quality Standards (GWQS).

Leaking Underground Storage Tank Site Assessment

- Five hydropunch sampling probes, five Type II monitoring wells, two Type III monitoring wells, and one 6-inch diameter pumping well were installed at the project site.
- Soil samples were collected from all sampling points and analyzed for Total Petroleum Hydrocarbons (TPH) per EPA Methods 5030/8015 (gasoline) and 3550/8015 (diesel). Resulting laboratory analyses revealed TPH gasoline concentrations in H30PW4 at 540 mg/Kg and 550 mg/Kg from 0-2 feet BLS and 2-4 feet BLS respectively. Concentrations of TPH diesel were additionally identified in H30PW04 in the 0-2 feet and 2-4 feet samples at concentrations of 3,900 mg/Kg and 2,700 mg/Kg respectively. Depth to water was measured at 2.3 feet BLS in H30PW4.
- Free product was identified in monitoring well H30MW03 at a thickness of 0.13 feet
- Groundwater samples collected from sampling points were analyzed for Purgeable aromatic hydrocarbons per EPA Method 602 and semi-volatile compounds (base neutrals only) per EPA Method 625.

- Benzene was the only petroleum constituent identified above NCDENR GWQS in groundwater samples collected from monitoring wells without measurable amounts of free product.
- The groundwater table was identified between 0.28 feet and 1.78 feet BLS.

Draft Corrective Action Plan

- LAW recommended excavation of soils in the vicinity of H30MW03 with subsequent use of sorbent if residual free product existed. Natural attenuation and degradation of dissolved-phase petroleum constituents was recommended to address groundwater concerns.

Monitoring Reports

- A soil sample collected from source area well UST H30-MW12, installed in August 1999, was reported to contain petroleum hydrocarbon compounds in a sample collected during installation of the well. No information pertaining to details of the well or analysis were available at the time of this report preparation.
- Monitoring wells UST H30-MW02, UST H30-MW09, and UST H30-MW12 were gauged and sampled at the site semi-annually since 1998.
- Groundwater samples were analyzed for volatile organic compounds (VOCs) using Standard Method 6210D, for semi-volatile organic compounds (SVOCs) and Tentatively Identified Compounds (TICs) by EPA Method 625, Chromium and Lead by EPA Method 6010/3030C, and volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) by the Massachusetts Department of Environmental Protection (MADEP) method.
- No free product was encountered at the site during any of the quarterly sampling events.
- According to the monitoring reports, results of the groundwater sampling analysis indicated the presence of low and generally decreasing concentrations of petroleum constituents in the groundwater at the subject site. All parameters were below established GCLs.

D. RECEPTOR INFORMATION

The receptor information provided with the CAP (LAW, 1997) remains unchanged as of the date of this report. See Figure 1 for a water supply well survey map and Figure 2 for places of public assembly.

1. Water Supply Wells

As documented in the CAP, there were no water supply wells located within 1,500 feet of subject site. The closest water supply well, denoted HP-603 in the CAP, is located approximately 6,500 feet southeast of the site, and topographically up gradient.

2. Public Water Supplies

Public water is provided to buildings within 1,500 feet of the subject site by water mains which carry treated potable water. Potable water is no longer supplied to the site as the building was removed several years ago. Groundwater obtained from the Castle Hayne Aquifer beneath the MCB is the raw water source for the treatment facilities.

3. Surface Water

The nearest surface water receptor is Wallace Creek, about 110 feet north of the site. According to the Water Table Elevation Contour Map provided in the CAP, the direction of groundwater flow is towards Wallace Creek and generally to the north.

4. Wellhead Protection Areas

The site is not located in a proposed wellhead protection area.

5. Deep Aquifers in the Coastal Plain Physiographic Region

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. Potential impacts to deeper aquifers are unknown, however based on the findings of previous investigations there is no evidence of vertical contaminant migration. Minimal impact to surficial groundwater was revealed in laboratory data presented in the Semi-Annual Monitoring Reports.

To some degree seven of the ten aquifers identified to date in the North Carolina Coastal Plain are typically present beneath portions of the MCB. In order of increasing depth, these aquifers include the Surficial, Castle Hayne, Beaufort, Peedee, Black Creek, and upper and lower Cape Fear aquifers.

Aquifers below the surficial aquifer in the area of the Building H-30 site typically include the Castle Hayne Aquifer, the Beaufort Aquifer, and the Peedee Aquifer, in order of increasing depth. Both the Beaufort and Peedee Aquifers contain saltwater in portions of the MCB and are not generally used for water supply. The Castle Hayne Aquifer contains freshwater and is the principal aquifer used in the area for water supply.

6. Subsurface Structures

An abandoned water line, presumably for the former Building H-30 enters the site vicinity from the southeast. No other underground utilities have been identified on the project site. Due to the probably shallow depth of this abandoned water line, it is not deemed likely that this utility would serve as a preferential pathway for contaminant migration. Approximate locations of known utilities are illustrated on Figure 3.

7. Property Owners and Occupants

Refer to Table 6 for a list of property owners/occupants.

E. SITE GEOLOGY

According to the Geologic Map of North Carolina (North Carolina Department of Natural Resources and Community Development (1985) the site lies within the Coastal Plain Physiographic Province.

Field observations noted during hand auger soil boring advancement (as part of the SAR Field Activities) indicate site geology to be comprised of very fine to fine, silty sands to a depth of approximately one to two feet BLS. Silty, very fine to fine sandy clays were encountered beginning at a depth of approximately 2 feet and continuing until boring termination at approximately 5 feet BLS. These findings are in general agreement with the findings in previous reports. Saturated soils were observed as shallow as 1 foot BLS. Boring logs for the soil borings are included in Appendix A.

F. SOIL INVESTIGATION

1. Historical Soil Sampling

UST Removal /Closure

As described in the Site History section, soil samples were obtained during the tank closures in July 1992, per EPA Methods 5030 and 3550. Laboratory analyses of these samples revealed TPH concentrations ranging from BQL to 270 mg/Kg. Depth of the samples is unknown, and excavated soils were used as backfill after the UST's were removed.

Three Well Site Check

In 1993, three Type II monitoring wells were installed around the location of the former UST basins. Soil samples were collected during installation of wells H30-1, H30-2, and H30-3, and were analyzed per EPA Methods 5030 and 3550. Analytical results revealed all samples BQL for TPH.

Leaking Underground Storage Tank Site Assessment

In 1996, five hydropunch probes, five Type II monitoring wells, two Type III monitoring wells, and one 6-inch diameter pumping well were installed at the project site. Soil samples were collected during the installation of all sampling points and analyzed for TPH per EPA Methods 5030 /8015 (gasoline) and 3550 /8015 (diesel). Resulting laboratory analyses revealed TPH gasoline concentrations in H30PW4 at 540 mg/Kg and 550 mg/Kg from 0-2 feet BLS and 2-4 feet BLS, respectively. Concentrations of TPH diesel were additionally identified in H30PW04 in the 0-2

feet and 2-4 feet samples at concentrations of 3,900 mg/Kg and 2,700 mg/Kg, respectively. DTW in H30PW4 was measured at 2.3 feet BLS. The groundwater table was identified between 0.28 feet and 1.78 feet BLS.

Historical Soil Sampling – Monitoring Reports

A soil sample collected from source area well UST H30-MW12, installed in August 1999, was reported to contain petroleum hydrocarbon compounds in a sample collected during installation of the well. No information pertaining to details of the well or analysis were available at the time of this report preparation.

2. Current Soil Sampling

Soil Assessment Report

As requested by Mr. Bruce Reed, in an email dated June 15, 2001, CATLIN personnel conducted a soil sampling event at the site as proposed in the Building H30, Soil Assessment Report Workplan. During field activities on April 7, 2004, a total of five (5) soil borings were advanced using hand auger techniques in an attempt to delineate the horizontal extent of soil contamination at the site (See Figure 3). At the time of the sampling event, the water table was observed between 1.0 and 5.0 feet BLS. The soil samples were identified in the field and labeled on the chain of custody as USTH30-SB01, USTH30-SB02, USTH30-SB03, USTH30-SB04, and USTH30-SB05. The laboratory reports and chain of custody documentation are provided in Appendix E.

All sampling was conducted in accordance with CATLIN's Standard Methods of Investigation included in Appendix D. The soil borings were advanced to the water table. All samples submitted for analysis were taken within the subsurface vadose zone, at approximately 0.5 to 3.0 feet BLS in and around the former UST basin. The soil samples were placed in laboratory glassware, labeled, placed immediately on ice in a cooler, and transported under proper chain of custody protocol to Paradigm Analytical Laboratories, Inc. in Wilmington, North Carolina. Analytical results are included in Appendix E and are summarized as follows:

EPA Method 8260 (5035 preparation) with IPE and MTBE

As indicated in Table 3A and illustrated on Figure 4A, with the exception of Acetone, detected at a concentration well below any established MSCCs, no other EPA Method 8260 target compounds were detected in the soil samples collected on April 7, 2004 at concentrations above the laboratory PQLs.

EPA Method 8270 plus ten largest peaks

As indicated in Table 3B and illustrated on Figure 4B, with the exception of Benzoic Acid, detected at a concentration well below any established MSCCs, no other EPA Method 8270 target compounds were detected in the soil samples collected on April 7, 2004 at concentrations above the laboratory PQLs.

Total Lead and Chromium with EPA Method 6010B

As indicated in Table 3C and illustrated on Figure 4C, concentrations of the target compounds were detected in all 5 soil samples collected on April 7, 2004 above laboratory reporting limits. However, all concentrations detected were well below established Residential MSCCs, both for Total Lead (400 mg/Kg) and Total Chromium (47 mg/Kg).

MADEP VPH and EPH

As indicated in Tables 3D and 3E and illustrated on Figure 4D, three MADEP VPH and EPH hydrocarbon fractions were detected in one soil sample (USTH30-SB05) collected on April 7, 2004. In sample USTH30-SB05, the C_9-C_{18} Aliphatics, C_{19}-C_{36} Aliphatics, and C_9-C_{22} Aromatics hydrocarbon fractions were detected at concentrations of 1480 mg/Kg, 260 mg/Kg and <810 mg/Kg, respectively. The C_9-C_{22} Aromatic result is the sum of the reported quantitation limit of one fraction (<10 mg/Kg) and the detected concentration of the other fraction (800 mg/Kg). Of the fractions detected, only the C_9-C_{22} Aromatics were detected at a concentration above the Residential MSCC (469 mg/Kg). All other MADEP VPH and EPH fractions were reported as BQL.

G. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this Soil Assessment Report, the levels of the hydrocarbons within the soils of the study area have not been totally delineated; however, soil contamination is reasonably assumed to exist in a limited area adjacent to the northern sidewall of the former tank basin (See Figure 4D, USTH30-SB05). It is recommended that these contaminated soils be remediated to the lower of the Residential or the Soil-To-Groundwater MSCCs. Following soil remediation, the site will meet the requirements for closure and No Further Action Status with Land Use Restriction will be requested as part of a Soil Cleanup Report and Site Closure Request.

H. PROPOSED REMEDY FOR SOIL CONTAMINATION

1. Evaluation of Remediation Alternatives

Based on the limited horizontal and vertical extents of suspected soil contamination at this site, it appears that soil excavation would be the most economical remediation method. Further evaluation of remediation alternatives was not deemed necessary. The soil contamination appears limited to the area adjacent to the northern sidewall of the former tank basin from the land surface to approximately 1 foot BLS, or to the groundwater table. Soils are proposed to be cleaned up to the Residential MSCCs.

2. Proposed Remediation

An over-excavation of vadose zone soils around soil boring USTH30-SB05 is proposed to eliminate the suspected remaining soil contamination on site. Excavation limits will be approximately 10' by 10' square around the USTH30-SB05 soil boring location. The groundwater table will determine the depth of the excavation. The estimated volume of soils to be removed is 4 cubic yards.

3. Post Remediation Sampling

Confirmatory soil samples will be collected from the sidewalls of the excavation after removal of the contaminated soils. Four samples are proposed (one from each of the excavated sidewalls), each to be laboratory analyzed per the following methods:

Method	Description
VPH	MADEP
EPH	MADEP

4. Schedule

The soil excavation is expected to be completed within the next six months provided funding is available. The State will be notified regarding any delays or changes.

5. Public Notice

Public notice is required by the NCDENR if the responsible party proposes cleanup of soil contamination to an alternate standard (other than the lower of the Residential or Soil-to-Groundwater MSCC) or cleanup of groundwater to other than the 2L GWQS or IGWQS. As we are proposing leaving groundwater contamination in excess of the 2L GWQS, public notification is required.

I. LIMITATIONS

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

J. REFERENCES

Cardinell, A.P. and Others, 1993, *Hydrogeologic Framework of U.S. Marine Corps Base at Camp Lejeune, North Carolina; U.S. Geological Survey Water-Resources Investigation Report 93-4049:* U.S. Geological Survey, Raleigh, North Carolina.

Edgerton Environmental Services, Inc., *Underground Storage Tank Closure Report.* Dated August 1992.

Groundwater Technology Government Services, Inc., *Three Well Site Check Report, Building H-30, Marine Corps Base, Camp Lejeune, NC.* Dated August 25, 1993.

LAW Engineering and Environmental Services, Inc., *Leaking Underground Storage Tank Site Assessment Report, Volumes I and II, H-30, Marine Corps Base, Camp Lejeune, North Carolina.* Dated June 5, 1996.

LAW Engineering and Environmental Services, Inc., *Draft Corrective Action Plan for the Recovery of Free Product and the Restoration of Petroleum Contaminated Groundwater by Natural Attenuation and Degradation, Marine Corps Base, Camp Lejeune, North Carolina.* Dated September 12, 1997.

LAW Engineering and Environmental Services, Inc., *Risk Characterization Assessment Report, Marine Corps Base, Camp Lejeune, North Carolina.* Dated December 1999.

LAW Engineering and Environmental Services, Inc., *First Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2, Marine Corps Base, Camp Lejeune, North Carolina.* Dated December 12, 2000.

LAW Engineering and Environmental Services, Inc., *Second Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2, Marine Corps Base, Camp Lejeune, North Carolina.* Dated May 23, 2001.

North Carolina Department of Environment and Natural Resources, *Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section* (Effective July 1, 2001).

Stuckey, J.L., 1965, *North Carolina- It's Geology and Mineral Resources,* Raleigh, North Carolina: Department of Conservation and Development, 550 p.

Winner, M.D., Jr., and Coble, R.W., 1989, *Hydrogeologic Framework of the North Carolina Coastal Plain Aquifer System: U.S. Geological Survey Open-File Report 87-690,* 155 p.

TABLES

TABLE 1

SITE HISTORY
UST SYSTEM INFORMATION

BUILDING H-30

UST ID Number	Product (gasoline, diesel, jet fuel, etc.)	Capacity (gallons)	Date Installed (m/dd/yy)	Date Permanently Closed (P), or Still in Use* (C) (m/dd/yy)	Was Release Associated With UST System? (Yes / No)
H-30-1	Heating Oil	560	1942	07/92 (P)	Yes
H-30-2	Heating Oil	560	1942	07/92 (P)	Yes

* Still in use means not permanently closed.

TABLE 2

SITE HISTORY
UST OWNER/OPERATOR INFORMATION

BUILDING H-30

UST ID Number	Name of Owner or Operator	Dates of Ownership/Operation (m/dd/yy) to (m/dd/yy)	Owner or Operator?
UST H30-1 And UST H30-2	Commanding General Marine Corps Base Camp Lejeune, NC	1942 TO 07/92	Owner and Operator
Address		**Telephone Number**	
I&E/EMD/EQB PSC Box 20004 Marine Corps Base, Camp Lejeune, NC 28542		910-451-5068	

TABLE 3A SUMMARY OF SOIL LABORATORY RESULTS

Date: June 2004 Incident Number and Name: Pending - Building H-30 Facility ID#: N/A

Analytical Method: EPA Method 8260 (5035 Preparation) with IPE and MTBE

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Acetone	All Other Analytes
Residential MSCC (mg/Kg)			1564	Varies
Industrial/Commercial MSCC (mg/Kg)			40880	Varies
Soil to Groundwater MSCC (mg/Kg)			3	Varies
USTH30-SB01 (2-3)	4/7/2004	2-3	<0.0497	BQL
USTH30-SB02 (1-2)	4/7/2004	1-2	<0.045	BQL
USTH30-SB03 (1-2)	4/7/2004	1-2	<0.0463	BQL
USTH30-SB04 (0-1)	4/7/2004	0-1	<0.0545	BQL
USTH30-SB05 (0-1)	4/7/2004	0-1	0.0886	BQL
USTH30-SB01 (2-3) Dup	4/7/2004	2-3	<0.0585	BQL

All Results in mg/Kg

BQL = Below Quantitative Limits

TABLE 3B SUMMARY OF SOIL LABORATORY RESULTS

Date: June 2004 Incident Number and Name: Pending - Building H-30 Facility ID#: N/A

Analytical Method: EPA Method 8270
Plus Ten Largest Peaks

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Benzoic Acid	All Other Analytes
Residential MSCC (mg/Kg)			62571	Varies
Industrial/Commercial MSCC (mg/Kg)			1635200	Varies
Soil to Groundwater MSCC (mg/Kg)			112	Varies
USTH30-SB01 (2-3)	4/7/2004	2-3	<0.756	BQL
USTH30-SB02 (1-2)	4/7/2004	1-2	<0.721	BQL
USTH30-SB03 (1-2)	4/7/2004	1-2	<0.77	BQL
USTH30-SB04 (0-1)	4/7/2004	0-1	0.825	BQL
USTH30-SB05 (0-1)	4/7/2004	0-1	<7.78	BQL

All results in mg/Kg

BQL = Below Quantitative Limits

TABLE 3C SUMMARY OF SOIL LABORATORY RESULTS

Date: June 2004 Incident Number and Name: Pending - Building H-30 Facility ID#: N/A

Analytical Method: Total Lead and Chromium with EPA Method 6010B

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Chromium	Lead
Residential MSCC (mg/Kg)			47	400
Industrial/Commercial MSCC (mg/Kg)			1226	400
Soil to Groundwater MSCC (mg/Kg)			27	270
USTH30-SB01 (2-3)	4/7/2004	2-3	15.6	10.8
USTH30-SB02 (1-2)	4/7/2004	1-2	8.32	3.6
USTH30-SB03 (1-2)	4/7/2004	1-2	20.7	6.03
USTH30-SB04 (0-1)	4/7/2004	0-1	3.44	3.57
USTH30-SB05 (0-1)	4/7/2004	0-1	2.6	3.74

All results in mg/Kg

TABLE 3D SUMMARY OF SOIL LABORATORY RESULTS

Date: June 2004 Incident Number and Name: Pending - Building H-30 Facility ID#: N/A

Analytical Method: MADEP Method VPH and EPH

Sample ID	Contaminant of Concern →		VPH			EPH		
	Date Collected	Sample Depth (ft. BGS)	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
USTH30-SB01 (2-3)	4/7/2004	2-3	<10	<10	<10	<10	<10	<10
USTH30-SB02 (1-2)	4/7/2004	1-2	<10	<10	<10	<10	<10	<10
USTH30-SB03 (1-2)	4/7/2004	1-2	<10	<10	<10	<10	<10	<10
USTH30-SB04 (0-1)	4/7/2004	0-1	<10	<10	<10	<10	<10	<10
USTH30-SB05 (0-1)	4/7/2004	0-1	<10	80	<10	1400	260	800

All results in mg/Kg

TABLE 3E SUMMARY OF SOIL LABORATORY RESULTS

Date: June 2004 Incident Number and Name: Pending - Building H-30 Facility ID#: N/A

Analytical Method: MADEP Method VPH and EPH as Compared to NCDENR MSCCs

Sample ID	Date Collected	Sample Depth (ft. BGS)	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
Contaminant of Concern →						
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	3,255	##	34
USTH30-SB01 (2-3)	4/7/2004	2-3	<10	<20	<10	<20
USTH30-SB02 (1-2)	4/7/2004	1-2	<10	<20	<10	<20
USTH30-SB03 (1-2)	4/7/2004	1-2	<10	<20	<10	<20
USTH30-SB04 (0-1)	4/7/2004	0-1	<10	<20	<10	<20
USTH30-SB05 (0-1)	4/7/2004	0-1	<10	1480	260	<810 *

All results in mg/Kg

Shading indicates concentration above Residential MSCCs

Health based level > 100%

Considered immobile

* Result is the sum of the reported quantitation limit of one fraction and the detected concentration of the other fraction.

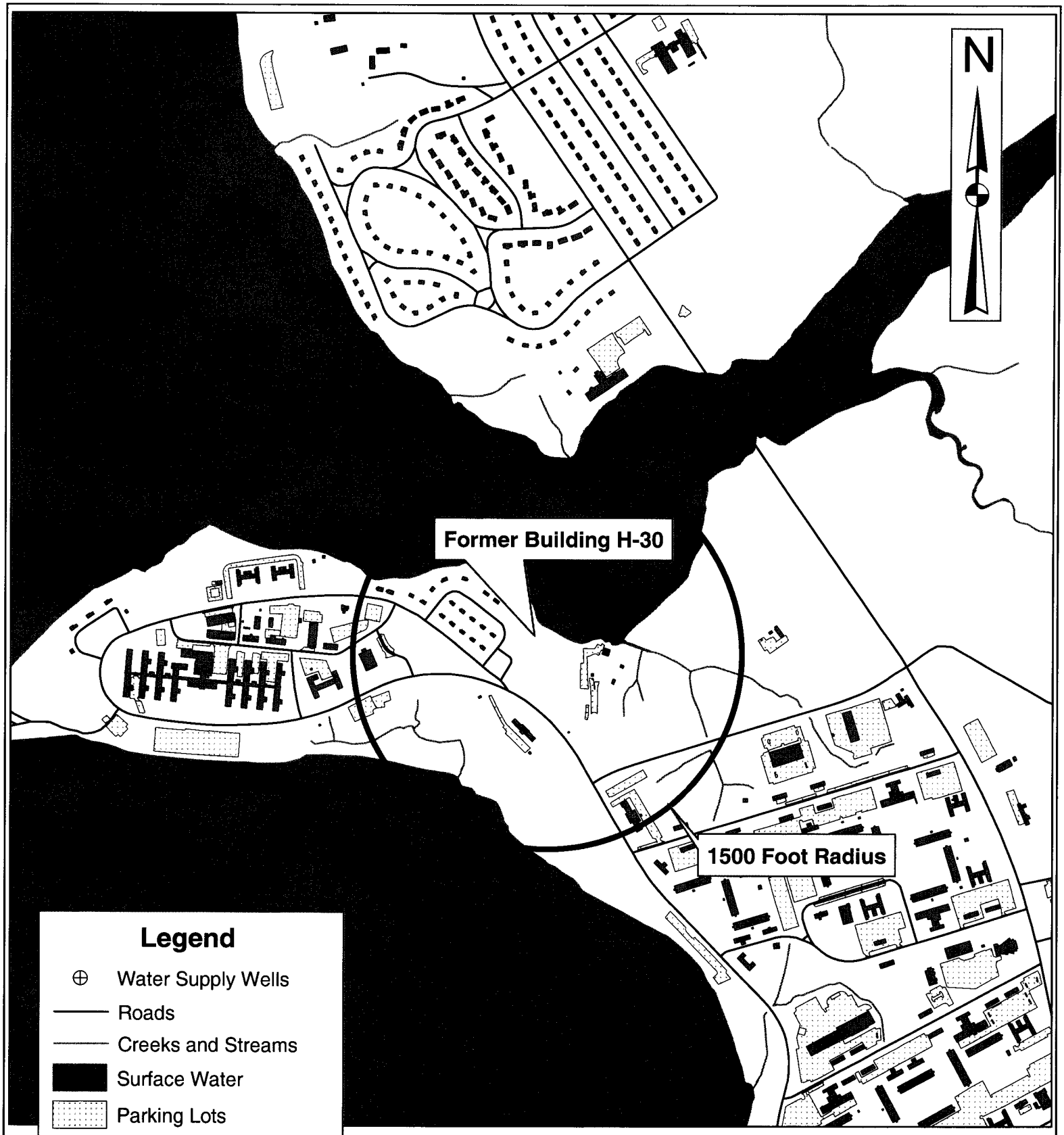
TABLE 6

PROPERTY OWNERS/OCCUPANTS

Date: June 2004 Incident No. and Name: Pending - Building H-30 Facility ID#: N/A

Tax Parcel Number/Map ID	Owner/Occupant Name (Last, First MI)	Address
N/A	Owner: Commanding General, MCB Camp Lejeune	I&E/EMD/EQB PSC Box 20004 Marine Corps Base, Camp Lejeune, NC 28542
N/A	Occupant: N/A	N/A

FIGURES

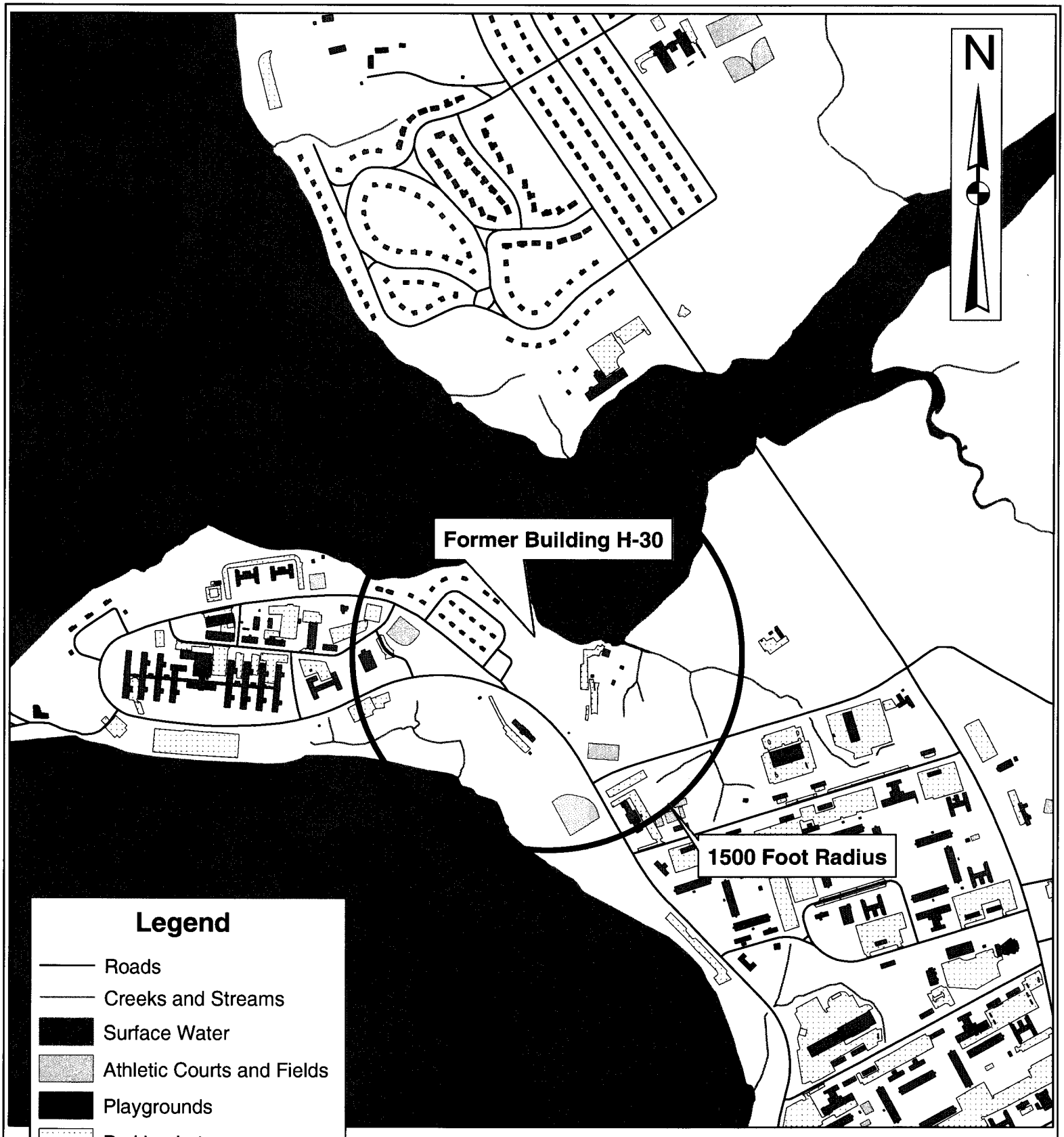


NOTE: There are no water supply wells located within a 1500 foot radius of the subject site.

CATLIN ENGINEERS and SCIENTISTS

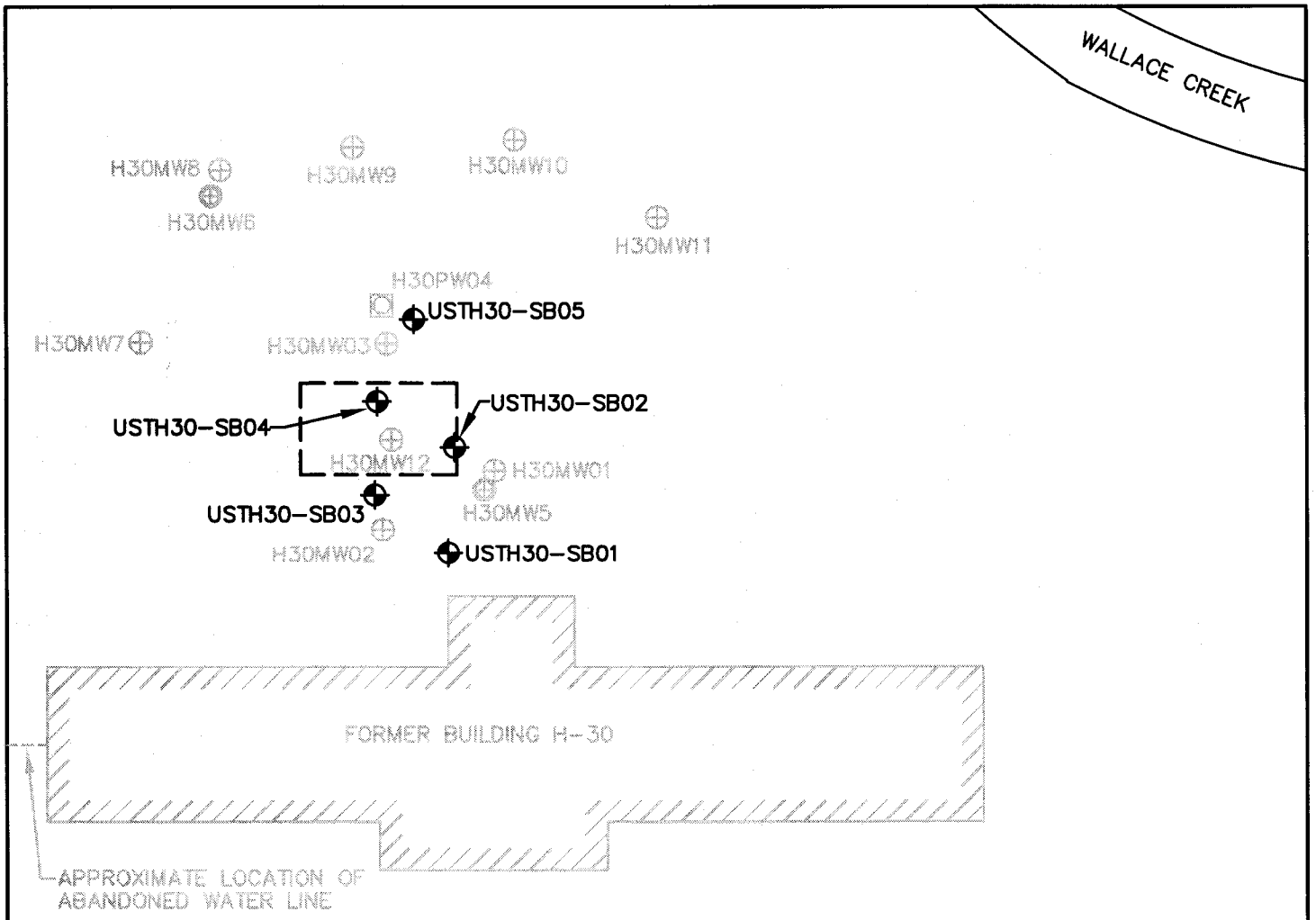
PROJECT	TITLE	FIGURE
SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC	SITE LOCATION AND WATER SURVEY	1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
203-080	JUNE 2004	AS SHOWN	SAC	MEM



CATLIN ENGINEERS and SCIENTISTS

PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC	TITLE: SITE LOCATION WITH PLACES OF PUBLIC ASSEMBLY				FIGURE 2
JOB NO. 203-080	DATE JUNE 2004	SCALE AS SHOWN	DRAWN BY SAC	CHECKED BY MEM	



LEGEND

EXISTING	NEW	DESCRIPTION
		FORMER BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SIX INCH MONITORING/PUMPING WELL
		SOIL BORING
		APPROXIMATE LOCATION OF FORMER H-30 UST

N

30 15 0 30

SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

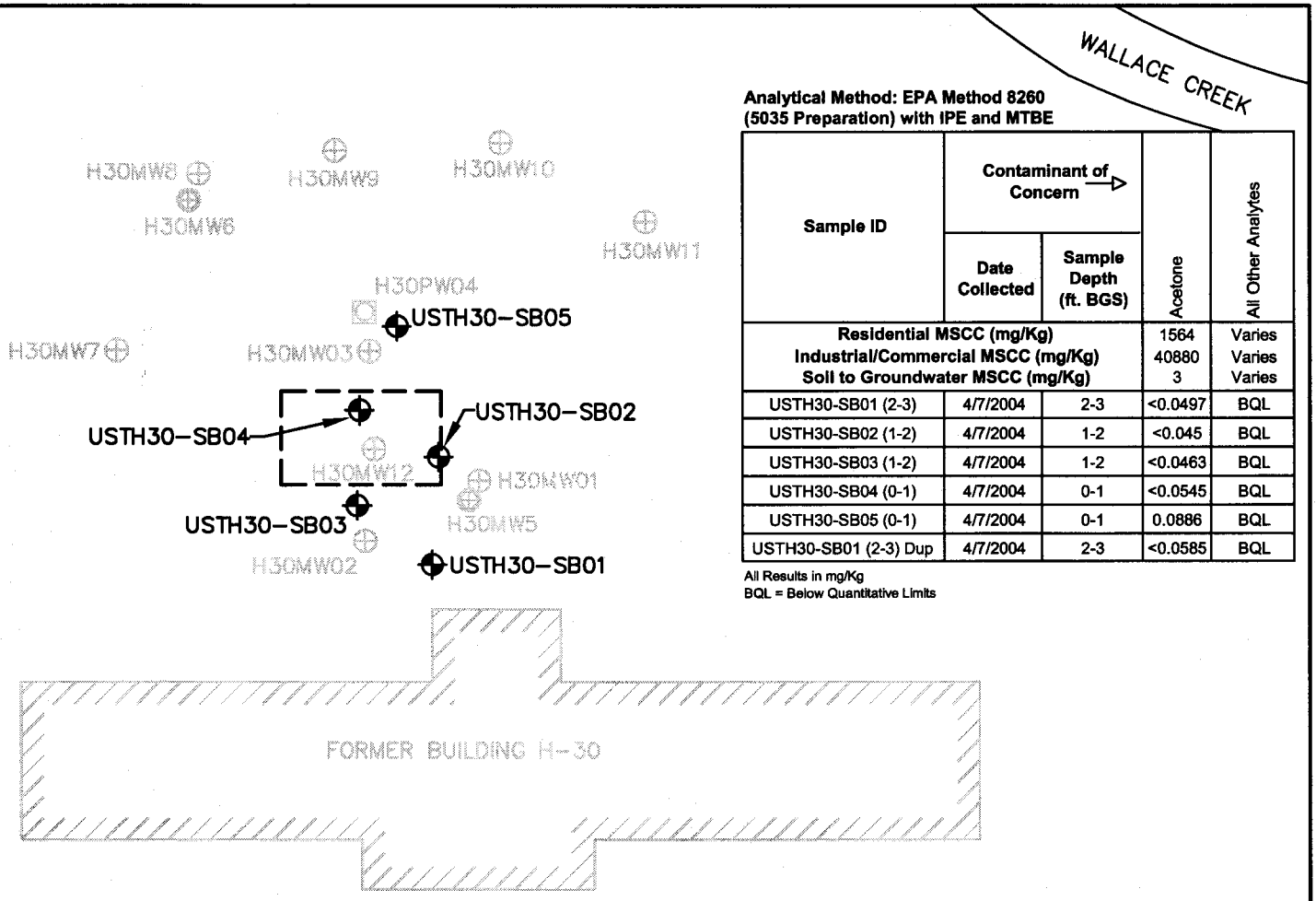
PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC

TITLE: SITE PLAN WITH UTILITIES

FIGURE 3

JOB NO: 203080-1041 | DATE: JUNE 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

203080-1041-03



Analytical Method: EPA Method 8260 (5035 Preparation) with IPE and MTBE

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Acetone	All Other Analytes
Residential MSCC (mg/Kg)			1564	Varies
Industrial/Commercial MSCC (mg/Kg)			40880	Varies
Soil to Groundwater MSCC (mg/Kg)			3	Varies
USTH30-SB01 (2-3)	4/7/2004	2-3	<0.0497	BQL
USTH30-SB02 (1-2)	4/7/2004	1-2	<0.045	BQL
USTH30-SB03 (1-2)	4/7/2004	1-2	<0.0463	BQL
USTH30-SB04 (0-1)	4/7/2004	0-1	<0.0545	BQL
USTH30-SB05 (0-1)	4/7/2004	0-1	0.0886	BQL
USTH30-SB01 (2-3) Dup	4/7/2004	2-3	<0.0585	BQL

All Results in mg/Kg
BQL = Below Quantitative Limits

LEGEND

EXISTING	NEW	DESCRIPTION
		FORMER BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SIX INCH MONITORING/PUMPING WELL
		SOIL BORING
		APPROXIMATE LOCATION OF FORMER H-30 UST

N

30 15 0 30

SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

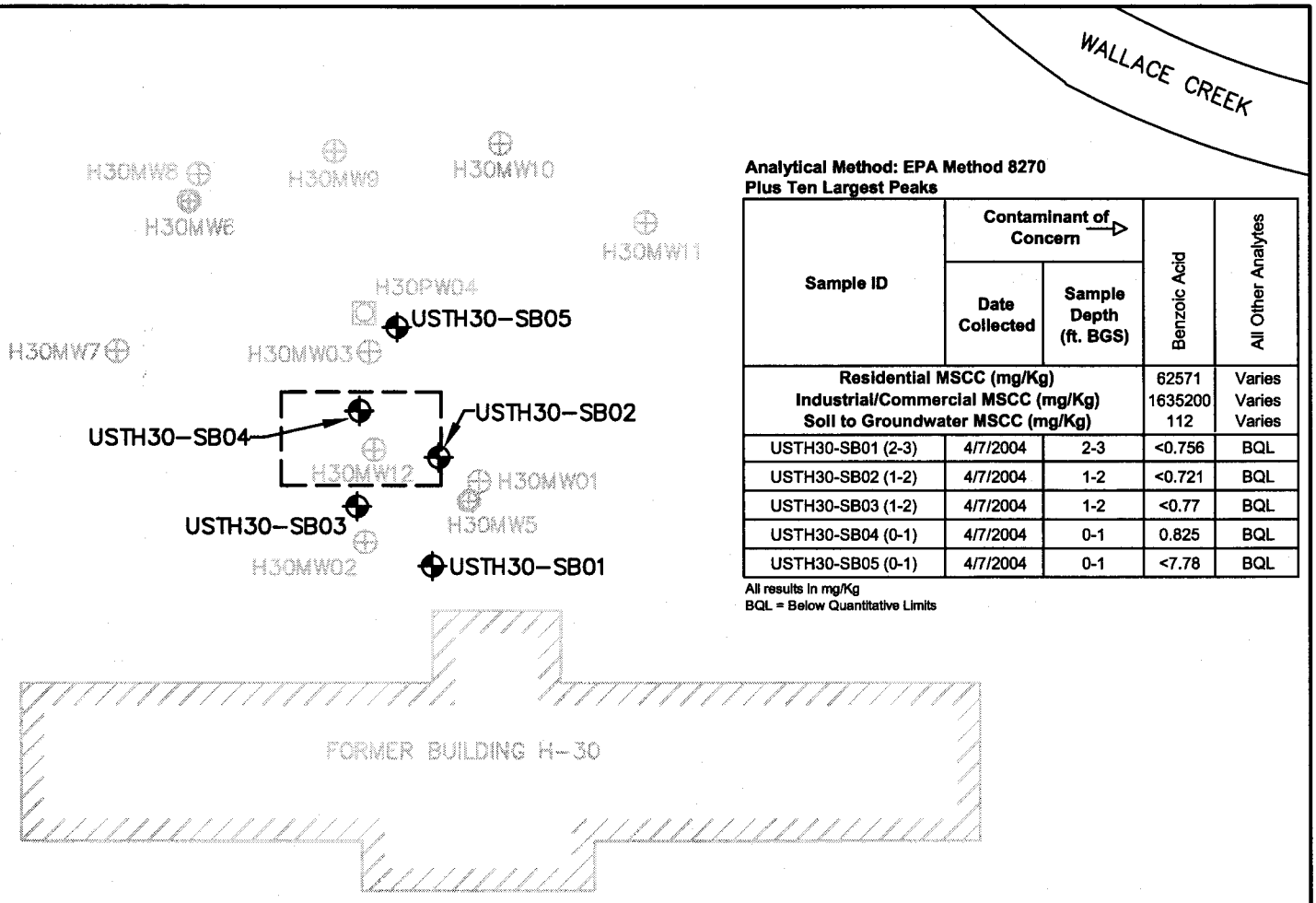
PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC

TITLE: SITE PLAN WITH SOIL LAB RESULTS EPA METHOD 8260 (5035 PREPARATION) WITH IPE AND MTBE

FIGURE 4A

JOB NO: 203080-1041 | DATE: JUNE 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

203080-1041-04A



Analytical Method: EPA Method 8270
Plus Ten Largest Peaks

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Benzoic Acid	All Other Analytes
Residential MSCC (mg/Kg)			62571	Varies
Industrial/Commercial MSCC (mg/Kg)			1635200	Varies
Soil to Groundwater MSCC (mg/Kg)			112	Varies
USTH30-SB01 (2-3)	4/7/2004	2-3	<0.756	BQL
USTH30-SB02 (1-2)	4/7/2004	1-2	<0.721	BQL
USTH30-SB03 (1-2)	4/7/2004	1-2	<0.77	BQL
USTH30-SB04 (0-1)	4/7/2004	0-1	0.825	BQL
USTH30-SB05 (0-1)	4/7/2004	0-1	<7.78	BQL

All results in mg/Kg
BQL = Below Quantitative Limits

LEGEND

EXISTING	NEW	DESCRIPTION
		FORMER BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SIX INCH MONITORING/PUMPING WELL
		SOIL BORING
		APPROXIMATE LOCATION OF FORMER H-30 UST

N

30 15 0 30

SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

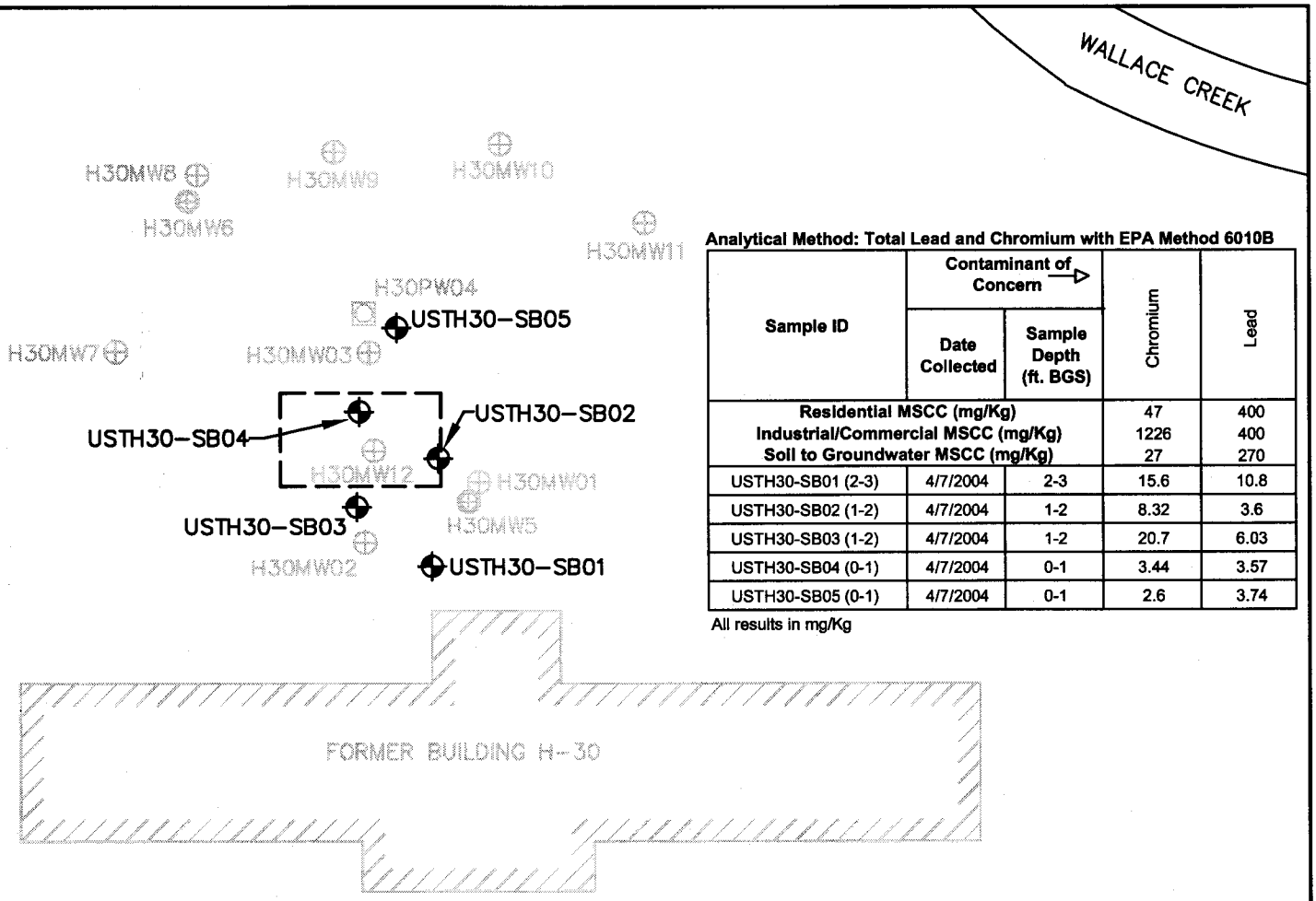
PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC

TITLE: SITE PLAN WITH SOIL LAB RESULTS EPA METHOD 8270 PLUS TEN LARGEST PEAKS

FIGURE 4B

JOB NO: 203080-1041 | DATE: JUNE 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

203080-1041-04B



Analytical Method: Total Lead and Chromium with EPA Method 6010B

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BGS)	Chromium	Lead
Residential MSCC (mg/Kg)			47	400
Industrial/Commercial MSCC (mg/Kg)			1226	400
Soil to Groundwater MSCC (mg/Kg)			27	270
USTH30-SB01 (2-3)	4/7/2004	2-3	15.6	10.8
USTH30-SB02 (1-2)	4/7/2004	1-2	8.32	3.6
USTH30-SB03 (1-2)	4/7/2004	1-2	20.7	6.03
USTH30-SB04 (0-1)	4/7/2004	0-1	3.44	3.57
USTH30-SB05 (0-1)	4/7/2004	0-1	2.6	3.74

All results in mg/Kg

LEGEND

EXISTING	NEW	DESCRIPTION
		FORMER BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SIX INCH MONITORING/PUMPING WELL
		SOIL BORING
		APPROXIMATE LOCATION OF FORMER H-30 UST

N

30 15 0 30

SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

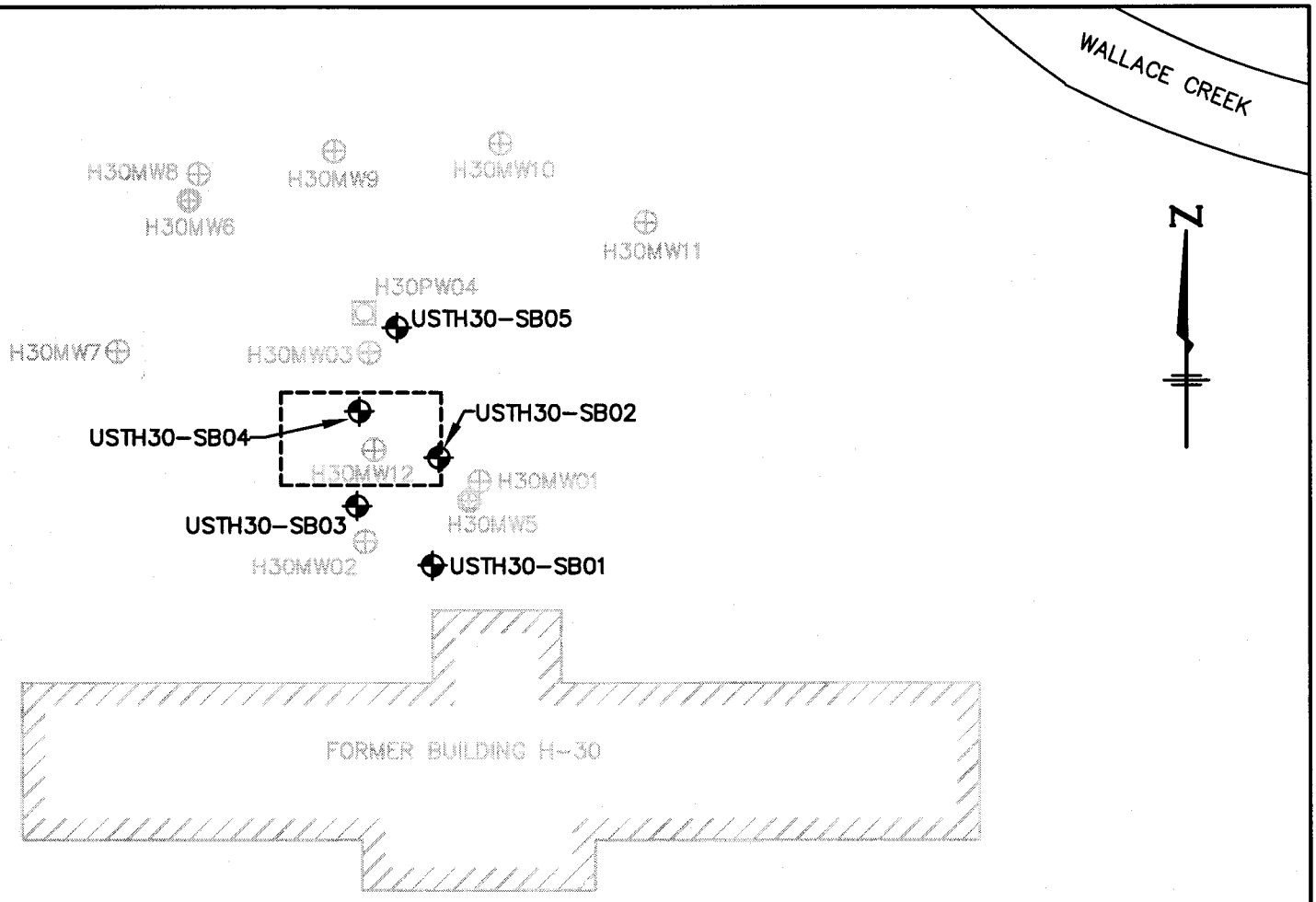
PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC

TITLE: SITE PLAN WITH SOIL LAB RESULTS TOTAL LEAD AND CHROMIUM EPA METHOD 6010B

FIGURE 4C

JOB NO: 203080-1041 | DATE: JUNE 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

203080-1041-04C



Analytical Method: MADEP Method VPH and EPH as Compared to NCDENR MSCCs

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics
	Date Collected	Sample Depth (ft. BGS)				
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	3,255	##	34
USTH30-SB01 (2-3)	4/7/2004	2-3	<10	<20	<10	<20
USTH30-SB02 (1-2)	4/7/2004	1-2	<10	<20	<10	<20
USTH30-SB03 (1-2)	4/7/2004	1-2	<10	<20	<10	<20
USTH30-SB04 (0-1)	4/7/2004	0-1	<10	<20	<10	<20
USTH30-SB05 (0-1)	4/7/2004	0-1	<10	1,480	260	<810 *

All results in mg/Kg
Shading indicates concentration above Residential MSCCs
Health based level > 100%
Considered immobile
* Result is the sum of the reported quantitation limit of one fraction and the detected concentration of the other fraction.

LEGEND

EXISTING	NEW	DESCRIPTION
		FORMER BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SIX INCH MONITORING/PUMPING WELL
		SOIL BORING
		APPROXIMATE LOCATION OF FORMER H-30 UST

30 15 0 30
SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: SOIL ASSESSMENT REPORT FORMER BUILDING H-30 MARINE CORPS BASE CAMP LEJEUNE, NC

TITLE: SITE PLAN WITH SOIL LAB RESULTS MADEP VPH AND EPH AS COMPARED TO NCDENR MSCCs

FIGURE 4D

JOB NO: 203080-1041 | DATE: JUNE 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

203080-1041-040

APPENDIX A

BORING LOGS

BORING LOG

CATLIN ENGINEERS and SCIENTISTS
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 203-080	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-30		LOGGED BY: Charles Ray	BORING ID: USTH30-SB01
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM: N/A	BORING LOCATION: See Map		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 5.0
START DATE: 4/7/04	FINISH DATE: 4/7/04	24 HOUR DTW:	ROCK DEPTH: ---

DEPTH	BLOW COUNT 6in	6in	6in	6in	BLOWS PER FOOT 0 20 40 60 80 100	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION
									0.0 LAND SURFACE
0.0	H	A	H	A			SM		Brown, SILTY, v.f. to f. SAND. Moist.
1.0	H	A	H	A					1.0
2.0	H	A	H	A		USTH30-SB01(2-3)			
3.0	H	A	H	A			CL		Orange, SILTY, v.f. to f., SANDY CLAY with med. to high plasticity. Wet at 5.0'.
4.0	H	A	H	A					5.0
									Boring Terminated at Depth 5.0 ft

CATLIN BORING LOG 203-080 H-30.GPJ CATLIN.GDT 4/28/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 203-080	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-30		LOGGED BY: Charles Ray	BORING ID: USTH30-SB02
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM: N/A	BORING LOCATION: See Map		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 4/7/04	FINISH DATE: 4/7/04	24 HOUR DTW:	ROCK DEPTH: ---

DEPTH	BLOW COUNT 6in	6in	6in	6in	BLOWS PER FOOT 0 20 40 60 80 100	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION
									0.0 LAND SURFACE
0.0	H	A	H	A					
1.0	H	A	H	A		USTH30-SB02(1-2)	SM		Tan, brown, SILTY, v.f. tof. SAND. No HCO.
2.0	H	A	H	A					2.0
3.0	H	A	H	A			CL		Orange, SILTY, v.f. to f., SANDY CLAY with med. to high plasticity. Moist.
									4.0
									Boring Terminated at Depth 4.0 ft

CATLIN BORING LOG 203-080 H-30.GPJ CATLIN.GDT 4/28/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 203-080	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-30		LOGGED BY: Charles Ray	BORING ID: USTH30-SB03
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM: N/A	BORING LOCATION: See Map		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 4/7/04	FINISH DATE: 4/7/04	24 HOUR DTW:	ROCK DEPTH: ---

DEPTH	BLOW COUNT 6in	6in	6in	6in	BLOWS PER FOOT 0 20 40 60 80 100	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION
									0.0	LAND SURFACE
0.0	H	A	H	A			SM			Brown, SILTY, v.f. to f. SAND. Moist.
1.0	H	A	H	A		USTH30-SB03(1-2)			1.0	
2.0	H	A	H	A			CL			Orange, SILTY, v.f. to f., SANDY CLAY with med. to high plasticity. Wet at 3.5'.
3.0	H	A	H	A					4.0	
										Boring Terminated at Depth 4.0 ft

CATLIN BORING LOG 203-080 H-30.GPJ CATLIN.GDT 4/28/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 203-080	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-30		LOGGED BY: Charles Ray	BORING ID: USTH30-SB04
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM: N/A	BORING LOCATION: See Map		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 2.0
START DATE: 4/7/04	FINISH DATE: 4/7/04	24 HOUR DTW:	ROCK DEPTH: ---

DEPTH	BLOW COUNT 6in	6in	6in	6in	BLOWS PER FOOT 0 20 40 60 80 100	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION
									0.0	LAND SURFACE
0.0	H	A	H	A	USTH30-SB04 (0-1)		SM			Brown, tan, SILTY, v.f. to f. SAND.
1.0	H	A	H	A					1.5	
							CL		2.0	Orange, SILTY, v.f. to f., SANDY CLAY with med. to high plasticity. Wet at 2.0'.
										Boring Terminated at Depth 2.0 ft

CATLIN BORING LOG 203-080 H-30.GPJ CATLIN.GDT 4/28/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 203-080	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-30		LOGGED BY: Charles Ray	BORING ID: USTH30-SB05
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM: N/A	BORING LOCATION: See Map		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 2.0
START DATE: 4/7/04	FINISH DATE: 4/7/04	24 HOUR DTW:	ROCK DEPTH: ---

DEPTH	BLOW COUNT 6in	6in	6in	6in	BLOWS PER FOOT 0 20 40 60 80 100	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION
									0.0	LAND SURFACE
0.0	H	A	H	A	USTH30-SB05(0-1)					
1.0	H	A	H	A			SM			Tan, brown, SILTY, v.f. to f. SAND. Sat. at 1.0'. Mod. Heating oil odor.
									2.0	Boring Terminated at Depth 2.0 ft

CATLIN BORING LOG 203-080 H-30.GPJ CATLIN.GDT 4/28/04

APPENDIX B

NORTH CAROLINA WELL CONSTRUCTION RECORDS

(NOT USED)

APPENDIX C

FIELD MEASUREMENTS

(NOT USED)

APPENDIX D

STANDARD PROCEDURES

CATLIN STANDARD METHODS OF INVESTIGATION

(REVISED APRIL 2002)

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 is 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 is 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 (FIS).
- 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 is evaluated as follows:

- Background data is evaluated in context with the suspected or confirmed problem.
- Survey data is 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, isopachs, structure contours, or other constructions. Regional geologic data are used to obtain an overall framework.

- Hydrogeologic data is 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 is utilized to develop various plume geometry and isoconcentration maps.

- All data is compiled and utilized for making specific recommendations with regard to remedial action alternatives.

APPENDIX E

LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION

FILE COPY

PARADIGM ANALYTICAL LABORATORIES, INC.
5500 Business Drive
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington NC 28404-0279

Report Number: G128-1289

Client Project: Bld. H-30

Dear Mr. Mason:

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

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

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
Paradigm Analytical Laboratories, Inc.

4/23/04
Laboratory Directory Date
J. Patrick Weaver

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB01 (2-3)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-1A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0497	1	04/12/2004
Benzene	BQL	0.00497	1	04/12/2004
Bromobenzene	BQL	0.00497	1	04/12/2004
Bromochloromethane	BQL	0.00497	1	04/12/2004
Bromodichloromethane	BQL	0.00497	1	04/12/2004
Bromoform	BQL	0.00497	1	04/12/2004
Bromomethane	BQL	0.00497	1	04/12/2004
2-Butanone	BQL	0.0249	1	04/12/2004
n-Butylbenzene	BQL	0.00497	1	04/12/2004
sec-Butylbenzene	BQL	0.00497	1	04/12/2004
tert-Butylbenzene	BQL	0.00497	1	04/12/2004
Carbon disulfide	BQL	0.00497	1	04/12/2004
Carbon tetrachloride	BQL	0.00497	1	04/12/2004
Chlorobenzene	BQL	0.00497	1	04/12/2004
Chloroethane	BQL	0.00497	1	04/12/2004
Chloroform	BQL	0.00497	1	04/12/2004
Chloromethane	BQL	0.00497	1	04/12/2004
2-Chlorotoluene	BQL	0.00497	1	04/12/2004
4-Chlorotoluene	BQL	0.00497	1	04/12/2004
Dibromochloromethane	BQL	0.00497	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00497	1	04/12/2004
Dibromomethane	BQL	0.00497	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00497	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00497	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00497	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00497	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00497	1	04/12/2004
1,1-Dichloroethane	BQL	0.00497	1	04/12/2004
1,1-Dichloroethene	BQL	0.00497	1	04/12/2004
1,2-Dichloroethane	BQL	0.00497	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00497	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00497	1	04/12/2004
1,2-Dichloropropane	BQL	0.00497	1	04/12/2004
1,3-Dichloropropane	BQL	0.00497	1	04/12/2004
2,2-Dichloropropane	BQL	0.00497	1	04/12/2004
1,1-Dichloropropene	BQL	0.00497	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00497	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00497	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00497	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00497	1	04/12/2004
Ethylbenzene	BQL	0.00497	1	04/12/2004
Hexachlorobutadiene	BQL	0.00497	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB01 (2-3)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-1A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00497	1	04/12/2004
Iodomethane	BQL	0.00497	1	04/12/2004
Isopropylbenzene	BQL	0.00497	1	04/12/2004
4-Isopropyltoluene	BQL	0.00497	1	04/12/2004
Methylene chloride	BQL	0.0199	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00497	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00497	1	04/12/2004
Naphthalene	BQL	0.00497	1	04/12/2004
n-Propyl benzene	BQL	0.00497	1	04/12/2004
Styrene	BQL	0.00497	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00497	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00497	1	04/12/2004
Tetrachloroethene	BQL	0.00497	1	04/12/2004
Toluene	BQL	0.00497	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00497	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00497	1	04/12/2004
Trichloroethene	BQL	0.00497	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00497	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00497	1	04/12/2004
Trichlorofluoromethane	BQL	0.00497	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00497	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00497	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00497	1	04/12/2004
Vinyl chloride	BQL	0.00497	1	04/12/2004
m-,p-Xylene	BQL	0.00995	1	04/12/2004
o-Xylene	BQL	0.00497	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0494	99
1,2-Dichloroethane-d4	0.05	0.0628	126
Toluene-d8	0.05	0.0502	100

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB02 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-2A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 86.2

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0450	1	04/12/2004
Benzene	BQL	0.00450	1	04/12/2004
Bromobenzene	BQL	0.00450	1	04/12/2004
Bromochloromethane	BQL	0.00450	1	04/12/2004
Bromodichloromethane	BQL	0.00450	1	04/12/2004
Bromoform	BQL	0.00450	1	04/12/2004
Bromomethane	BQL	0.00450	1	04/12/2004
2-Butanone	BQL	0.0225	1	04/12/2004
n-Butylbenzene	BQL	0.00450	1	04/12/2004
sec-Butylbenzene	BQL	0.00450	1	04/12/2004
tert-Butylbenzene	BQL	0.00450	1	04/12/2004
Carbon disulfide	BQL	0.00450	1	04/12/2004
Carbon tetrachloride	BQL	0.00450	1	04/12/2004
Chlorobenzene	BQL	0.00450	1	04/12/2004
Chloroethane	BQL	0.00450	1	04/12/2004
Chloroform	BQL	0.00450	1	04/12/2004
Chloromethane	BQL	0.00450	1	04/12/2004
2-Chlorotoluene	BQL	0.00450	1	04/12/2004
4-Chlorotoluene	BQL	0.00450	1	04/12/2004
Dibromochloromethane	BQL	0.00450	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00450	1	04/12/2004
Dibromomethane	BQL	0.00450	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00450	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00450	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00450	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00450	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00450	1	04/12/2004
1,1-Dichloroethane	BQL	0.00450	1	04/12/2004
1,1-Dichloroethene	BQL	0.00450	1	04/12/2004
1,2-Dichloroethane	BQL	0.00450	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00450	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00450	1	04/12/2004
1,2-Dichloropropane	BQL	0.00450	1	04/12/2004
1,3-Dichloropropane	BQL	0.00450	1	04/12/2004
2,2-Dichloropropane	BQL	0.00450	1	04/12/2004
1,1-Dichloropropene	BQL	0.00450	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00450	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00450	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00450	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00450	1	04/12/2004
Ethylbenzene	BQL	0.00450	1	04/12/2004
Hexachlorobutadiene	BQL	0.00450	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB02 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-2A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 86.2

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00450	1	04/12/2004
Iodomethane	BQL	0.00450	1	04/12/2004
Isopropylbenzene	BQL	0.00450	1	04/12/2004
4-Isopropyltoluene	BQL	0.00450	1	04/12/2004
Methylene chloride	BQL	0.0180	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00450	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00450	1	04/12/2004
Naphthalene	BQL	0.00450	1	04/12/2004
n-Propyl benzene	BQL	0.00450	1	04/12/2004
Styrene	BQL	0.00450	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00450	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00450	1	04/12/2004
Tetrachloroethene	BQL	0.00450	1	04/12/2004
Toluene	BQL	0.00450	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00450	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00450	1	04/12/2004
Trichloroethene	BQL	0.00450	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00450	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00450	1	04/12/2004
Trichlorofluoromethane	BQL	0.00450	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00450	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00450	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00450	1	04/12/2004
Vinyl chloride	BQL	0.00450	1	04/12/2004
m-,p-Xylene	BQL	0.00899	1	04/12/2004
o-Xylene	BQL	0.00450	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0494	99
1,2-Dichloroethane-d4	0.05	0.0614	123
Toluene-d8	0.05	0.0509	102

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB03 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-3A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 13:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.8

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0463	1	04/12/2004
Benzene	BQL	0.00463	1	04/12/2004
Bromobenzene	BQL	0.00463	1	04/12/2004
Bromochloromethane	BQL	0.00463	1	04/12/2004
Bromodichloromethane	BQL	0.00463	1	04/12/2004
Bromoform	BQL	0.00463	1	04/12/2004
Bromomethane	BQL	0.00463	1	04/12/2004
2-Butanone	BQL	0.0232	1	04/12/2004
n-Butylbenzene	BQL	0.00463	1	04/12/2004
sec-Butylbenzene	BQL	0.00463	1	04/12/2004
tert-Butylbenzene	BQL	0.00463	1	04/12/2004
Carbon disulfide	BQL	0.00463	1	04/12/2004
Carbon tetrachloride	BQL	0.00463	1	04/12/2004
Chlorobenzene	BQL	0.00463	1	04/12/2004
Chloroethane	BQL	0.00463	1	04/12/2004
Chloroform	BQL	0.00463	1	04/12/2004
Chloromethane	BQL	0.00463	1	04/12/2004
2-Chlorotoluene	BQL	0.00463	1	04/12/2004
4-Chlorotoluene	BQL	0.00463	1	04/12/2004
Dibromochloromethane	BQL	0.00463	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00463	1	04/12/2004
Dibromomethane	BQL	0.00463	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00463	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00463	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00463	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00463	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00463	1	04/12/2004
1,1-Dichloroethane	BQL	0.00463	1	04/12/2004
1,1-Dichloroethene	BQL	0.00463	1	04/12/2004
1,2-Dichloroethane	BQL	0.00463	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00463	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00463	1	04/12/2004
1,2-Dichloropropane	BQL	0.00463	1	04/12/2004
1,3-Dichloropropane	BQL	0.00463	1	04/12/2004
2,2-Dichloropropane	BQL	0.00463	1	04/12/2004
1,1-Dichloropropene	BQL	0.00463	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00463	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00463	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00463	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00463	1	04/12/2004
Ethylbenzene	BQL	0.00463	1	04/12/2004
Hexachlorobutadiene	BQL	0.00463	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB03 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-3A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 13:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.8

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00463	1	04/12/2004
Iodomethane	BQL	0.00463	1	04/12/2004
Isopropylbenzene	BQL	0.00463	1	04/12/2004
4-Isopropyltoluene	BQL	0.00463	1	04/12/2004
Methylene chloride	BQL	0.0185	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00463	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00463	1	04/12/2004
Naphthalene	BQL	0.00463	1	04/12/2004
n-Propyl benzene	BQL	0.00463	1	04/12/2004
Styrene	BQL	0.00463	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00463	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00463	1	04/12/2004
Tetrachloroethene	BQL	0.00463	1	04/12/2004
Toluene	BQL	0.00463	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00463	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00463	1	04/12/2004
Trichloroethene	BQL	0.00463	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00463	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00463	1	04/12/2004
Trichlorofluoromethane	BQL	0.00463	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00463	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00463	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00463	1	04/12/2004
Vinyl chloride	BQL	0.00463	1	04/12/2004
m-,p-Xylene	BQL	0.00926	1	04/12/2004
o-Xylene	BQL	0.00463	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0499	100
1,2-Dichloroethane-d4	0.05	0.0628	126
Toluene-d8	0.05	0.0506	101

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: mc

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB04 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-4A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 13:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 85.9

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0545	1	04/12/2004
Benzene	BQL	0.00545	1	04/12/2004
Bromobenzene	BQL	0.00545	1	04/12/2004
Bromochloromethane	BQL	0.00545	1	04/12/2004
Bromodichloromethane	BQL	0.00545	1	04/12/2004
Bromoform	BQL	0.00545	1	04/12/2004
Bromomethane	BQL	0.00545	1	04/12/2004
2-Butanone	BQL	0.0273	1	04/12/2004
n-Butylbenzene	BQL	0.00545	1	04/12/2004
sec-Butylbenzene	BQL	0.00545	1	04/12/2004
tert-Butylbenzene	BQL	0.00545	1	04/12/2004
Carbon disulfide	BQL	0.00545	1	04/12/2004
Carbon tetrachloride	BQL	0.00545	1	04/12/2004
Chlorobenzene	BQL	0.00545	1	04/12/2004
Chloroethane	BQL	0.00545	1	04/12/2004
Chloroform	BQL	0.00545	1	04/12/2004
Chloromethane	BQL	0.00545	1	04/12/2004
2-Chlorotoluene	BQL	0.00545	1	04/12/2004
4-Chlorotoluene	BQL	0.00545	1	04/12/2004
Dibromochloromethane	BQL	0.00545	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00545	1	04/12/2004
Dibromomethane	BQL	0.00545	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00545	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00545	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00545	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00545	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00545	1	04/12/2004
1,1-Dichloroethane	BQL	0.00545	1	04/12/2004
1,1-Dichloroethene	BQL	0.00545	1	04/12/2004
1,2-Dichloroethane	BQL	0.00545	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00545	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00545	1	04/12/2004
1,2-Dichloropropane	BQL	0.00545	1	04/12/2004
1,3-Dichloropropane	BQL	0.00545	1	04/12/2004
2,2-Dichloropropane	BQL	0.00545	1	04/12/2004
1,1-Dichloropropene	BQL	0.00545	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00545	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00545	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00545	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00545	1	04/12/2004
Ethylbenzene	BQL	0.00545	1	04/12/2004
Hexachlorobutadiene	BQL	0.00545	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB04 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-4A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 13:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 85.9

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00545	1	04/12/2004
Iodomethane	BQL	0.00545	1	04/12/2004
Isopropylbenzene	BQL	0.00545	1	04/12/2004
4-Isopropyltoluene	BQL	0.00545	1	04/12/2004
Methylene chloride	BQL	0.0218	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00545	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00545	1	04/12/2004
Naphthalene	BQL	0.00545	1	04/12/2004
n-Propyl benzene	BQL	0.00545	1	04/12/2004
Styrene	BQL	0.00545	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00545	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00545	1	04/12/2004
Tetrachloroethene	BQL	0.00545	1	04/12/2004
Toluene	BQL	0.00545	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00545	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00545	1	04/12/2004
Trichloroethene	BQL	0.00545	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00545	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00545	1	04/12/2004
Trichlorofluoromethane	BQL	0.00545	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00545	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00545	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00545	1	04/12/2004
Vinyl chloride	BQL	0.00545	1	04/12/2004
m-,p-Xylene	BQL	0.0109	1	04/12/2004
o-Xylene	BQL	0.00545	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0494	99
1,2-Dichloroethane-d4	0.05	0.0606	121
Toluene-d8	0.05	0.0515	103

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB05 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-5A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 14:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.5

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	**0.0886**	0.0548	1	04/12/2004
Benzene	BQL	0.00548	1	04/12/2004
Bromobenzene	BQL	0.00548	1	04/12/2004
Bromochloromethane	BQL	0.00548	1	04/12/2004
Bromodichloromethane	BQL	0.00548	1	04/12/2004
Bromoform	BQL	0.00548	1	04/12/2004
Bromomethane	BQL	0.00548	1	04/12/2004
2-Butanone	BQL	0.0274	1	04/12/2004
n-Butylbenzene	BQL	0.00548	1	04/12/2004
sec-Butylbenzene	BQL	0.00548	1	04/12/2004
tert-Butylbenzene	BQL	0.00548	1	04/12/2004
Carbon disulfide	BQL	0.00548	1	04/12/2004
Carbon tetrachloride	BQL	0.00548	1	04/12/2004
Chlorobenzene	BQL	0.00548	1	04/12/2004
Chloroethane	BQL	0.00548	1	04/12/2004
Chloroform	BQL	0.00548	1	04/12/2004
Chloromethane	BQL	0.00548	1	04/12/2004
2-Chlorotoluene	BQL	0.00548	1	04/12/2004
4-Chlorotoluene	BQL	0.00548	1	04/12/2004
Dibromochloromethane	BQL	0.00548	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00548	1	04/12/2004
Dibromomethane	BQL	0.00548	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00548	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00548	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00548	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00548	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00548	1	04/12/2004
1,1-Dichloroethane	BQL	0.00548	1	04/12/2004
1,1-Dichloroethene	BQL	0.00548	1	04/12/2004
1,2-Dichloroethane	BQL	0.00548	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00548	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00548	1	04/12/2004
1,2-Dichloropropane	BQL	0.00548	1	04/12/2004
1,3-Dichloropropane	BQL	0.00548	1	04/12/2004
2,2-Dichloropropane	BQL	0.00548	1	04/12/2004
1,1-Dichloropropene	BQL	0.00548	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00548	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00548	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00548	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00548	1	04/12/2004
Ethylbenzene	BQL	0.00548	1	04/12/2004
Hexachlorobutadiene	BQL	0.00548	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB05 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-5A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 14:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.5

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00548	1	04/12/2004
Iodomethane	BQL	0.00548	1	04/12/2004
Isopropylbenzene	BQL	0.00548	1	04/12/2004
4-Isopropyltoluene	BQL	0.00548	1	04/12/2004
Methylene chloride	BQL	0.0219	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00548	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00548	1	04/12/2004
Naphthalene	BQL	0.00548	1	04/12/2004
n-Propyl benzene	BQL	0.00548	1	04/12/2004
Styrene	BQL	0.00548	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00548	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00548	1	04/12/2004
Tetrachloroethene	BQL	0.00548	1	04/12/2004
Toluene	BQL	0.00548	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00548	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00548	1	04/12/2004
Trichloroethene	BQL	0.00548	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00548	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00548	1	04/12/2004
Trichlorofluoromethane	BQL	0.00548	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00548	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00548	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00548	1	04/12/2004
Vinyl chloride	BQL	0.00548	1	04/12/2004
m-,p-Xylene	BQL	0.0110	1	04/12/2004
o-Xylene	BQL	0.00548	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0497	99
1,2-Dichloroethane-d4	0.05	0.0653	131
Toluene-d8	0.05	0.052	104

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB01 (2-3) Dup
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-6A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0585	1	04/12/2004
Benzene	BQL	0.00585	1	04/12/2004
Bromobenzene	BQL	0.00585	1	04/12/2004
Bromochloromethane	BQL	0.00585	1	04/12/2004
Bromodichloromethane	BQL	0.00585	1	04/12/2004
Bromoform	BQL	0.00585	1	04/12/2004
Bromomethane	BQL	0.00585	1	04/12/2004
2-Butanone	BQL	0.0292	1	04/12/2004
n-Butylbenzene	BQL	0.00585	1	04/12/2004
sec-Butylbenzene	BQL	0.00585	1	04/12/2004
tert-Butylbenzene	BQL	0.00585	1	04/12/2004
Carbon disulfide	BQL	0.00585	1	04/12/2004
Carbon tetrachloride	BQL	0.00585	1	04/12/2004
Chlorobenzene	BQL	0.00585	1	04/12/2004
Chloroethane	BQL	0.00585	1	04/12/2004
Chloroform	BQL	0.00585	1	04/12/2004
Chloromethane	BQL	0.00585	1	04/12/2004
2-Chlorotoluene	BQL	0.00585	1	04/12/2004
4-Chlorotoluene	BQL	0.00585	1	04/12/2004
Dibromochloromethane	BQL	0.00585	1	04/12/2004
1,2-Dibromo-3-chloropropane	BQL	0.00585	1	04/12/2004
Dibromomethane	BQL	0.00585	1	04/12/2004
1,2-Dibromoethane (EDB)	BQL	0.00585	1	04/12/2004
1,2-Dichlorobenzene	BQL	0.00585	1	04/12/2004
1,3-Dichlorobenzene	BQL	0.00585	1	04/12/2004
1,4-Dichlorobenzene	BQL	0.00585	1	04/12/2004
trans-1,4-Dichloro-2-butene	BQL	0.00585	1	04/12/2004
1,1-Dichloroethane	BQL	0.00585	1	04/12/2004
1,1-Dichloroethene	BQL	0.00585	1	04/12/2004
1,2-Dichloroethane	BQL	0.00585	1	04/12/2004
cis-1,2-Dichloroethene	BQL	0.00585	1	04/12/2004
trans-1,2-dichloroethene	BQL	0.00585	1	04/12/2004
1,2-Dichloropropane	BQL	0.00585	1	04/12/2004
1,3-Dichloropropane	BQL	0.00585	1	04/12/2004
2,2-Dichloropropane	BQL	0.00585	1	04/12/2004
1,1-Dichloropropene	BQL	0.00585	1	04/12/2004
cis-1,3-Dichloropropene	BQL	0.00585	1	04/12/2004
trans-1,3-Dichloropropene	BQL	0.00585	1	04/12/2004
Dichlorodifluoromethane	BQL	0.00585	1	04/12/2004
Diisopropyl ether (DIPE)	BQL	0.00585	1	04/12/2004
Ethylbenzene	BQL	0.00585	1	04/12/2004
Hexachlorobutadiene	BQL	0.00585	1	04/12/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: USTH30-SB01 (2-3) Dup
Client Project ID: Bld. H-30
Lab Sample ID G128-1289-6A
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 04-07-2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	0.00585	1	04/12/2004
Iodomethane	BQL	0.00585	1	04/12/2004
Isopropylbenzene	BQL	0.00585	1	04/12/2004
4-Isopropyltoluene	BQL	0.00585	1	04/12/2004
Methylene chloride	BQL	0.0234	1	04/12/2004
4-Methyl-2-pentanone	BQL	0.00585	1	04/12/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00585	1	04/12/2004
Naphthalene	BQL	0.00585	1	04/12/2004
n-Propyl benzene	BQL	0.00585	1	04/12/2004
Styrene	BQL	0.00585	1	04/12/2004
1,1,1,2-Tetrachloroethane	BQL	0.00585	1	04/12/2004
1,1,2,2-Tetrachloroethane	BQL	0.00585	1	04/12/2004
Tetrachloroethene	BQL	0.00585	1	04/12/2004
Toluene	BQL	0.00585	1	04/12/2004
1,2,3-Trichlorobenzene	BQL	0.00585	1	04/12/2004
1,2,4-Trichlorobenzene	BQL	0.00585	1	04/12/2004
Trichloroethene	BQL	0.00585	1	04/12/2004
1,1,1-Trichloroethane	BQL	0.00585	1	04/12/2004
1,1,2-Trichloroethane	BQL	0.00585	1	04/12/2004
Trichlorofluoromethane	BQL	0.00585	1	04/12/2004
1,2,3-Trichloropropane	BQL	0.00585	1	04/12/2004
1,2,4-Trimethylbenzene	BQL	0.00585	1	04/12/2004
1,3,5-Trimethylbenzene	BQL	0.00585	1	04/12/2004
Vinyl chloride	BQL	0.00585	1	04/12/2004
m-,p-Xylene	BQL	0.0117	1	04/12/2004
o-Xylene	BQL	0.00585	1	04/12/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0514	103
1,2-Dichloroethane-d4	0.05	0.0598	120
Toluene-d8	0.05	0.0509	102

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB01 (2-3)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/07/04
Date Analyzed	04/17/04
Dry Weight	83
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	93
Surrogate % Recovery - FID	100

* = 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.

Lab Info: g128-1289-1d

Reviewed By: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB02 (1-2)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/07/04
Date Analyzed	04/17/04
Dry Weight	86
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	91
Surrogate % Recovery - FID	99

* = 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.

Lab Info: g128-1289-2d

Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB03 (1-2)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/07/04
Date Analyzed	04/20/04
Dry Weight	81
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	88
Surrogate % Recovery - FID	98

* = 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.

Lab Info: g128-1289-3e

Reviewed By: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB04 (0-1)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/07/04
Date Analyzed	04/20/04
Dry Weight	86
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	87
Surrogate % Recovery - FID	98

* = 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.

Lab Info: g128-1289-4e

Reviewed By: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB05 (0-1)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/07/04
Date Analyzed	04/20/04
Dry Weight	80
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	80 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	110
Surrogate % Recovery - FID	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.

Lab Info: g128-1289-5e

Reviewed By: mre

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/02/04 PID Initial Calibration Date: 03/02/04

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	9.3	0.41	29.4	1.3	100	10
C_9-C_{12} Aliphatics	7.9	0.3	25.2	0.97	100	10
C_9-C_{10} Aromatics	0.5	0.04	1.5	0.14	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	20	2	4.7	Calibration Factor
	80	8		
	200	20		
	800	80		
	2000	200		
C_9-C_{12} Aliphatics	15	1.5	14.3	Calibration Factor
	60	6		
	150	15		
	600	60		
	1500	150		
C_9-C_{10} Aromatics	32.5	3.25	0.998	Linear Regression
	130	13		
	325	32.5		
	1300	130		
	3250	325		

Calibration Check Date: 04/16/04

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	200	20	-19.7
C_9-C_{12} Aliphatics	150	15	7.2
C_9-C_{10} Aromatics	325	32.5	3.5

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

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/02/04 PID Initial Calibration Date: 03/02/04

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C_5-C_8 Aliphatics	9.3	0.41	29.4	1.3	100	10
C_9-C_{12} Aliphatics	7.9	0.3	25.2	0.97	100	10
C_9-C_{10} Aromatics	0.5	0.04	1.5	0.14	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	20	2	4.7	Calibration Factor
	80	8		
	200	20		
	800	80		
	2000	200		
C_9-C_{12} Aliphatics	15	1.5	14.3	Calibration Factor
	60	6		
	150	15		
	600	60		
	1500	150		
C_9-C_{10} Aromatics	32.5	3.25	0.998	Linear Regression
	130	13		
	325	32.5		
	1300	130		
	3250	325		

Calibration Check Date: 04/20/04

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	200	20	-22.8
C_9-C_{12} Aliphatics	150	15	3.1
C_9-C_{10} Aromatics	325	32.5	-2.9

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 Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB01 (2-3)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-1I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.378	1	04/20/2004
Acenaphthylene	BQL	0.378	1	04/20/2004
Anthracene	BQL	0.378	1	04/20/2004
Benzo[a]anthracene	BQL	0.378	1	04/20/2004
Benzo[a]pyrene	BQL	0.378	1	04/20/2004
Benzo[b]fluoranthene	BQL	0.378	1	04/20/2004
Benzo[g,h,i]perylene	BQL	0.378	1	04/20/2004
Benzo[k]fluoranthene	BQL	0.378	1	04/20/2004
Benzoic Acid	BQL	0.756	1	04/20/2004
Bis(2-chloroethoxy)methane	BQL	0.378	1	04/20/2004
Bis(2-chloroethyl)ether	BQL	0.378	1	04/20/2004
Bis(2-chloroisopropyl)ether	BQL	0.378	1	04/20/2004
Bis(2-ethylhexyl)phthalate	BQL	0.378	1	04/20/2004
4-bromophenyl phenyl ether	BQL	0.378	1	04/20/2004
Butylbenzylphthalate	BQL	0.378	1	04/20/2004
2-Chloronaphthalene	BQL	0.378	1	04/20/2004
2-Chlorophenol	BQL	0.378	1	04/20/2004
4-Chloro-3-methylphenol	BQL	0.378	1	04/20/2004
4-Chloroaniline	BQL	1.89	1	04/20/2004
4-Chlorophenyl phenyl ether	BQL	0.378	1	04/20/2004
Chrysene	BQL	0.378	1	04/20/2004
Dibenzo[a,h]anthracene	BQL	0.378	1	04/20/2004
Dibenzofuran	BQL	0.378	1	04/20/2004
Di-n-Butylphthalate	BQL	0.378	1	04/20/2004
1,2-Dichlorobenzene	BQL	0.378	1	04/20/2004
1,3-Dichlorobenzene	BQL	0.378	1	04/20/2004
1,4-Dichlorobenzene	BQL	0.378	1	04/20/2004
3,3'-Dichlorobenzidine	BQL	0.756	1	04/20/2004
2,4-Dichlorophenol	BQL	0.378	1	04/20/2004
Diethylphthalate	BQL	0.378	1	04/20/2004
Dimethylphthalate	BQL	0.378	1	04/20/2004
2,4-Dimethylphenol	BQL	0.378	1	04/20/2004
Di-n-octylphthalate	BQL	0.378	1	04/20/2004
4,6-Dinitro-2-methylphenol	BQL	1.89	1	04/20/2004
2,4-Dinitrophenol	BQL	1.89	1	04/20/2004
2,4-Dinitrotoluene	BQL	0.378	1	04/20/2004
2,6-Dinitrotoluene	BQL	0.378	1	04/20/2004
Fluoranthene	BQL	0.378	1	04/20/2004
Fluorene	BQL	0.378	1	04/20/2004
Hexachlorobenzene	BQL	0.378	1	04/20/2004
Hexachlorobutadiene	BQL	0.378	1	04/20/2004
Hexachlorocyclopentadiene	BQL	0.756	1	04/20/2004

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH30-SB01 (2-3)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-1I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 12:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 82.7

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.378	1	04/20/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.378	1	04/20/2004
Isophorone	BQL	0.378	1	04/20/2004
2-Methylnaphthalene	BQL	0.378	1	04/20/2004
2-Methylphenol	BQL	0.378	1	04/20/2004
3- & 4-Methylphenol	BQL	0.378	1	04/20/2004
Naphthalene	BQL	0.378	1	04/20/2004
2-Nitroaniline	BQL	0.378	1	04/20/2004
3-Nitroaniline	BQL	1.89	1	04/20/2004
4-Nitroaniline	BQL	1.89	1	04/20/2004
Nitrobenzene	BQL	0.378	1	04/20/2004
2-Nitrophenol	BQL	0.378	1	04/20/2004
4-Nitrophenol	BQL	1.89	1	04/20/2004
N-Nitrosodi-n-propylamine	BQL	0.378	1	04/20/2004
N-Nitrosodiphenylamine	BQL	0.378	1	04/20/2004
Pentachlorophenol	BQL	1.89	1	04/20/2004
Phenanthrene	BQL	0.378	1	04/20/2004
Phenol	BQL	0.378	1	04/20/2004
Pyrene	BQL	0.378	1	04/20/2004
1,2,4-Trichlorobenzene	BQL	0.378	1	04/20/2004
2,4,5-Trichlorophenol	BQL	0.378	1	04/20/2004
2,4,6-Trichlorophenol	BQL	0.378	1	04/20/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
2-Fluorophenol	10	8.4	84
Nitrobenzene-d5	10	7.8	78
Phenol-d6	10	8	80
2,4,6-Tribromophenol	10	8.2	82
4-Terphenyl-d14	10	8.3	83

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB02 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-2I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 12:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 86.2

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.360	1	04/20/2004
Acenaphthylene	BQL	0.360	1	04/20/2004
Anthracene	BQL	0.360	1	04/20/2004
Benzo[a]anthracene	BQL	0.360	1	04/20/2004
Benzo[a]pyrene	BQL	0.360	1	04/20/2004
Benzo[b]fluoranthene	BQL	0.360	1	04/20/2004
Benzo[g,h,i]perylene	BQL	0.360	1	04/20/2004
Benzo[k]fluoranthene	BQL	0.360	1	04/20/2004
Benzoic Acid	BQL	0.721	1	04/20/2004
Bis(2-chloroethoxy)methane	BQL	0.360	1	04/20/2004
Bis(2-chloroethyl)ether	BQL	0.360	1	04/20/2004
Bis(2-chloroisopropyl)ether	BQL	0.360	1	04/20/2004
Bis(2-ethylhexyl)phthalate	BQL	0.360	1	04/20/2004
4-bromophenyl phenyl ether	BQL	0.360	1	04/20/2004
Butylbenzylphthalate	BQL	0.360	1	04/20/2004
2-Chloronaphthalene	BQL	0.360	1	04/20/2004
2-Chlorophenol	BQL	0.360	1	04/20/2004
4-Chloro-3-methylphenol	BQL	0.360	1	04/20/2004
4-Chloroaniline	BQL	1.80	1	04/20/2004
4-Chlorophenyl phenyl ether	BQL	0.360	1	04/20/2004
Chrysene	BQL	0.360	1	04/20/2004
Dibenzo[a,h]anthracene	BQL	0.360	1	04/20/2004
Dibenzofuran	BQL	0.360	1	04/20/2004
Di-n-Butylphthalate	BQL	0.360	1	04/20/2004
1,2-Dichlorobenzene	BQL	0.360	1	04/20/2004
1,3-Dichlorobenzene	BQL	0.360	1	04/20/2004
1,4-Dichlorobenzene	BQL	0.360	1	04/20/2004
3,3'-Dichlorobenzidine	BQL	0.721	1	04/20/2004
2,4-Dichlorophenol	BQL	0.360	1	04/20/2004
Diethylphthalate	BQL	0.360	1	04/20/2004
Dimethylphthalate	BQL	0.360	1	04/20/2004
2,4-Dimethylphenol	BQL	0.360	1	04/20/2004
Di-n-octylphthalate	BQL	0.360	1	04/20/2004
4,6-Dinitro-2-methylphenol	BQL	1.80	1	04/20/2004
2,4-Dinitrophenol	BQL	1.80	1	04/20/2004
2,4-Dinitrotoluene	BQL	0.360	1	04/20/2004
2,6-Dinitrotoluene	BQL	0.360	1	04/20/2004
Fluoranthene	BQL	0.360	1	04/20/2004
Fluorene	BQL	0.360	1	04/20/2004
Hexachlorobenzene	BQL	0.360	1	04/20/2004
Hexachlorobutadiene	BQL	0.360	1	04/20/2004
Hexachlorocyclopentadiene	BQL	0.721	1	04/20/2004

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB02 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-2I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 12:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 86.2

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.360	1	04/20/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.360	1	04/20/2004
Isophorone	BQL	0.360	1	04/20/2004
2-Methylnaphthalene	BQL	0.360	1	04/20/2004
2-Methylphenol	BQL	0.360	1	04/20/2004
3- & 4-Methylphenol	BQL	0.360	1	04/20/2004
Naphthalene	BQL	0.360	1	04/20/2004
2-Nitroaniline	BQL	0.360	1	04/20/2004
3-Nitroaniline	BQL	1.80	1	04/20/2004
4-Nitroaniline	BQL	1.80	1	04/20/2004
Nitrobenzene	BQL	0.360	1	04/20/2004
2-Nitrophenol	BQL	0.360	1	04/20/2004
4-Nitrophenol	BQL	1.80	1	04/20/2004
N-Nitrosodi-n-propylamine	BQL	0.360	1	04/20/2004
N-Nitrosodiphenylamine	BQL	0.360	1	04/20/2004
Pentachlorophenol	BQL	1.80	1	04/20/2004
Phenanthrene	BQL	0.360	1	04/20/2004
Phenol	BQL	0.360	1	04/20/2004
Pyrene	BQL	0.360	1	04/20/2004
1,2,4-Trichlorobenzene	BQL	0.360	1	04/20/2004
2,4,5-Trichlorophenol	BQL	0.360	1	04/20/2004
2,4,6-Trichlorophenol	BQL	0.360	1	04/20/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.4	84
2-Fluorophenol	10	8.6	86
Nitrobenzene-d5	10	8	80
Phenol-d6	10	8.2	82
2,4,6-Tribromophenol	10	8.6	86
4-Terphenyl-d14	10	9	90

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: mc

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB03 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-3I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 13:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.8

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.385	1	04/20/2004
Acenaphthylene	BQL	0.385	1	04/20/2004
Anthracene	BQL	0.385	1	04/20/2004
Benzo[a]anthracene	BQL	0.385	1	04/20/2004
Benzo[a]pyrene	BQL	0.385	1	04/20/2004
Benzo[b]fluoranthene	BQL	0.385	1	04/20/2004
Benzo[g,h,i]perylene	BQL	0.385	1	04/20/2004
Benzo[k]fluoranthene	BQL	0.385	1	04/20/2004
Benzoic Acid	BQL	0.770	1	04/20/2004
Bis(2-chloroethoxy)methane	BQL	0.385	1	04/20/2004
Bis(2-chloroethyl)ether	BQL	0.385	1	04/20/2004
Bis(2-chloroisopropyl)ether	BQL	0.385	1	04/20/2004
Bis(2-ethylhexyl)phthalate	BQL	0.385	1	04/20/2004
4-bromophenyl phenyl ether	BQL	0.385	1	04/20/2004
Butylbenzylphthalate	BQL	0.385	1	04/20/2004
2-Chloronaphthalene	BQL	0.385	1	04/20/2004
2-Chlorophenol	BQL	0.385	1	04/20/2004
4-Chloro-3-methylphenol	BQL	0.385	1	04/20/2004
4-Chloroaniline	BQL	1.93	1	04/20/2004
4-Chlorophenyl phenyl ether	BQL	0.385	1	04/20/2004
Chrysene	BQL	0.385	1	04/20/2004
Dibenzo[a,h]anthracene	BQL	0.385	1	04/20/2004
Dibenzofuran	BQL	0.385	1	04/20/2004
Di-n-Butylphthalate	BQL	0.385	1	04/20/2004
1,2-Dichlorobenzene	BQL	0.385	1	04/20/2004
1,3-Dichlorobenzene	BQL	0.385	1	04/20/2004
1,4-Dichlorobenzene	BQL	0.385	1	04/20/2004
3,3'-Dichlorobenzidine	BQL	0.770	1	04/20/2004
2,4-Dichlorophenol	BQL	0.385	1	04/20/2004
Diethylphthalate	BQL	0.385	1	04/20/2004
Dimethylphthalate	BQL	0.385	1	04/20/2004
2,4-Dimethylphenol	BQL	0.385	1	04/20/2004
Di-n-octylphthalate	BQL	0.385	1	04/20/2004
4,6-Dinitro-2-methylphenol	BQL	1.93	1	04/20/2004
2,4-Dinitrophenol	BQL	1.93	1	04/20/2004
2,4-Dinitrotoluene	BQL	0.385	1	04/20/2004
2,6-Dinitrotoluene	BQL	0.385	1	04/20/2004
Fluoranthene	BQL	0.385	1	04/20/2004
Fluorene	BQL	0.385	1	04/20/2004
Hexachlorobenzene	BQL	0.385	1	04/20/2004
Hexachlorobutadiene	BQL	0.385	1	04/20/2004
Hexachlorocyclopentadiene	BQL	0.770	1	04/20/2004

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB03 (1-2)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-3I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 13:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.8

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.385	1	04/20/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.385	1	04/20/2004
Isophorone	BQL	0.385	1	04/20/2004
2-Methylnaphthalene	BQL	0.385	1	04/20/2004
2-Methylphenol	BQL	0.385	1	04/20/2004
3- & 4-Methylphenol	BQL	0.385	1	04/20/2004
Naphthalene	BQL	0.385	1	04/20/2004
2-Nitroaniline	BQL	0.385	1	04/20/2004
3-Nitroaniline	BQL	1.93	1	04/20/2004
4-Nitroaniline	BQL	1.93	1	04/20/2004
Nitrobenzene	BQL	0.385	1	04/20/2004
2-Nitrophenol	BQL	0.385	1	04/20/2004
4-Nitrophenol	BQL	1.93	1	04/20/2004
N-Nitrosodi-n-propylamine	BQL	0.385	1	04/20/2004
N-Nitrosodiphenylamine	BQL	0.385	1	04/20/2004
Pentachlorophenol	BQL	1.93	1	04/20/2004
Phenanthrene	BQL	0.385	1	04/20/2004
Phenol	BQL	0.385	1	04/20/2004
Pyrene	BQL	0.385	1	04/20/2004
1,2,4-Trichlorobenzene	BQL	0.385	1	04/20/2004
2,4,5-Trichlorophenol	BQL	0.385	1	04/20/2004
2,4,6-Trichlorophenol	BQL	0.385	1	04/20/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
2-Fluorophenol	10	8	80
Nitrobenzene-d5	10	7.5	75
Phenol-d6	10	7.4	74
2,4,6-Tribromophenol	10	7.7	77
4-Terphenyl-d14	10	8.1	81

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: mc

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH30-SB04 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-4I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 13:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 85.9

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.363	1	04/20/2004
Acenaphthylene	BQL	0.363	1	04/20/2004
Anthracene	BQL	0.363	1	04/20/2004
Benzo[a]anthracene	BQL	0.363	1	04/20/2004
Benzo[a]pyrene	BQL	0.363	1	04/20/2004
Benzo[b]fluoranthene	BQL	0.363	1	04/20/2004
Benzo[g,h,i]perylene	BQL	0.363	1	04/20/2004
Benzo[k]fluoranthene	BQL	0.363	1	04/20/2004
Benzoic Acid	0.825	0.727	1	04/20/2004
Bis(2-chloroethoxy)methane	BQL	0.363	1	04/20/2004
Bis(2-chloroethyl)ether	BQL	0.363	1	04/20/2004
Bis(2-chloroisopropyl)ether	BQL	0.363	1	04/20/2004
Bis(2-ethylhexyl)phthalate	BQL	0.363	1	04/20/2004
4-bromophenyl phenyl ether	BQL	0.363	1	04/20/2004
Butylbenzylphthalate	BQL	0.363	1	04/20/2004
2-Chloronaphthalene	BQL	0.363	1	04/20/2004
2-Chlorophenol	BQL	0.363	1	04/20/2004
4-Chloro-3-methylphenol	BQL	0.363	1	04/20/2004
4-Chloroaniline	BQL	1.82	1	04/20/2004
4-Chlorophenyl phenyl ether	BQL	0.363	1	04/20/2004
Chrysene	BQL	0.363	1	04/20/2004
Dibenzo[a,h]anthracene	BQL	0.363	1	04/20/2004
Dibenzofuran	BQL	0.363	1	04/20/2004
Di-n-Butylphthalate	BQL	0.363	1	04/20/2004
1,2-Dichlorobenzene	BQL	0.363	1	04/20/2004
1,3-Dichlorobenzene	BQL	0.363	1	04/20/2004
1,4-Dichlorobenzene	BQL	0.363	1	04/20/2004
3,3'-Dichlorobenzidine	BQL	0.727	1	04/20/2004
2,4-Dichlorophenol	BQL	0.363	1	04/20/2004
Diethylphthalate	BQL	0.363	1	04/20/2004
Dimethylphthalate	BQL	0.363	1	04/20/2004
2,4-Dimethylphenol	BQL	0.363	1	04/20/2004
Di-n-octylphthalate	BQL	0.363	1	04/20/2004
4,6-Dinitro-2-methylphenol	BQL	1.82	1	04/20/2004
2,4-Dinitrophenol	BQL	1.82	1	04/20/2004
2,4-Dinitrotoluene	BQL	0.363	1	04/20/2004
2,6-Dinitrotoluene	BQL	0.363	1	04/20/2004
Fluoranthene	BQL	0.363	1	04/20/2004
Fluorene	BQL	0.363	1	04/20/2004
Hexachlorobenzene	BQL	0.363	1	04/20/2004
Hexachlorobutadiene	BQL	0.363	1	04/20/2004
Hexachlorocyclopentadiene	BQL	0.727	1	04/20/2004

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH30-SB04 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-4I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 13:30
Date Received: 04/08/2004
Matrix: Soil
%Solids: 85.9

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.363	1	04/20/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.363	1	04/20/2004
Isophorone	BQL	0.363	1	04/20/2004
2-Methylnaphthalene	BQL	0.363	1	04/20/2004
2-Methylphenol	BQL	0.363	1	04/20/2004
3- & 4-Methylphenol	BQL	0.363	1	04/20/2004
Naphthalene	BQL	0.363	1	04/20/2004
2-Nitroaniline	BQL	0.363	1	04/20/2004
3-Nitroaniline	BQL	1.82	1	04/20/2004
4-Nitroaniline	BQL	1.82	1	04/20/2004
Nitrobenzene	BQL	0.363	1	04/20/2004
2-Nitrophenol	BQL	0.363	1	04/20/2004
4-Nitrophenol	BQL	1.82	1	04/20/2004
N-Nitrosodi-n-propylamine	BQL	0.363	1	04/20/2004
N-Nitrosodiphenylamine	BQL	0.363	1	04/20/2004
Pentachlorophenol	BQL	1.82	1	04/20/2004
Phenanthrene	BQL	0.363	1	04/20/2004
Phenol	BQL	0.363	1	04/20/2004
Pyrene	BQL	0.363	1	04/20/2004
1,2,4-Trichlorobenzene	BQL	0.363	1	04/20/2004
2,4,5-Trichlorophenol	BQL	0.363	1	04/20/2004
2,4,6-Trichlorophenol	BQL	0.363	1	04/20/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.5	85
2-Fluorophenol	10	8.5	85
Nitrobenzene-d5	10	8.1	81
Phenol-d6	10	7.7	78
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	9.7	97

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: mrc

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH30-SB05 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-5I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 14:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.5

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	3.89	10	04/22/2004
Acenaphthylene	BQL	3.89	10	04/22/2004
Anthracene	BQL	3.89	10	04/22/2004
Benzo[a]anthracene	BQL	3.89	10	04/22/2004
Benzo[a]pyrene	BQL	3.89	10	04/22/2004
Benzo[b]fluoranthene	BQL	3.89	10	04/22/2004
Benzo[g,h,i]perylene	BQL	3.89	10	04/22/2004
Benzo[k]fluoranthene	BQL	3.89	10	04/22/2004
Benzoic Acid	BQL	7.78	10	04/22/2004
Bis(2-chloroethoxy)methane	BQL	3.89	10	04/22/2004
Bis(2-chloroethyl)ether	BQL	3.89	10	04/22/2004
Bis(2-chloroisopropyl)ether	BQL	3.89	10	04/22/2004
Bis(2-ethylhexyl)phthalate	BQL	3.89	10	04/22/2004
4-bromophenyl phenyl ether	BQL	3.89	10	04/22/2004
Butylbenzylphthalate	BQL	3.89	10	04/22/2004
2-Chloronaphthalene	BQL	3.89	10	04/22/2004
2-Chlorophenol	BQL	3.89	10	04/22/2004
4-Chloro-3-methylphenol	BQL	3.89	10	04/22/2004
4-Chloroaniline	BQL	19.4	10	04/22/2004
4-Chlorophenyl phenyl ether	BQL	3.89	10	04/22/2004
Chrysene	BQL	3.89	10	04/22/2004
Dibenzo[a,h]anthracene	BQL	3.89	10	04/22/2004
Dibenzofuran	BQL	3.89	10	04/22/2004
Di-n-Butylphthalate	BQL	3.89	10	04/22/2004
1,2-Dichlorobenzene	BQL	3.89	10	04/22/2004
1,3-Dichlorobenzene	BQL	3.89	10	04/22/2004
1,4-Dichlorobenzene	BQL	3.89	10	04/22/2004
3,3'-Dichlorobenzidine	BQL	7.78	10	04/22/2004
2,4-Dichlorophenol	BQL	3.89	10	04/22/2004
Diethylphthalate	BQL	3.89	10	04/22/2004
Dimethylphthalate	BQL	3.89	10	04/22/2004
2,4-Dimethylphenol	BQL	3.89	10	04/22/2004
Di-n-octylphthalate	BQL	3.89	10	04/22/2004
4,6-Dinitro-2-methylphenol	BQL	19.4	10	04/22/2004
2,4-Dinitrophenol	BQL	19.4	10	04/22/2004
2,4-Dinitrotoluene	BQL	3.89	10	04/22/2004
2,6-Dinitrotoluene	BQL	3.89	10	04/22/2004
Fluoranthene	BQL	3.89	10	04/22/2004
Fluorene	BQL	3.89	10	04/22/2004
Hexachlorobenzene	BQL	3.89	10	04/22/2004
Hexachlorobutadiene	BQL	3.89	10	04/22/2004
Hexachlorocyclopentadiene	BQL	7.78	10	04/22/2004

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH30-SB05 (0-1)
Client Project ID: Bld. H-30
Lab Sample ID: G128-1289-5I
Lab Project ID: G128-1289
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected: 04/07/2004 14:00
Date Received: 04/08/2004
Matrix: Soil
%Solids: 80.5

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	3.89	10	04/22/2004
Indeno(1,2,3-c,d)pyrene	BQL	3.89	10	04/22/2004
Isophorone	BQL	3.89	10	04/22/2004
2-Methylnaphthalene	BQL	3.89	10	04/22/2004
2-Methylphenol	BQL	3.89	10	04/22/2004
3- & 4-Methylphenol	BQL	3.89	10	04/22/2004
Naphthalene	BQL	3.89	10	04/22/2004
2-Nitroaniline	BQL	3.89	10	04/22/2004
3-Nitroaniline	BQL	19.4	10	04/22/2004
4-Nitroaniline	BQL	19.4	10	04/22/2004
Nitrobenzene	BQL	3.89	10	04/22/2004
2-Nitrophenol	BQL	3.89	10	04/22/2004
4-Nitrophenol	BQL	19.4	10	04/22/2004
N-Nitrosodi-n-propylamine	BQL	3.89	10	04/22/2004
N-Nitrosodiphenylamine	BQL	3.89	10	04/22/2004
Pentachlorophenol	BQL	19.4	10	04/22/2004
Phenanthrene	BQL	3.89	10	04/22/2004
Phenol	BQL	3.89	10	04/22/2004
Pyrene	BQL	3.89	10	04/22/2004
1,2,4-Trichlorobenzene	BQL	3.89	10	04/22/2004
2,4,5-Trichlorophenol	BQL	3.89	10	04/22/2004
2,4,6-Trichlorophenol	BQL	3.89	10	04/22/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	NA	NA
2-Fluorophenol	10	NA	NA
Nitrobenzene-d5	10	NA	NA
Phenol-d6	10	NA	NA
2,4,6-Tribromophenol	10	NA	NA
4-Terphenyl-d14	10	NA	NA

Comments:
Sample diluted due to high concentration of non-target interference.

Flags:
BQL = Below Quantitation Limits.
NA = Surrogate diluted out.

Reviewed By: mrc

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB01 (2-3)
Sample Matrix	Soil
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/12/04
Date Analyzed	04/14/04
Dry Weight	82.7
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	88
Aromatic Surrogate % Recovery	90

Comments:

* = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G128-1289-1H

Reviewed By: [signature]

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB02 (1-2)
Sample Matrix	Soil
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/12/04
Date Analyzed	04/14/04
Dry Weight	86.2
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	92
Aromatic Surrogate % Recovery	92

Comments:

* = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G128-1289-2H

Reviewed By: mwl

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB03 (1-2)
Sample Matrix	Soil
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/12/04
Date Analyzed	04/14/04
Dry Weight	80.8
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	97
Aromatic Surrogate % Recovery	97

Comments:

* = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G128-1289-3H

Reviewed By: MC

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB04 (0-1)
Sample Matrix	Soil
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/12/04
Date Analyzed	04/14/04
Dry Weight	85.9
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	64
Aromatic Surrogate % Recovery	67

Comments:

* = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G128-1289-4H

Reviewed By: mpc

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Bld. H-30

Sample Information and Analytical Results	
Sample Identification	USTH30-SB05 (0-1)
Sample Matrix	Soil
Date Collected	04/07/04
Date Received	04/08/04
Date Extracted	04/12/04
Date Analyzed	04/19/04
Dry Weight	80.5
Dilution Factor	10
C_9-C_{18} Aliphatics*	1400 (mg/Kg)
C_{19}-C_{36} Aliphatics*	260 (mg/Kg)
C_{11}-C_{22} Aromatics*	800 (mg/Kg)
Aliphatic Surrogate % Recovery	N/A
Aromatic Surrogate % Recovery	N/A
Fractionation Surrogate 1 % Recovery	68

Comments:

* = Excludes any surrogates or internal standards.

N/A: Non-applicable(surrogate diluted out).

Lab info: G128-1289-5F

Reviewed By: mc

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 03/31/04

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	0.1	0.8	0.3	2.6	100	10
C_{19}-C_{36} Aliphatics	0.1	1.6	0.3	5	100	10
C_{11}-C_{22} Aromatics	0.2	2.1	0.6	6.7	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.06	1	5.90	Calibration Factor
	0.15	2.5		
	0.3	5		
	0.6	10		
	1.2	20		
C_{19}-C_{36} Aliphatics	0.08	1.33	3.3	Calibration Factor
	0.2	3.33		
	0.4	6.67		
	0.8	13.3		
	1.6	26.7		
C_{11}-C_{22} Aromatics	0.17	2.83	7.1	Calibration Factor
	0.425	7.08		
	0.85	14.2		
	1.7	28.3		
	3.4	56.7		

Calibration Check Date: 04/14/04

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	0.6	10	-2.7
C_{19}-C_{36} Aliphatics	0.8	13.3	-4.9
C_{11}-C_{22} Aromatics	1.7	28.3	-9.9

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: 03/31/04

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	0.1	0.8	0.3	2.6	100	10
C_{19}-C_{36} Aliphatics	0.1	1.6	0.3	5	100	10
C_{11}-C_{22} Aromatics	0.2	2.1	0.6	6.7	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.06	1	5.90	Calibration Factor
	0.15	2.5		
	0.3	5		
	0.6	10		
	1.2	20		
C_{19}-C_{36} Aliphatics	0.08	1.33	3.3	Calibration Factor
	0.2	3.33		
	0.4	6.67		
	0.8	13.3		
	1.6	26.7		
C_{11}-C_{22} Aromatics	0.17	2.83	7.1	Calibration Factor
	0.425	7.08		
	0.85	14.2		
	1.7	28.3		
	3.4	56.7		

Calibration Check Date: 04/19/04

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	0.6	10	-10.6
C_{19}-C_{36} Aliphatics	0.8	13.3	-23.7
C_{11}-C_{22} Aromatics	1.7	28.3	-24.5

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:	USTH30-SB01 (2-3)	Analyzed By:	RML
Client Project ID:	Bld. H-30	Date Collected:	4/7/2004 12:00
Lab Sample ID:	G128-1289-1G	Date Received:	4/8/04
Lab Project ID:	G128-1289	Matrix:	Soil
Batch ID:	3187	Solids	82.67
Report Basis:	Dry		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	**15.6**	1.12	1	MG/KG	6010B	4/20/04
Lead	**10.8**	1.12	1	MG/KG	6010B	4/20/04

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL

Reviewed By: mw

Results for Metals

Client Sample ID:	USTH30-SB02 (1-2)	Analyzed By:	RML
Client Project ID:	Bld. H-30	Date Collected:	4/7/2004 12:30
Lab Sample ID:	G128-1289-2G	Date Received:	4/8/04
Lab Project ID:	G128-1289	Matrix:	Soil
Batch ID:	3187	Solids	86.19
Report Basis:	Dry		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	**8.32**	1.09	1	MG/KG	6010B	4/20/04
Lead	**3.60**	1.09	1	MG/KG	6010B	4/20/04

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL

Reviewed By: mc

Results for Metals

Client Sample ID:	USTH30-SB03 (1-2)	Analyzed By:	RML
Client Project ID:	Bld. H-30	Date Collected:	4/7/2004 13:00
Lab Sample ID:	G128-1289-3G	Date Received:	4/8/04
Lab Project ID:	G128-1289	Matrix:	Soil
Batch ID:	3187	Solids	80.83
Report Basis:	Dry		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	**20.7**	1.09	1	MG/KG	6010B	4/20/04
Lead	**6.03**	1.09	1	MG/KG	6010B	4/20/04

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL

Reviewed By: mc

Results for Metals

Client Sample ID:	USTH30-SB04 (0-1)	Analyzed By:	RML
Client Project ID:	Bld. H-30	Date Collected:	4/7/2004 13:30
Lab Sample ID:	G128-1289-4G	Date Received:	4/8/04
Lab Project ID:	G128-1289	Matrix:	Soil
Batch ID:	3187	Solids	85.88
Report Basis:	Dry		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	**3.44**	1.10	1	MG/KG	6010B	4/20/04
Lead	**3.57**	1.10	1	MG/KG	6010B	4/20/04

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL

Reviewed By: mc

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Metals

Client Sample ID:	USTH30-SB05 (0-1)	Analyzed By:	RML
Client Project ID:	Bld. H-30	Date Collected:	4/7/2004 14:00
Lab Sample ID:	G128-1289-5G	Date Received:	4/8/04
Lab Project ID:	G128-1289	Matrix:	Soil
Batch ID:	3187	Solids	80.45
Report Basis:	Dry		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	**2.60**	1.24	1	MG/KG	6010B	4/20/04
Lead	**3.74**	1.24	1	MG/KG	6010B	4/20/04

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL

Reviewed By: mc

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

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

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

PARADIGM ANALYTICAL LABORATORIES, INC.
5500 Business Drive, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 40238

Page 1 of 1

Client: Catlin Eng. + Sci
Address: 220 Old Dairy Rd.
Address: Wilmington, NC 28405
Quote #: DOD/01

Project ID: Bld. H-30
Contact: Mike E. Mason
Phone: 452-5861
Fax: 452-7563

Date: 4-8-04
Turnaround: Std.
Job Number: 203-080
P.O. Number: 240115-2

Report To: Mike E. Mason
Charles W. Ray

Invoice To: Sheila

				MeOH	Sod. Bi			8260/5035+ SICA+	VPH	8270	EPH	Metals (total & Chrom) 6010B						
																		*8260/5035+ DIPE+MTBE - per Mike Mason MLh 4/14/04
USTH30-SB01(2-3)	4/7/04	1200	S	/	/			/	/	/	/	/						- Summary EDD Format
USTH30-SB02(1-2)	↓	1230	↓	/	/			/	/	/	/	/						- Report low Runs
USTH30-SB03(1-2)		1300		/	/			/	/	/	/	/						
USTH30-SB04(0-1)		1330		/	/			/	/	/	/	/						
USTH30-SB05(0-1)		1400		/	/			/	/	/	/	/						G128-
USTH30-SB01(2-2) DUP	↓	1200	↓	/	/			/										

[signature]	4/8/04	1350	[signature]	4/8/04	1350	5.8°C	NC ____ SC ____ Other ____

SEE REVERSE FOR TERMS AND CONDITIONS

ORIGINAL

PARADIGM ANALYTICAL LABORATORIES, INC.

N.C. Certification #481 S.C. Certification #99029

APPENDIX F

UST CLOSURE SAMPLING RESULTS

(NOT USED)