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January 4, 2005

Commander
NAVFAC, Atlantic Division
6506 Hampton Blvd., Bldg. A, Room 1306
Norfolk, VA 23508

Attention: Mr. David T. Cleland, P.G. – Code EV23DC

Re: **FINAL Soil Assessment Report**
Building 900
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract No. N62470-01-D-3009
Delivery Order No. 0123
CATLIN Project No. 204-039

Dear Mr. Cleland:

CATLIN Engineers and Scientists (CATLIN) is pleased to submit the FINAL Soil Assessment Report for the above referenced site. There were no comments to the referenced draft report.

CATLIN appreciates the opportunity to continue to provide services to NAVFAC Atlantic and the MCB on your environmental projects.

Sincerely,

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

Shane A. Chasteen
Project Scientist

Attachments: Final Report

cc: Ms. Rochelle M. Lee - Contracts, correspondence only
Commanding General, Attn: Director I&E, EMD, EQB (w/ attachment – 2 copies)

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SOIL ASSESSMENT REPORT

FOR

BUILDING 900
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

NCDENR UST INCIDENT NO. 32126
RICK CLASSIFICATION: Intermediate
LAND USE CLASSIFICATION: Residential

JANUARY 4, 2005

CONTRACT NO. N62470-01-D-3009
DELIVERY ORDER NO. 0123
CATLIN PROJECT NO. 204-039

PREPARED BY:

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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
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 (SAR)

A. TITLE PAGE

DATE OF REPORT: January 4, 2005
Facility ID: N/A UST Incident Number (if known): 32126
Site Name: Building 900
Site Location: Marine Corps Base, Camp Lejeune
Nearest City/Town: Jacksonville County: Onslow
Risk Classification: Intermediate Land Use Classification: Residential

UST Owner: Commanding General – MCB Camp Lejeune
I&E/EMD/EQB
Address: PSC 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: Not Applicable
Address: Hadnot Point Industrial Area, MCB Camp Lejeune, NC 28542 Phone: None

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

Release Information

Date Discovered: November 21, 1994
Longitude: 77° 19' 39" W **Latitude:** 34° 40' 27" N
Estimated Quantity of Release: Unknown
Cause of Release: Possible leaking UST and/or 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:
5,000-gallon diesel UST

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)

NORTH CAROLINA PROFESSIONAL 11299 1-405 ENGINEER MICHAEL E. MASON

SOIL ASSESSMENT REPORT

FOR

BUILDING 900
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

JANUARY 4, 2005

B. EXECUTIVE SUMMARY

This report documents soil assessment activities conducted at the Building 900 Underground Storage Tank (UST) Site per the request of the North Carolina Department of Environment and Natural Resources (NCDENR) Wilmington Regional Office in a March 26, 2004 letter. Former Building 900 was located in the Hadnot Point Industrial area of the Marine Corps Base (MCB), Camp Lejeune in Onslow County, North Carolina. The site previously contained one 5,000-gallon capacity UST. The exact usage and installation dates are unknown; however, the UST reportedly stored diesel fuel and possibly gasoline. The UST and approximately 33 cubic yards of potentially impacted soil were removed on November 21, 1994.

Evidence of petroleum impact to the subsurface of the site was documented in the 1995 UST Closure Report. Subsequently, two site assessments were performed between 1996 and 1997 to define the extent of soil and dissolved-phase groundwater contamination. Upon completion of the second site assessment a Corrective Action Plan (CAP) was developed in 1998, that estimated the horizontal and vertical extent of petroleum impact and recommended a remediation system. Construction of the recommended air sparge and soil vapor extraction system was completed by J.A. Jones Environmental Services Company (J.A. Jones) in 1999. The soil and groundwater treatment system was started on July 20, 1999. The system has reportedly operated continuously except during maintenance and sampling events. Building 900 and the associated infrastructure have been demolished.

The remedial goals set forth in the CAP for the site were based on the regulations that were enforced at the time. The cleanup goals for groundwater were the 2L Groundwater Quality Standards (GWQS) and for soils were 10 mg/kg Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH – GRO) and 40 mg/kg Total Petroleum Hydrocarbons – Diesel Range Organics (TPH – DRO). Since submittal of the CAP the State regulations have changed. The current applicable remedial requirements for this site are the Risk Based Corrective Action (RBCA) rules for Petroleum Underground Storage Tanks per 15A NCAC 2L .0115 effective date January 2, 1998 and document entitled *"Guidelines for Assessment and Corrective Action"* (2001 Guidelines) as released by the NCDENR Division of Waste Management (DWM), UST Section, effective July 1, 2001. The current "clean up" goals for this site are the Gross Contamination Levels (GCLs) for groundwater and the Residential Maximum Soil Contaminant Concentrations (MSCCs) for soil.

Based on data collected during the current Soil Assessment Investigation, no soil contaminants were identified at concentrations above any of the established Residential or Industrial/Commercial MSCCs. Therefore, based on the absence of soil contamination above the Residential MSCCs it appears that no further assessment or remediation of soil is necessary at the subject site.

C. SITE HISTORY

(Refer to Tables 1 and 2 and Figures 1 and 2)

Building 900 was located in the Hadnot Point Industrial area of MCB, Camp Lejeune in Onslow County, North Carolina. The site location is shown on Figures 1 and 2. The site previously contained one 5,000-gallon capacity UST. The exact usage and installation dates are unknown and the UST reportedly stored diesel fuel and possibly gasoline. Omega Environmental Services, Inc. removed the UST and approximately 33 cubic yards of potentially impacted soil on November 21, 1994. UST history and owner information is included on Tables 1 and 2.

Previous investigations at the site are documented in the following reports:

REPORT TITLE	*DATE*	*AUTHOR*
Remedial Action Optimization & Revised Corrective Action Plan, Building 900, MCAS, Camp Geiger, NC	February 20, 2004	CATLIN Engineers and Scientist
Annual Monitoring Report-Task Order No.56 Soil and Groundwater Remediation-Building 900, MCAS, Camp Geiger, NC	October 2002	J.A. Jones Environmental Services Company
Corrective Action Plan of Recovery of Free Product and the Restoration of Petroleum Contaminated Soil and Groundwater-Building 900, MCAS, Camp Geiger, NC	April 1, 1998	LAW Engineering, Inc.
Leaking Underground Storage Tank Site Assessment Report, Building 900	August 1997	LAW Engineering, Inc.
Direct Push Technology Site Assessment Vehicle (DPTSAV) Site Check, UST 900	February 1996	R.E. Wright Environmental, Inc.
Underground Storage Tank Closure Report, Building 900, MCAS Camp Geiger, NC	March 1995	Geosciences, Inc.

The results of these investigations are summarized as follows:

Evidence of petroleum impact to the subsurface of the site was documented in the 1995 UST Closure Report. Subsequently, two site assessments were performed between 1996 and 1997 to define the extent of soil and dissolved-phase groundwater contamination. Upon completion of the second site assessment a CAP was developed in 1998, which estimated the horizontal and vertical extent of petroleum impact and recommended a remediation system. Construction of the recommended air sparge and soil vapor extraction system was completed by J.A. Jones in 1999. The soil and groundwater treatment system was started on July 20, 1999. The system has reportedly operated continuously except during maintenance and sampling events. Building 900 and the associated infrastructure have been demolished.

The remedial goals set forth in the CAP for the site were based on the regulations that were enforced at the time. The cleanup goals for groundwater were the 2L GWQS and for soils were 10 mg/kg TPH - GRO and 40 mg/kg TPH – DRO. Since submittal of the CAP the State regulations have changed. The current applicable remedial requirements for this site are the RBCA rules for Petroleum Underground Storage Tanks per 15A NCAC 2L .0115 effective date January 2, 1998 and document entitled *"Guidelines for Assessment and Corrective Action"* (2001 Guidelines) as released by the NCDENR, DWM, UST Section, effective July 1, 2001. The current "clean up" goals for this site are the GCLs for groundwater and the Residential MSCCs for soil.

D. RECEPTOR INFORMATION

1. Water Supply Wells

(Refer to Table 4 and Figure 1)

As shown on Figure 1, there were no water supply wells located within 1,500 feet of subject site.

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 supplied to the site and surrounding areas by the MCB water supply system. Potable water is provided to buildings in the Hadnot Point Industrial area by the Holcomb Boulevard Water Treatment Facility. Groundwater obtained from the Castle Hayne Aquifer beneath the MCB is the raw water source for the treatment facility.

3. Surface Water

(Refer to Figure 1)

As shown on Figure 1, there are no surface water bodies within 1,500 feet of the subject site. As documented in the 1998 CAP prepared by LAW, the closest surface water body is Beaverdam Creek located approximately 2,200 feet northwest of the subject site.

4. Wellhead Protection Areas

As documented in the 2002 Wellhead Protection Plan Update by AH Environmental Consultants, the site is not located in a 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. Analytical results from groundwater samples collected and analyzed from the on-site Type III monitoring wells during the past four monitoring events (October 2002, February 2003, May 2003 and August

2003) indicate that the deeper portions of the aquifer have not been impacted by petroleum constituents associated with this site.

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 Hadnot Point Industrial area 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

(Refer to Figure 3)

An underground power line lies in a northeast-southwest orientation across the subject site which supplies power to the on-site remediation system. A steam pit with a steam trench also lies in a northeast-southwest orientation across the subject site. Two catch basins, tied to an underground storm drain line also are found at the subject site oriented in a northeast-southwest direction. In addition, underground lines associated with the on-site remediation system are found just northwest of the former UST location. Known utilities are illustrated on Figure 3.

7. Property Owners and Occupants

(Refer to Table 5)

Refer to Table 5 for a list of property owners/occupants.

E. SITE GEOLOGY

(Refer to Appendix A)

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. The elevation of the site is roughly 30 feet above mean sea level (MSL) and the topography is relatively flat. The majority of the land surface in the vicinity of former UST 900 is covered by concrete and a railroad track with the associated ballast.

Soil borings for this investigation indicate brown, very fine to fine, silty sand from zero to three feet below land surface (BLS). Groundwater was not encountered in any of the borings installed during this investigation. However, depth to groundwater measurements collected during the pre-CAP activities revealed measurements averaging approximately four feet BLS. Boring logs for borings UST900-SB01 through UST900-SB04 are included in Appendix A.

F. SOIL INVESTIGATION

(Refer to Tables 3A-3D, Figures 4A-4C, and Appendices B through F)

Historical Soil Sampling – UST Removal

During UST removal procedures two grab soil samples were collected from below the former tank basin at an approximate depth of 13 feet BLS. These two samples were analyzed per EPA Method 5030 for TPH-Gasoline and analytical results revealed both samples above the NCDENR Action Level. Additionally, two composite soil samples were collected from the stockpiled soil removed during the excavation. The composite soil samples were analyzed per EPA Method 5030 and 3550 for TPH-Gasoline and TPH-Diesel, respectively. Analytical results revealed both composite samples were above the NCDENR Action Level for TPH-Gasoline and one of the composite soil samples was above the NCDENR Action Level for TPH-Diesel. It should be noted that the soil samples collected during the UST removal were most likely not representative of vadose zone soils as subsequent data revealed the shallow water table at approximately four feet. Refer to Appendix B for historical soil sampling results from the UST removal.

Historical Soil Sampling – DPTSAV Site Check

Based on the data obtained during the UST removal an additional site assessment was performed in November 1995 by R.E. Wright. This site assessment consisted of the installation of four soil probes in the vicinity of former UST 900 utilizing Direct Push Technology (DPT). One soil sample from each probe was collected for laboratory analysis per EPA Methods 5030 and 3550. Soil sample depths ranged from 3 feet BLS to 9.5 feet BLS. Analytical results revealed soil contamination above the NCDENR Action Levels in three of the four samples analyzed. It should be noted that the soil samples which exceeded the NCDENR Action Levels were collected from below the groundwater table that was measured at a depth of approximately four feet BLS and are therefore not representative of vadose soils. Refer to Appendix C for historical soil sampling results from the DPTSAV Site Check.

Historical Soil Sampling – Site Assessment

Evaluation of the DPTSAV Site Check data triggered additional site assessment activities by LAW. Sixteen geoprobes and eight monitoring wells were installed at the subject site. One soil sample for laboratory analysis per EPA Methods 5030 and 3550 was collected from each Geoprobe and monitoring well boring. Analytical results revealed only one soil sample (900-GP1) above the NCDENR Action Level for TPH-Gasoline. This sample location was approximately 75 feet southwest of the former UST basin. Additionally, this soil sample was collected from a depth of two to four feet BLS, therefore may be representative of the smear zone, and is not representative of vadose soil impact. Refer to Appendix D for historical soil sampling results from the LAW Site Assessment.

Current Soil Sampling – Soil Assessment Report

Soil sampling completed during the current investigation was conducted in one phase. On September 17, 2004 CATLIN personnel conducted a soil sampling event at the site as requested by the NCDENR Wilmington Regional Office. It was intended that the collected soil samples confirm that no residual vadose zone soil contamination above the applicable MSCCs existed on the perimeter of the former UST excavation. Four soil borings (UST900-SB01 through UST900-SB04) were advanced utilizing hand auger technique at the locations indicated on Figures 4A through 4C. One soil sample was collected from each boring for off-site laboratory analysis. In addition, a duplicate sample was collected from one of the four borings installed. Previous investigations noted the water table at approximately four feet BLS. The soil samples collected during this sampling event were taken from 1-2 feet and 2-3 feet BLS, therefore these samples were believed to be representative of vadose zone soils.

All sampling was conducted in accordance with CATLIN's Standard Procedures included in Appendix E. The soil borings were immediately abandoned with cuttings following the collection of the samples. 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 F and are summarized as follows:

EPA Method 8260B/5035 (includes DIPE +MTBE)

As indicated in Table 3A and illustrated on Figure 4A, ten EPA Method 8260B compounds were detected at concentrations above the laboratory practical quantitation limits (PQLs). Benzene, Ethylbenzene, and Total Xylenes were detected at concentrations above the established Soil-to-Groundwater (STGW) MSCCs. However, no compounds were detected at concentrations above the Residential or Industrial/Commercial MSCCs.

EPA Method 8270

As indicated in Table 3B and illustrated on Figure 4B; Benzoic Acid, Naphthalene, and Phenanthrene were detected in sample UST900-SB02(2-3) at concentrations of 1.06 mg/kg, 0.409 mg/kg, and 0.741 mg/kg, respectively. All of these detections were below the most stringent MSCC for each respective compound. There were no other EPA Method 8270 compounds detected at concentrations above the laboratory PQLs.

MADEP VPH/EPH

As indicated in Tables 3C and 3D and illustrated on Figure 4C, sample UST900-SB01(1-2) revealed the C_5-C_8 Aliphatics, C_9-C_{18} Aliphatics and the C_9-C_{22} Aromatics hydrocarbon fractions at concentrations of 13 mg/kg, 77 mg/kg, and <28 mg/kg, respectively. The C_9-C_{22} Aromatics result is the sum of the reported quantitation limit of one fraction (<10 mg/kg) and the detected concentration of the other fraction (18 mg/kg). The C_5-C_8 Aliphatics, C_9-C_{18} Aliphatics and the C_9-C_{22} Aromatics hydrocarbon fractions were detected at concentrations of 25 mg/kg, 86 mg/kg, and 33 mg/kg, respectively in sample UST900-SB02(2-3). All

detected concentrations of MADEP VPH/EPH hydrocarbon fractions were below the most stringent MSCCs. No MADEP VPH/EPH hydrocarbon fractions were detected at concentrations above the laboratory PQLs in samples UST900-SB03(2-3) and UST900-SB04(2-3).

G. CONCLUSIONS AND RECOMMENDATIONS

The soil sampling performed during the current investigation was conducted per the request of the NCDENR Wilmington Regional Office. Results from this sampling event indicated concentrations of only three compounds (Benzene, Ethylbenzene, and Total Xylenes) above the STGW MSCCs. All other compounds were either below the laboratory PQLs or below any established MSCCs.

Based on the absence of soil contamination above the Residential MSCCs it appears that no further assessment or remediation of soil is necessary at the subject site.

H. PROPOSED REMEDY FOR SOIL CONTAMINATION

1. Evaluation of Remediation Alternatives

Based on the analytical results from the current investigation, additional soil remediation is not deemed necessary.

2. Proposed Remediation

Additional soil remediation is not proposed.

3. Post Remediation Sampling

Not Applicable

4. Schedule

Not Applicable

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). As we are proposing cleanup to the Residential MSCCs, public notice is required. The following parties are required to be notified:

- the local health director;
- the chief administrative officer of each political jurisdiction in which the contamination occurs; and
- all property owners and occupants contiguous to the area containing the contamination.

Public notification will be provided by the MCB, Camp Lejeune, Installations and Environment Department, Environmental Management Division, Environmental Quality Branch.

I. LIMITATIONS

The soil 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

AH Environmental Consultants, *Wellhead Protection Plan – 2002 Update, Marines Corps Base, Camp Lejeune,* August 2004.

CATLIN Engineers and Scientists, *Remedial Action Optimization & Revised Corrective Action Plan, Building 900, MCAS, Camp Geiger, NC,* February 20, 2004.

CATLIN Engineers and Scientists, *Workplan – Soil Assessment Report Building 900, Marine Corps Base, Camp Lejeune, North Carolina,* August 30, 2004.

LAW Engineering, Inc., *Corrective Action Plan for the Restoration of Petroleum Contaminated Groundwater by Air Sparging/Vapor Extraction and Natural Attenuation and Degradation, Building 900.* April 1998.

LAW Engineering, Inc., *Leaking Underground Storage Tank Site Assessment Report, Building 900.* August 1997.

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

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 900

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)
UST 900	Diesel	5,000	Unknown	11/21/94 (P)	Yes

* Still in use means not permanently closed.

TABLE 2

SITE HISTORY
UST OWNER/OPERATOR INFORMATION

BUILDING 900

UST ID Number	Name of Owner or Operator	Dates of Ownership/Operation	Owner or Operator?
UST 900	Commanding General Marine Corps Base Camp Lejeune, NC	1972 to November 1994	Owner and Operator

Address	Telephone Number
I&E/EMD/EQB PSC 20004 Marine Corps Base, Camp Lejeune, NC 28542	910-451-5068

TABLE 3A SUMMARY OF SOIL LABORATORY RESULTS

Date: September 2004 Incident Name and Number: Building 900 - 32126 Facility ID#: N/A

Analytical Method: EPA Method 8260B/5035

Sample ID	Contaminant of Concern →		Benzene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propyl benzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	All Other Target Analytes
	Date Collected	Sample Depth (ft. BLS)											
Residential MSCC (mg/kg)			22	1560	1564	NE	63	156	3200	782	782	32,000	Varies
Industrial/Commercial MSCC (mg/kg)			200	40,000	40,880	NE	1635	4088	82,000	20,440	20,440	200,000	Varies
Soil to Groundwater MSCC (mg/kg)			0.0056	0.24	2	NE	0.58	2	7	8	7	5	Varies
UST900-SB01(1-2)	9/17/2004	1-2	<0.432	5.11	0.549	1.67	<0.432	1.46	2.10	7.79	3.15	30.27	BQL
UST900-SB01(1-2)Dup.	9/17/2004	1-2	0.0502	0.447	0.0502	0.0833	0.123	0.154	0.250	0.918	0.413	2.535	BQL
UST900-SB02(2-3)	9/17/2004	2-3	0.88	10.2	0.487	4.55	<0.473	0.965	4.33	2.95	1.29	45.7	BQL
UST900-SB03(2-3)	9/17/2004	2-3	0.28	<0.0512	<0.0512	<0.0512	0.0824	<0.0512	<0.0512	<0.0512	<0.0512	<0.1532	BQL
UST900-SB04(2-3)	9/17/2004	2-3	<0.00448	0.00482	<0.00448	<0.00448	<0.00448	<0.00448	<0.00448	0.0175	<0.00448	<0.01344	BQL

All results in mg/kg.

ft. BLS = feet below land surface

NE = None Established

BQL = Below Quantitation Limit

Based on the assigned Land Use Classification the Residential MSCCs are applicable for the subject site

TABLE 3B SUMMARY OF SOIL LABORATORY RESULTS

Date: September 2004 Incident Name and Number: Building 900 - 32126 Facility ID#: N/A

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern →		Benzoic Acid	Naphthalene	Phenanthrene	All Other Target Analytes
	Date Collected	Sample Depth (ft. BLS)				
Residential MSCC (mg/kg)			62,571	63	469	Varies
Industrial/Commercial MSCC (mg/kg)			1,635,200	1635	12,264	Varies
Soil to Groundwater MSCC (mg/kg)			112	0.58	60	Varies
UST900-SB01(1-2)	9/17/2004	1-2	<0.792	<0.396	<0.396	BQL
UST900-SB02(2-3)	9/17/2004	2-3	1.06	0.409	0.741	BQL
UST900-SB03(2-3)	9/17/2004	2-3	<0.628	<0.314	<0.314	BQL
UST900-SB04(2-3)	9/17/2004	2-3	<0.758	<0.379	0.398	BQL

All results in mg/kg.

ft. BLS = feet below land surface

BQL = Below Quantitation Limit

Based on the assigned Land Use Classification the Residential MSCCs are applicable for the subject site

TABLE 3C SUMMARY OF SOIL LABORATORY RESULTS

Date: September 2004 Incident Name and Number: Building 900 - 32126 Facility ID#: N/A

Analytical Method: MADEP VPH/EPH

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics
	Date Collected	Sample Depth (ft. BLS)						
UST900-SB01(1-2)	9/17/2004	1-2	13	42	18	35	<10	<10
UST900-SB02(2-3)	9/17/2004	2-3	25	63	13	23	<10	20
UST900-SB03(2-3)	9/17/2004	2-3	<10	<10	<10	<10	<10	<10
UST900-SB04(2-3)	9/17/2004	2-3	<10	<10	<10	<10	<10	<10

All results in mg/kg.
ft. BLS = feet below land surface

TABLE 3D SUMMARY OF SOIL LABORATORY RESULTS

Date: September 2004 Incident Name and Number: Building 900 - 32126 Facility ID#: N/A

Analytical Method: MADEP VPH/EPH As Compared To NCDENR MSCCs

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected	Sample Depth (ft. BLS)				
Residential MSCC (mg/kg) **Industrial/Commercial MSCC (mg/kg)** **Soil to Groundwater MSCC (mg/kg)**			939 24,528 72	9386 245,280 3255	93,860 # ##	469 12,264 34
UST900-SB01(1-2)	9/17/2004	1-2	13	77	<10	<28*
UST900-SB02(2-3)	9/17/2004	2-3	25	86	<10	33
UST900-SB03(2-3)	9/17/2004	2-3	<10	<20	<10	<20
UST900-SB04(2-3)	9/17/2004	2-3	<10	<20	<10	<20

All results in mg/kg.

ft. BLS = feet below land surface

= Health based level > 100%

= Considered immobile

Based on the assigned Land Use Classification the Residential MSCCs are applicable for the subject site

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

TABLE 4

WATER SUPPLY WELL INFORMATION

Date: September-04 Incident Number and Name: 31126 - Building 900 Facility ID#: N/A

Well ID#	Well Owner/User (indicate which)	Address	Phone Number	Well Use	Well Depth (ft. BGS)	Type of Well	Well Casing Depth (ft. BGS)	Well Screen Interval (x to y ft. BGS)	Distance from source area of release (ft.)
No water supply wells were identified within a 1,500 foot radius of the subject site.									

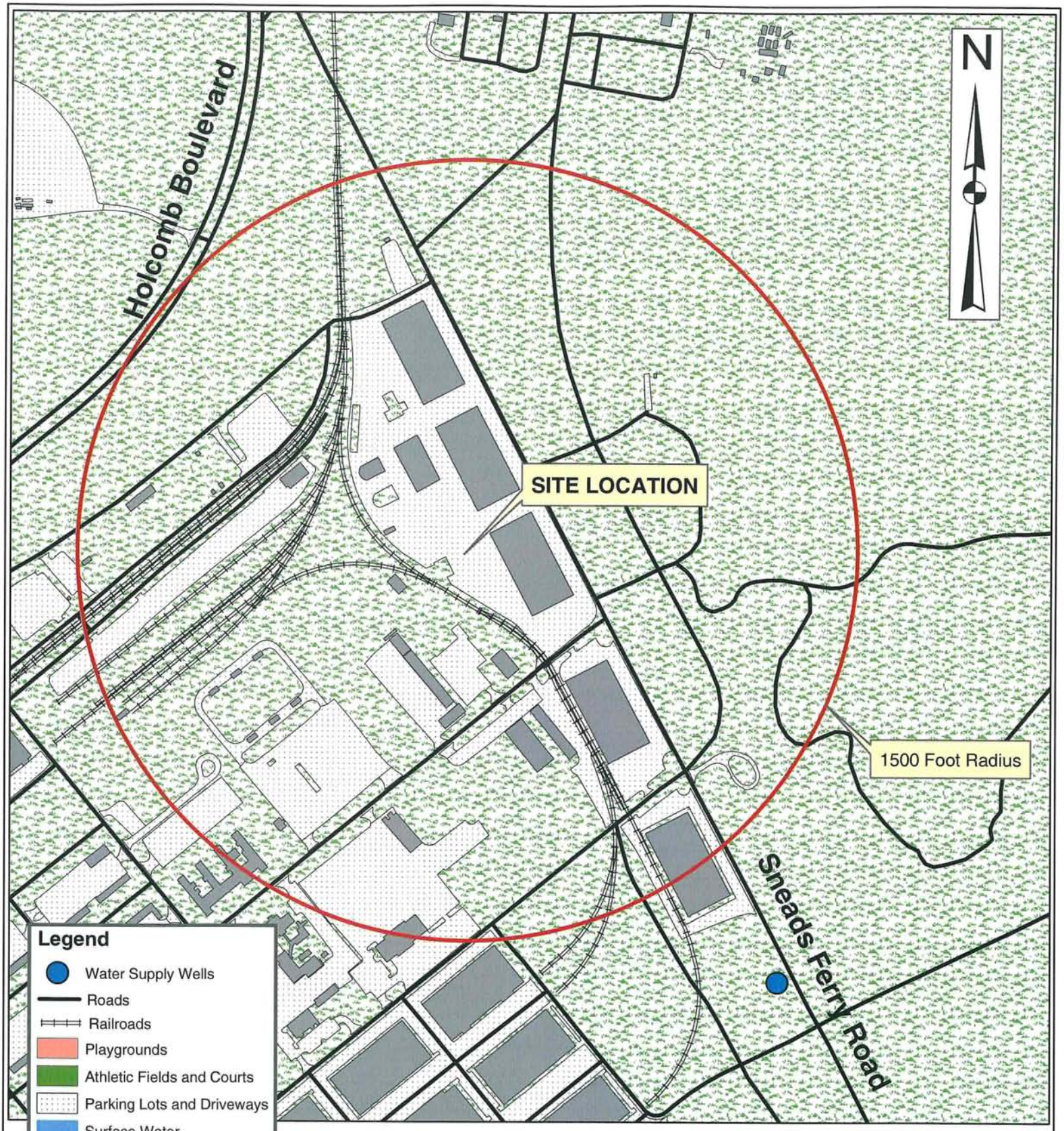
TABLE 5

PROPERTY OWNERS/OCCUPANTS

Date: Sept 2004 Incident No. and Name: 32126 - Building 900 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 20004 Marine Corps Base, Camp Lejeune, NC 28542
N/A	Occupant: None	Hadnot Point Industrial Area Marine Corps Base, Camp Lejeune, NC 28542

FIGURES

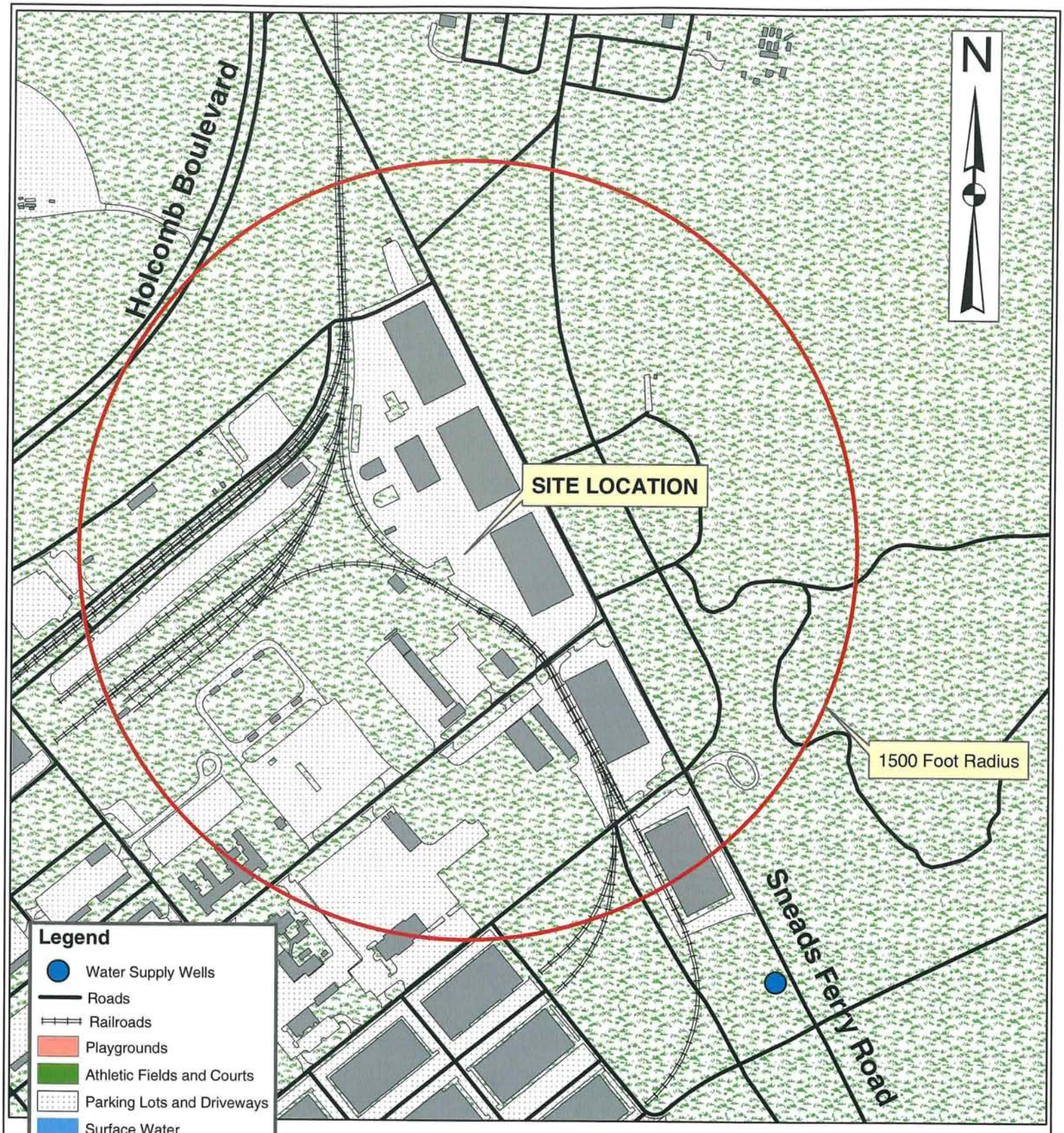


Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT	TITLE	FIGURE
BUILDING 900 SOIL ASSESSMENT REPORT MARINE CORPS BASE CAMP LEJEUNE, NC	SITE LOCATION AND WATER SURVEY	1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
204-039	OCT 2004	AS SHOWN	SAC	MEM



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

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT	TITLE	FIGURE
BUILDING 900 SOIL ASSESSMENT REPORT MARINE CORPS BASE CAMP LEJEUNE, NC	SITE LOCATION WITH PLACES OF PUBLIC ASSEMBLY	2

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
204-039	OCT 2004	AS SHOWN	SAC	MEM

MW-8

CONCRETE

CONCRETE

CHAIN LINK FENCE

S930

STORAGE COVER

MW-10

78GW23

CB

SD

SD

CB

MW-9

CONCRETE

AS-4,SVE-4

MW-4

MW-3

RW-10

AS-4,SVE-4

STEAM TRENCH

STEAM PIT

MW-5

UP

CONCRETE

S

PAD MTD TRANSFORMER

UP

UP

S

CONCRETE

GRASS

TREATMENT SYSTEM

DATE

UP

UST900-SB01

AS-4,SVE-4

AS-4,SVE-4

UST900-SB02

MW-2

UST900-SB03

CONCRETE

GRAVEL

FORMER BUILDING 900

MW-1

FORMER UST 900 LOCATION

UST900-SB04

APPROXIMATE LIMITS OF UST REMOVAL EXCAVATION

CHAIN LINK FENCE

GRASS

ASPHALT

STRUCTURE S923

GRAVEL

MW-6

MW-7

RAILROAD TRACKS

BUILDING 976

GRASS

N

LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
▣		RECOVERY/PUMPING WELL
	⊕	SOIL BORING
◎		SVE/AIR SPARGE WELL PAIR
		SCH. 40 PVC SOIL VAPOR EXTRACTION HEADER
		AIR-PRO HDPE AIR SPARGE HEADER
----UP----		UNDERGROUND POWER
----S----		STEAM LINE
——SD—□CB		STORM DRAIN LINE W/CATCH BASIN

30 15 0 30

SCALE IN FEET

NOTES:
1. SITE MAP ADAPTED FROM FIGURES COMPLETED BY J.A. JONES AND LAW.
2. ALL LOCATIONS ARE APPROXIMATE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: BUILDING 900 SOIL ASSESSMENT REPORT MARINE CORPS BASE CAMP LEJEUNE, N.C.

TITLE: SITE PLAN WITH UTILITIES

FIGURE 3

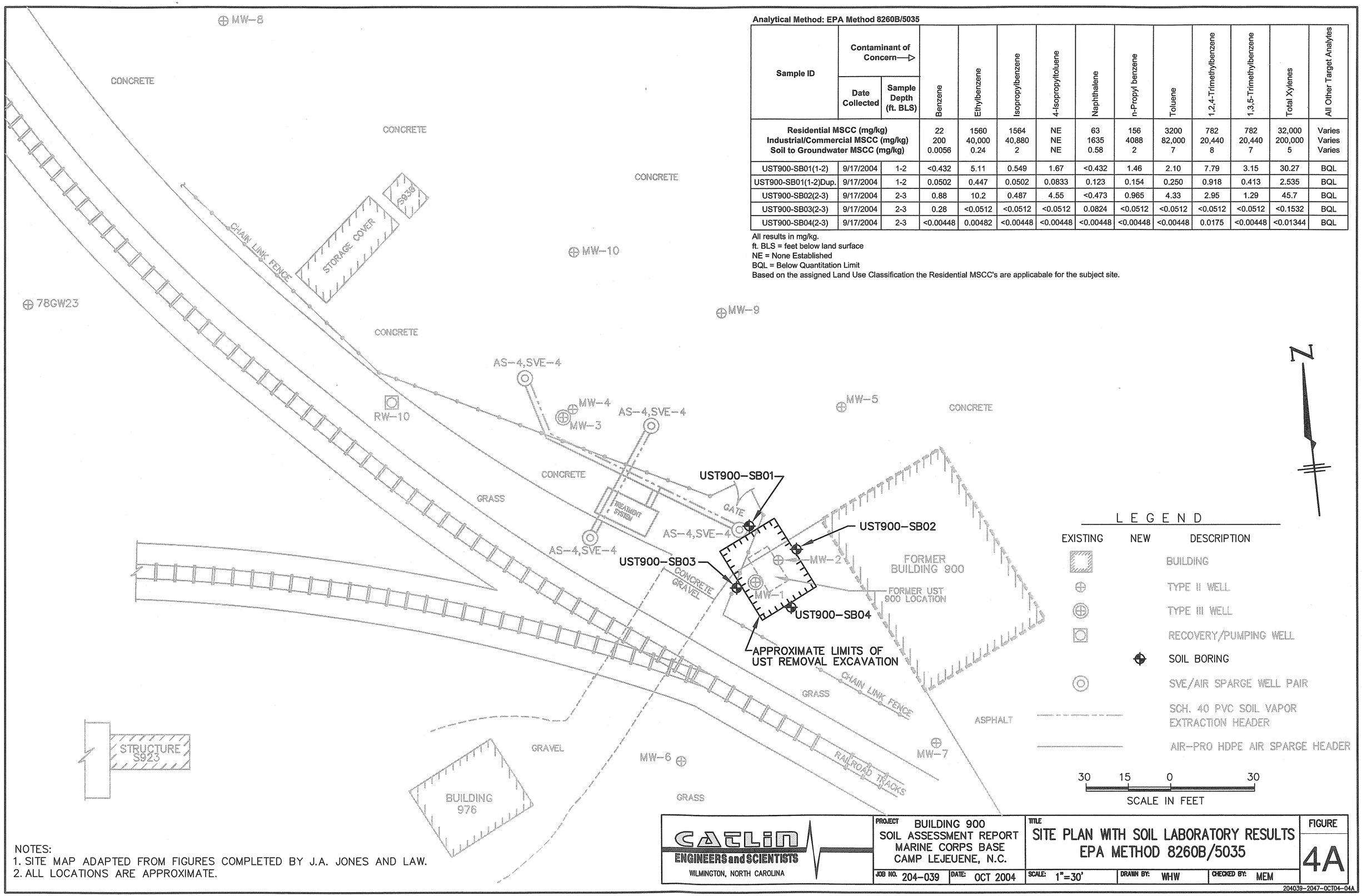
JOB NO: 204-039 | DATE: OCT 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

204039-2047-OCT04-03

Analytical Method: EPA Method 8260B/5035

Sample ID	Contaminant of Concern→ Date Collected	Sample Depth (ft. BLS)	Benzene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propyl benzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	All Other Target Analytes
Residential MSCC (mg/kg)			22	1560	1564	NE	63	156	3200	782	782	32,000	Varies
Industrial/Commercial MSCC (mg/kg)			200	40,000	40,880	NE	1635	4088	82,000	20,440	20,440	200,000	Varies
Soil to Groundwater MSCC (mg/kg)			0.0056	0.24	2	NE	0.58	2	7	8	7	5	Varies
UST900-SB01(1-2)	9/17/2004	1-2	<0.432	5.11	0.549	1.67	<0.432	1.46	2.10	7.79	3.15	30.27	BQL
UST900-SB01(1-2)Dup.	9/17/2004	1-2	0.0502	0.447	0.0502	0.0833	0.123	0.154	0.250	0.918	0.413	2.535	BQL
UST900-SB02(2-3)	9/17/2004	2-3	0.88	10.2	0.487	4.55	<0.473	0.965	4.33	2.95	1.29	45.7	BQL
UST900-SB03(2-3)	9/17/2004	2-3	0.28	<0.0512	<0.0512	<0.0512	0.0824	<0.0512	<0.0512	<0.0512	<0.0512	<0.1532	BQL
UST900-SB04(2-3)	9/17/2004	2-3	<0.00448	0.00482	<0.00448	<0.00448	<0.00448	<0.00448	<0.00448	0.0175	<0.00448	<0.01344	BQL

All results in mg/kg.
ft. BLS = feet below land surface
NE = None Established
BQL = Below Quantitation Limit
Based on the assigned Land Use Classification the Residential MSCC's are applicabale for the subject site.



NOTES:
1. SITE MAP ADAPTED FROM FIGURES COMPLETED BY J.A. JONES AND LAW.
2. ALL LOCATIONS ARE APPROXIMATE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: BUILDING 900
SOIL ASSESSMENT REPORT
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

JOB NO. 204-039 | DATE: OCT 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

TITLE: SITE PLAN WITH SOIL LABORATORY RESULTS EPA METHOD 8260B/5035

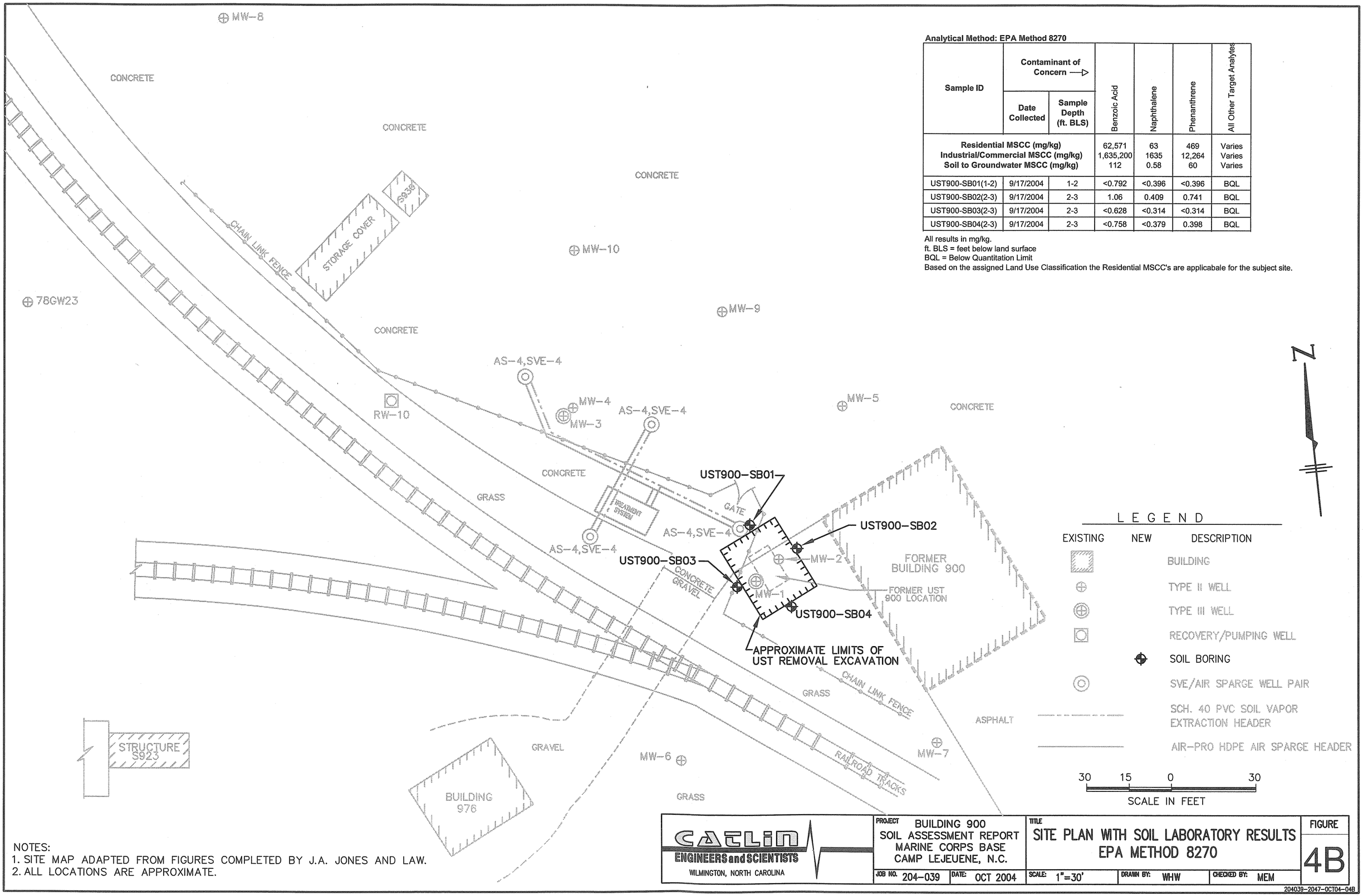
FIGURE 4A

204039-2047-0CT04-04A

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	Benzoic Acid	Naphthalene	Phenanthrene	All Other Target Analytes
Residential MSCC (mg/kg)			62,571	63	469	Varies
Industrial/Commercial MSCC (mg/kg)			1,635,200	1635	12,264	Varies
Soil to Groundwater MSCC (mg/kg)			112	0.58	60	Varies
UST900-SB01(1-2)	9/17/2004	1-2	<0.792	<0.396	<0.396	BQL
UST900-SB02(2-3)	9/17/2004	2-3	1.06	0.409	0.741	BQL
UST900-SB03(2-3)	9/17/2004	2-3	<0.628	<0.314	<0.314	BQL
UST900-SB04(2-3)	9/17/2004	2-3	<0.758	<0.379	0.398	BQL

All results in mg/kg.
ft. BLS = feet below land surface
BQL = Below Quantitation Limit
Based on the assigned Land Use Classification the Residential MSCC's are applicabale for the subject site.



NOTES:
1. SITE MAP ADAPTED FROM FIGURES COMPLETED BY J.A. JONES AND LAW.
2. ALL LOCATIONS ARE APPROXIMATE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: BUILDING 900
SOIL ASSESSMENT REPORT
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

JOB NO. 204-039 | DATE: OCT 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

TITLE: SITE PLAN WITH SOIL LABORATORY RESULTS EPA METHOD 8270

FIGURE 4B

204039-2047-OCT04-04B

Analytical Method: MADEP VPH/EPH As Compared To NCDENR MSCCs

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
Residential MSCC (mg/kg)			939	9386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3255	##	34
UST900-SB01(1-2)	9/17/2004	1-2	13	77	<10	<28*
UST900-SB02(2-3)	9/17/2004	2-3	25	86	<10	33
UST900-SB03(2-3)	9/17/2004	2-3	<10	<20	<10	<20
UST900-SB04(2-3)	9/17/2004	2-3	<10	<20	<10	<20

All results in mg/kg.
ft. BLS = feet below land surface
= Health based level > 100%
= Considered immobile
Based on the assigned Land Use Classification the Residential MSCC's are applicabale for the subject site.
* - The value represents the sum of the reported pratical quantitation limit of one fraction and the detected concentration of the other fraction.

MW-8
CONCRETE
CONCRETE
CONCRETE
S936
CHAIN LINK FENCE
STORAGE COVER
MW-10
78GW23
MW-9
CONCRETE
AS-4,SVE-4
MW-4
MW-3
AS-4,SVE-4
RW-10
MW-5
CONCRETE
CONCRETE
GRASS
TREATMENT SYSTEM
UST900-SB01
GATE
UST900-SB02
AS-4,SVE-4
AS-4,SVE-4
MW-2
FORMER BUILDING 900
UST900-SB03
CONCRETE
GRAVEL
MW-1
FORMER UST 900 LOCATION
UST900-SB04
APPROXIMATE LIMITS OF UST REMOVAL EXCAVATION
CHAIN LINK FENCE
GRASS
ASPHALT
STRUCTURE S923
GRAVEL
MW-6
MW-7
RAILROAD TRACKS
BUILDING 976
GRASS

N

LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING
		TYPE II WELL
		TYPE III WELL
		RECOVERY/PUMPING WELL
		SOIL BORING
		SVE/AIR SPARGE WELL PAIR
		SCH. 40 PVC SOIL VAPOR EXTRACTION HEADER
		AIR-PRO HDPE AIR SPARGE HEADER

30 15 0 30
SCALE IN FEET

NOTES:
1. SITE MAP ADAPTED FROM FIGURES COMPLETED BY J.A. JONES AND LAW.
2. ALL LOCATIONS ARE APPROXIMATE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: BUILDING 900 SOIL ASSESSMENT REPORT MARINE CORPS BASE CAMP LEJEUENE, N.C.

TITLE: SITE PLAN WITH SOIL LABORATORY RESULTS MADEP VPH/EPH AS COMPARED TO NCDENR MSCC's

FIGURE 4C

JOB NO. 204-039 | DATE: OCT 2004 | SCALE: 1"=30' | DRAWN BY: WHW | CHECKED BY: MEM

204039-2047-OCT04-04C

APPENDIX A

BORING LOGS

BORING LOG

CATLIN ENGINEERS and SCIENTISTS ENGLISH Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-039	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 900		LOGGED BY: Tom Stetler	BORING ID: UST900 -SB01
		DRILLER:	
LATITUDE: 340,601.4	LONGITUDE: 2,502,740.6	CREW:	
SYSTEM: NCSP NAD 83 (ft)	BORING LOCATION: Outside gate along fence-line		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: NE	BORING DEPTH: 3.0
START DATE: 09/17/04	FINISH DATE: 09/17/04	24 HOUR DTW: NM	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			151.3				0.0	CONCRETE	
							0.5		
					SM		1.0	Light to dark brown, silty, f. to vf. SAND. Mod. sorting. Wet from core drill. Slight HCO.	
1.0		HA	218.9	UST 900-SB01 (1-2) + DUP	SM		2.0	Same as above. Light to very dark brown, silty to clayey, vf. SAND. Trace clay. Strong HCO. Moist.	
2.0			82.4		SM		3.0	Same as above, but lighter in color at base, and higher component of vf. SAND.	
3.0								Boring Terminated at Depth 3.0 ft	

CATLIN ENVIRO LOG 204-039 BUILDING 900.GPJ CATLIN.GDT 10/15/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS ENGLISH Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-039	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 900	LOGGED BY: Tom Stetler		BORING ID: UST900 -SB02
	DRILLER:		
LATITUDE: 340,587.4	LONGITUDE: 2,502,761.7	CREW:	
SYSTEM: NCSP NAD 83 (ft)	BORING LOCATION: NE of MW-2		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: NE	BORING DEPTH: 3.0
START DATE: 09/17/04	FINISH DATE: 09/17/04	24 HOUR DTW: NM	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲17.1		SM		0.0	Brown to orange-tan, silty, vf. SAND. Moderate to well sorted. Moist. No HCO. Slight HCO @ 1.75' BLS.	
1.0			▲257.8				1.8		
2.0		HA	▲3463	UST 900-SB02 (2-3)	SM		3.0	Dark brown to black, silty, f. to vf. SAND. Moist. Strong HCO. Abundant organic fragments (wood).	
3.0								Boring Terminated at Depth 3.0 ft	

CATLIN ENVIRO LOG 204-039 BUILDING 900.GPJ CATLIN.GDT 10/15/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS ENGLISH Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-039	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 900	LOGGED BY: Tom Stetler	DRILLER:	BORING ID: UST900 -SB03
LATITUDE: 340,571.0	LONGITUDE: 2,502,741.9	CREW:	
SYSTEM: NCSP NAD 83 (ft)	BORING LOCATION: SW of MW-1		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: NE	BORING DEPTH: 3.0
START DATE: 09/17/04	FINISH DATE: 09/17/04	24 HOUR DTW: NM	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲3.6		SP/ SM		0.0	Brown, silty, f. to vf. SAND. Minor gravel up to 1" in diameter. Roots. Moist. No HCO.	
1.0			▲541		SM		1.0	Same as above. Brown to light brown, silty, f. to vf. SAND. Trace clay. Moist. Slight HCO.	
2.0		HA	▲1293	UST 900-SB03 (2-3)	SM		2.0	Same as above. Brown to light brown, silty, f. to vf. SAND. Sand component increases with depth and color lightens. Moist. Strong HCO.	
3.0							3.0	Boring Terminated at Depth 3.0 ft	

CATLIN ENVIRO LOG 204-039 BUILDING 900.GPJ CATLIN.GDT 10/15/04

BORING LOG

CATLIN ENGINEERS and SCIENTISTS ENGLISH Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-039	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 900	LOGGED BY: Tom Stetler		BORING ID: UST900 -SB04
	DRILLER:		
LATITUDE: 340,567.4	LONGITUDE: 2,502,762.3	CREW:	
SYSTEM: NCSP NAD 83 (ft)	BORING LOCATION: S of MW-1		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: NE	BORING DEPTH: 3.0
START DATE: 09/17/04	FINISH DATE: 09/17/04	24 HOUR DTW: NM	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲33.5		SM		0.0	Brown to orange-brown, silty, f. to vf. SAND. Trace gravel. Moist. No HCO.	
1.0			▲1120		SC/ SM		1.0	Light gray to dark grayish-brown, silty, vf. SAND. Moderately to well sorted. Strong HCO. Trace interlayered sandy CLAY, up to 1" in thickness.	
2.0		HA	▲3746	UST 900-SB04 (2-3)	SM		2.0	Same as above. Moist. Strong HCO.	
3.0							3.0	Boring Terminated at Depth 3.0 ft	

CATLIN ENVIRO_LOG_204-039_BUILDING 900.GPJ_CATLIN.GDT_10/15/04

APPENDIX B

HISTORICAL DATA FROM UST CLOSURE REPORT

SOIL SAMPLE LABORATORY RESULTS, UST CLOSURE ASSESSMENT SAMPLES
UST 900
TANK REMOVAL REPORT, GEOSCIENCES, INC.
MARCH 1, 1995

SOIL SAMPLE IDENTIFICATION	TPH GASOLINE (G) / *TPH DIESEL (D)* mg/Kg (5030/8015) (*3550/8015*)	TCLP LEAD mg/Kg (1311/200.7)	BTEX mg/Kg (8020)
900 North	G = 51 *D = NA*	ND	Benzene = ND Toluene = 14.2 Ethylbenzene = 7.8 Xylenes (tot.) = 32.8
900 South	G = 106 *D = NA*	ND	Benzene = ND Toluene = 17.5 Ethylbenzene = 10.8 Xylenes (tot.) = 50.6
Stockpile "G"	G = 1,900 *D = 29*	0.11	NA
Stockpile "O"	G = 840 *D = 2,900*	0.12	Benzene = ND Toluene = 17.5 Ethylbenzene = 10.8 Xylenes (tot.) = 50.6

Notes:
NA = Soil sample not analyzed for this laboratory test.
ND = Not detected above the method detection limit.
The N.C. Action Level for Gasoline TPH in soils is 10 mg/Kg.
The N.C. Action Level for Diesel TPH in soils is 40 mg/Kg.
Stockpile sample "O" was also tested for PCBs by EPA Method 8080. PCBs were not detected in the soil sample.

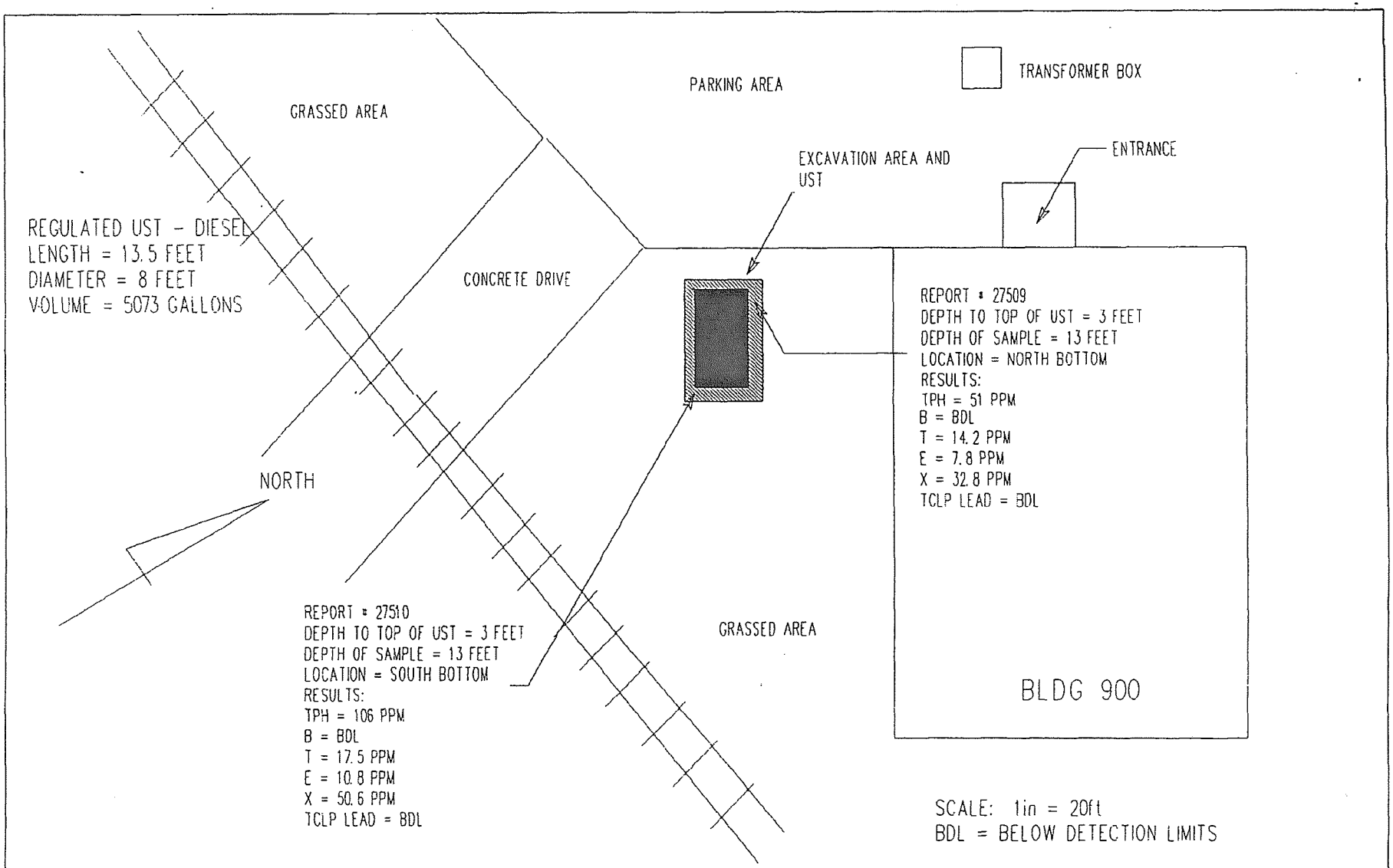


FIGURE 2
UST CLOSURE, SITE PLAN, BLDG 900
CONTRACT = N62470-93-B-0286
CAMP LEJEUNE, NORTH CAROLINA
GEOSCIENCES JOB NO. MC-94-177A

Geosciences Inc.

APPENDIX C

HISTORICAL DATA FROM DPTSAV SITE CHECK

95551SSA.TBL

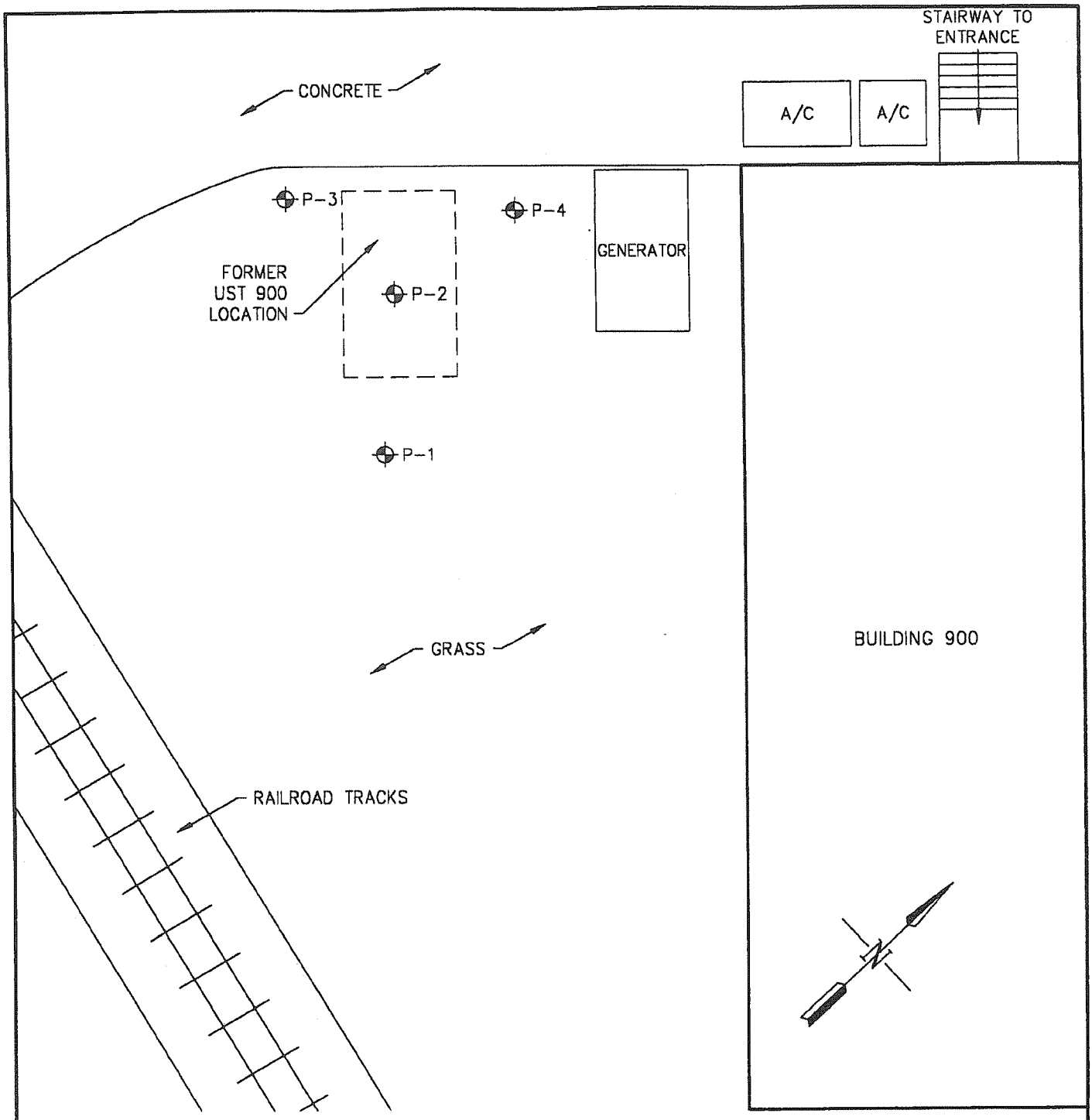
TABLE 1

Soil Sample Laboratory Analytical Results -UST 900
Marine Corps Base Camp Lejeune, North Carolina
REWEI Project 95551

Concentrations reported in milligrams per kilogram (mg/kg).

Analysis	NC	P-1 (6 feet bgs)	P-2 (3 feet bgs)	P-3 (6 feet bgs)	P-4 (9-10 feet bgs)	P-4 Duplicate
EPA Method 5030/8015M: TPH	10	5500	ND	350	2300	1300
EPA Method 3550/8015M: TPH Fuel Type:	40	260 kerosene and diesel	ND	37 kerosene and diesel	63 kerosene and diesel	40 kerosene and diesel

EPA = United States Environmental Protection Agency
TPH = Total petroleum hydrocarbons
ND = Not detected
NC = North Carolina Division of Environmental Management Reportable Concentrations
bgs = Below ground surface



LEGEND

P-1 SOIL AND GROUNDWATER SAMPLE PROBE LOCATION

10' 0 10'

SCALE IN FEET

FIGURE 2

LANTDIV NAVFACENGCOM
MCB CAMP LEJEUNE, NORTH CAROLINA

DPTSAV PROBE LOCATIONS
UST 900

TOTAL ENVIRONMENTAL	drawn RDB	checked	drawing no. 95551-002-AA
	date 11/8/95	approved	

r.e. wright environmental, inc.
total environmental solutions
middletown, pa exton, pa westminster, md va beach, va

APPENDIX D

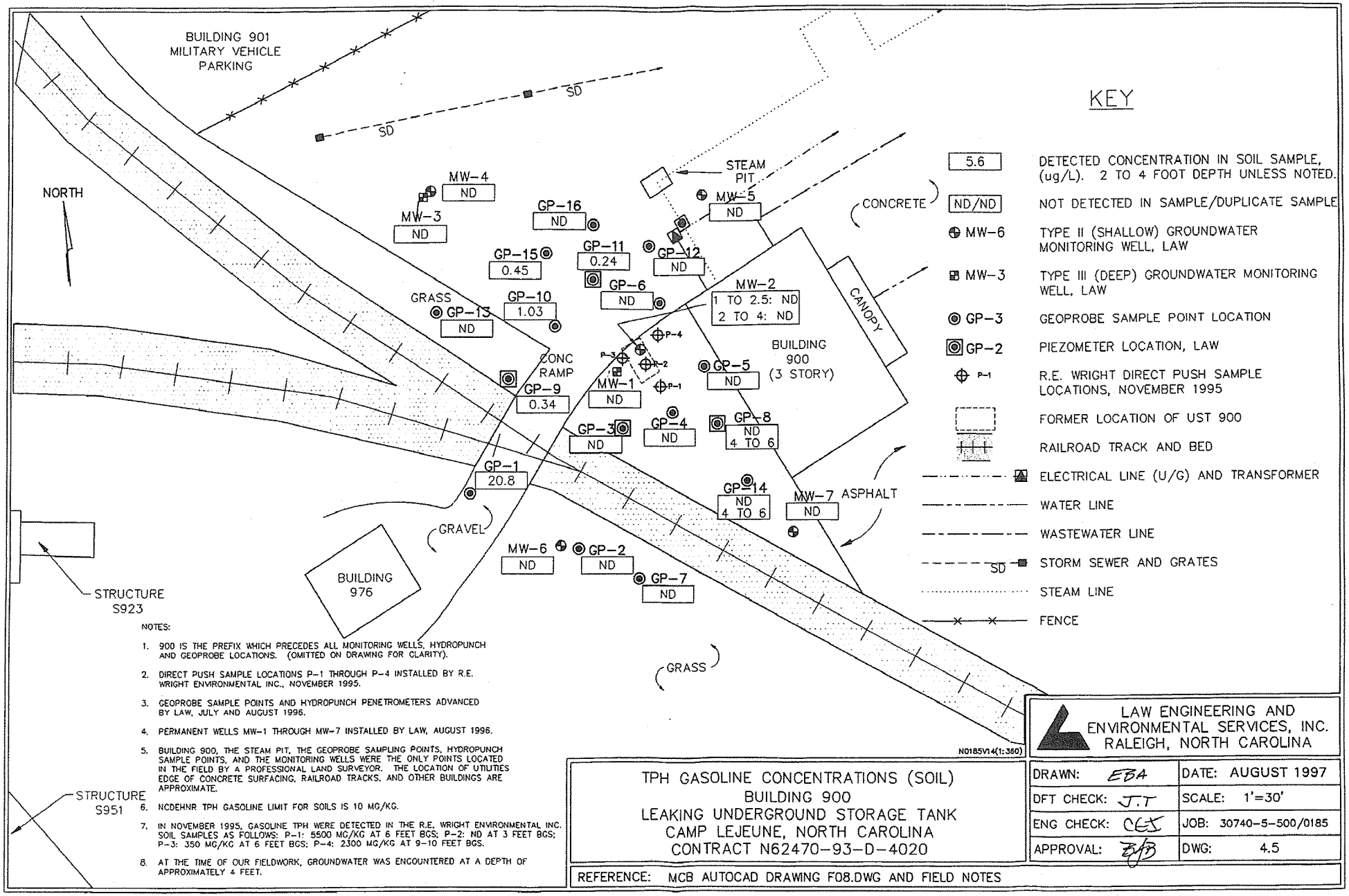
HISTORICAL DATA FROM SITE ASSESSMENT

TABLE 4.2
SUMMARY OF LABORATORY ANALYTICAL RESULTS, SOIL SAMPLES
LEAKING UNDERGROUND STORAGE TANKS
SITE ASSESSMENT REPORT
BUILDING 900
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA
LAW JOB NO. 30740-5-0500/0185

SAMPLE LOCATION		LABORATORY RESULTS		
BORING IDENTIFICATION	SAMPLE DEPTH (FT)	TPH-GASOLINE (mg/Kg)	TPH-DIESEL (mg/Kg)	OTHER TEST
GEOPROBE ASSESSMENT:				
900-GP1	2 to 4	**20.8**	12.4	--
900-GP2	2 to 4	ND	ND	--
900-GP3	2 to 4	ND	ND	--
900-GP4	2 to 4	ND	ND	--
900-GP5	2 to 4	ND	15.4	--
900-GP6	2 to 4	ND	ND	--
900-GP7	2 to 4	ND	ND	--
900-GP8	4 to 6	ND	ND	--
900-GP9	2 to 4	0.34	ND	--
900-GP10	2 to 4	1.03	ND	--
900-GP11	2 to 4	0.24	ND	--
900-GP12	2 to 4	ND	ND	--
900-GP13	2 to 4	ND	ND	--
900-GP14	4 to 6	ND	ND	--
900-GP15	2 to 4	0.45	ND	--
900-GP16	2 to 4	ND	ND	--
WELL INSTALLATION & SOIL CUTTINGS COMPOSITE SAMPLE				
900-MW1	2 to 4	ND	ND	--
900-MW2	1 to 2.5	ND	ND	--
900-MW2	2 to 4	ND	ND	Flashpoint = No Flash Soil pH = 4.66
900-MW3	2 to 4	ND	ND	
900-MW4	2 to 3.5	ND	ND	--
900-MW5	2 to 4	ND	ND	--
900-MW6	2 to 4	ND	ND	--
AS872-MW7	2 to 4	ND	ND	--
MW22 (Duplicate of MW2)	1 to 2.5	ND	ND	--
ROLL-OFF COMPOSITE	Various	**214**	**52**	Soil pH = NA Flashpoint=NA

Bold test = Concentrations detected above NC soil remediation guidelines.
-- = Samples not analyzed for test.
ND = Not detected: see laboratory reports for applicable limit.
NA = Not Analyzed

NC Action Level for:
Low Boiling Point Hydrocarbons (Gasoline) = 10 mg/Kg
Medium Boiling Point Hydrocarbons (Diesel) = 40 mg/Kg



NOTES:

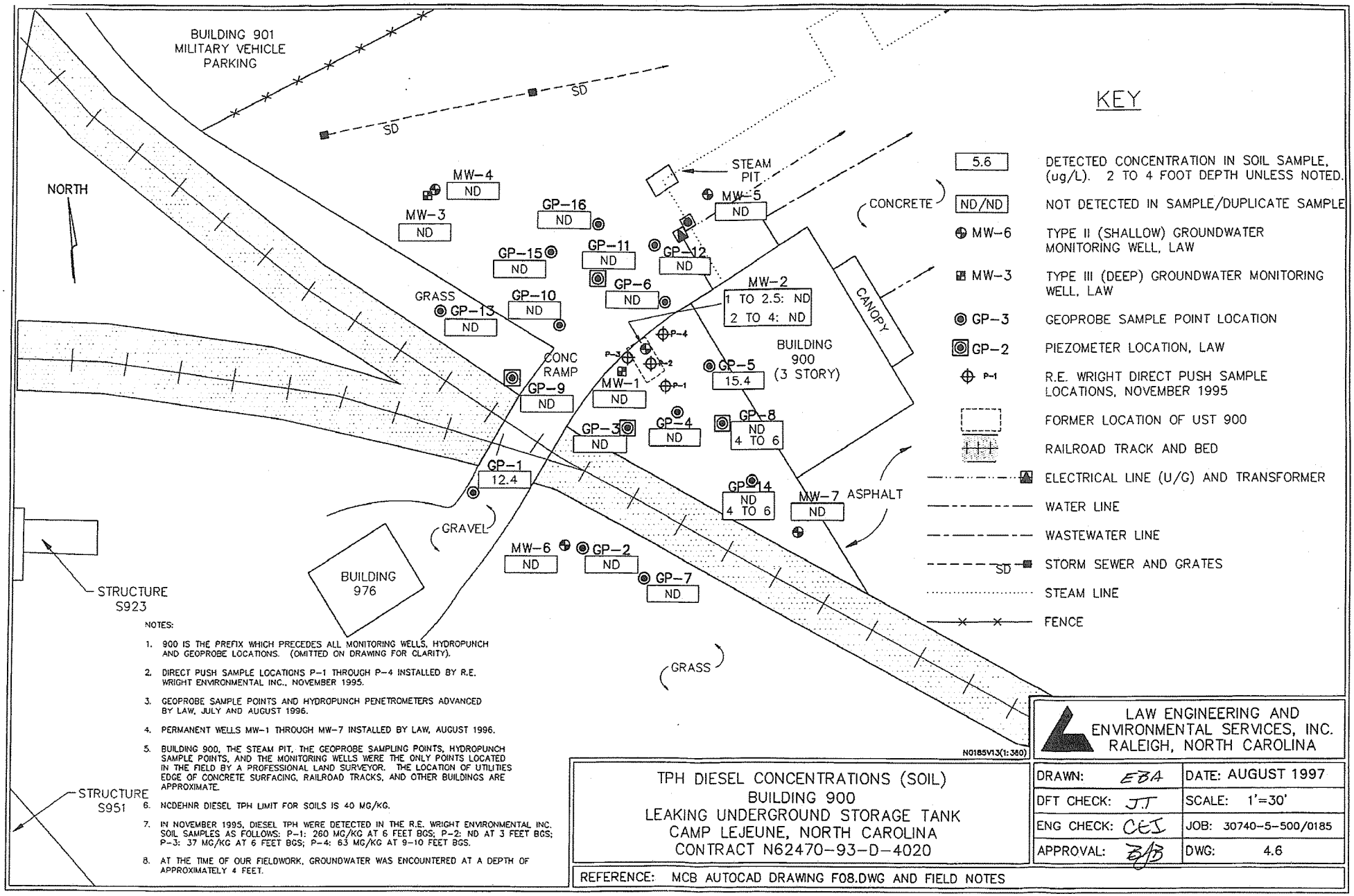
1. 900 IS THE PREFIX WHICH PRECEDES ALL MONITORING WELLS, HYDROPUNCH AND GEOPROBE LOCATIONS. (OMITTED ON DRAWING FOR CLARITY).
2. DIRECT PUSH SAMPLE LOCATIONS P-1 THROUGH P-4 INSTALLED BY R.E. WRIGHT ENVIRONMENTAL INC., NOVEMBER 1995.
3. GEOPROBE SAMPLE POINTS AND HYDROPUNCH PENETROMETERS ADVANCED BY LAW, JULY AND AUGUST 1996.
4. PERMANENT WELLS MW-1 THROUGH MW-7 INSTALLED BY LAW, AUGUST 1996.
5. BUILDING 900, THE STEAM PIT, THE GEOPROBE SAMPLING POINTS, HYDROPUNCH SAMPLE POINTS, AND THE MONITORING WELLS WERE THE ONLY POINTS LOCATED IN THE FIELD BY A PROFESSIONAL LAND SURVEYOR. THE LOCATION OF UTILITIES EDGE OF CONCRETE SURFACING, RAILROAD TRACKS, AND OTHER BUILDINGS ARE APPROXIMATE.
6. NCDEHNR TPH GASOLINE LIMIT FOR SOILS IS 10 MG/KG.
7. IN NOVEMBER 1995, GASOLINE TPH WERE DETECTED IN THE R.E. WRIGHT ENVIRONMENTAL INC. SOIL SAMPLES AS FOLLOWS: P-1: 5500 MG/KG AT 6 FEET BGS; P-2: ND AT 3 FEET BGS; P-3: 350 MG/KG AT 6 FEET BGS; P-4: 2300 MG/KG AT 9-10 FEET BGS.
8. AT THE TIME OF OUR FIELDWORK, GROUNDWATER WAS ENCOUNTERED AT A DEPTH OF APPROXIMATELY 4 FEET.

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
RALEIGH, NORTH CAROLINA

TPH GASOLINE CONCENTRATIONS (SOIL)
BUILDING 900
LEAKING UNDERGROUND STORAGE TANK
CAMP LEJEUNE, NORTH CAROLINA
CONTRACT N62470-93-D-4020

DRAWN: EBA	DATE: AUGUST 1997
DFT CHECK: J.T	SCALE: 1'=30'
ENG CHECK: CES	JOB: 30740-5-500/0185
APPROVAL: [illegible]	DWG: 4.5

REFERENCE: MCB AUTOCAD DRAWING F08.DWG AND FIELD NOTES



NOTES:

1. 900 IS THE PREFIX WHICH PRECEDES ALL MONITORING WELLS, HYDROPUNCH AND GEOPROBE LOCATIONS. (OMITTED ON DRAWING FOR CLARITY).
2. DIRECT PUSH SAMPLE LOCATIONS P-1 THROUGH P-4 INSTALLED BY R.E. WRIGHT ENVIRONMENTAL INC., NOVEMBER 1995.
3. GEOPROBE SAMPLE POINTS AND HYDROPUNCH PENETROMETERS ADVANCED BY LAW, JULY AND AUGUST 1996.
4. PERMANENT WELLS MW-1 THROUGH MW-7 INSTALLED BY LAW, AUGUST 1996.
5. BUILDING 900, THE STEAM PIT, THE GEOPROBE SAMPLING POINTS, HYDROPUNCH SAMPLE POINTS, AND THE MONITORING WELLS WERE THE ONLY POINTS LOCATED IN THE FIELD BY A PROFESSIONAL LAND SURVEYOR. THE LOCATION OF UTILITIES EDGE OF CONCRETE SURFACING, RAILROAD TRACKS, AND OTHER BUILDINGS ARE APPROXIMATE.
6. NCDEHNR DIESEL TPH LIMIT FOR SOILS IS 40 MG/KG.
7. IN NOVEMBER 1995, DIESEL TPH WERE DETECTED IN THE R.E. WRIGHT ENVIRONMENTAL INC. SOIL SAMPLES AS FOLLOWS: P-1: 260 MG/KG AT 6 FEET BGS; P-2: ND AT 3 FEET BGS; P-3: 37 MG/KG AT 6 FEET BGS; P-4: 63 MG/KG AT 9-10 FEET BGS.
8. AT THE TIME OF OUR FIELDWORK, GROUNDWATER WAS ENCOUNTERED AT A DEPTH OF APPROXIMATELY 4 FEET.

TPH DIESEL CONCENTRATIONS (SOIL)
BUILDING 900
LEAKING UNDERGROUND STORAGE TANK
CAMP LEJEUNE, NORTH CAROLINA
CONTRACT N62470-93-D-4020

REFERENCE: MCB AUTOCAD DRAWING F08.DWG AND FIELD NOTES

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
RALEIGH, NORTH CAROLINA

DRAWN: EBA	DATE: AUGUST 1997
DFT CHECK: JT	SCALE: 1'=30'
ENG CHECK: CEJ	JOB: 30740-5-500/0185
APPROVAL: [illegible]	DWG: 4.6

APPENDIX E

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

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

1.2.1 Horizontal Survey

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

1.2.2 Vertical Survey

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

1.3 DRILLING AND MONITORING WELL/PIEZOMETER INSTALLATION

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

1.3.1 Drilling Methods and Subsurface Data Collection

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

Auger Drilling

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

Hand Augering

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

Direct Push

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

Other Methods

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

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

1.3.2 Hydropunch Installation

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

1.3.3 Well Installation

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

1.3.4 Well Development

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

1.4 HYDROGEOLOGIC DATA COLLECTION

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

1.4.1 Regional Geology

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

1.4.2 Site Geology

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

1.4.3 Groundwater Occurrence and Characteristics

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

Well Water Levels

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

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

Aquifer Testing

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

Other Methods

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

1.5 PETROLEUM HYDROCARBON DATA COLLECTION

1.5.1 Collection Methods

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

Field Analysis

- Direct thickness measurement of phase separated components using tapes and/or probes.
- Manual vapor analysis using a photoionization detector (PID) or flame ionization detector (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 are evaluated as follows:

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

APPENDIX F

LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION

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

Report Number: G128-1383

Client Project: Building 900

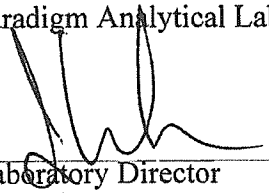
Dear Mr. Mason:

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.



10/7/04

Laboratory Director Date
J. Patrick Weaver

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB01(1-2)
Client Project ID: Building 900
Lab Sample ID: G128-1383-1D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
%Solids: 83.0

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	10.8	400	09/22/2004
Benzene	BQL	0.432	400	09/22/2004
Bromobenzene	BQL	0.432	400	09/22/2004
Bromochloromethane	BQL	0.432	400	09/22/2004
Bromodichloromethane	BQL	0.432	400	09/22/2004
Bromoform	BQL	0.432	400	09/22/2004
Bromomethane	BQL	0.432	400	09/22/2004
2-Butanone	BQL	10.8	400	09/22/2004
n-Butylbenzene	BQL	0.432	400	09/22/2004
sec-Butylbenzene	BQL	0.432	400	09/22/2004
tert-Butylbenzene	BQL	0.432	400	09/22/2004
Carbon disulfide	BQL	0.432	400	09/22/2004
Carbon tetrachloride	BQL	0.432	400	09/22/2004
Chlorobenzene	BQL	0.432	400	09/22/2004
Chloroethane	BQL	0.432	400	09/22/2004
Chloroform	BQL	0.432	400	09/22/2004
Chloromethane	BQL	0.432	400	09/22/2004
2-Chlorotoluene	BQL	0.432	400	09/22/2004
4-Chlorotoluene	BQL	0.432	400	09/22/2004
Dibromochloromethane	BQL	0.432	400	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	2.16	400	09/22/2004
Dibromomethane	BQL	0.432	400	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.432	400	09/22/2004
1,2-Dichlorobenzene	BQL	0.432	400	09/22/2004
1,3-Dichlorobenzene	BQL	0.432	400	09/22/2004
1,4-Dichlorobenzene	BQL	0.432	400	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	2.16	400	09/22/2004
1,1-Dichloroethane	BQL	0.432	400	09/22/2004
1,1-Dichloroethene	BQL	0.432	400	09/22/2004
1,2-Dichloroethane	BQL	0.432	400	09/22/2004
cis-1,2-Dichloroethene	BQL	0.432	400	09/22/2004
trans-1,2-dichloroethene	BQL	0.432	400	09/22/2004
1,2-Dichloropropane	BQL	0.432	400	09/22/2004
1,3-Dichloropropane	BQL	0.432	400	09/22/2004
2,2-Dichloropropane	BQL	0.432	400	09/22/2004
1,1-Dichloropropene	BQL	0.432	400	09/22/2004
cis-1,3-Dichloropropene	BQL	0.432	400	09/22/2004
trans-1,3-Dichloropropene	BQL	0.432	400	09/22/2004
Dichlorodifluoromethane	BQL	2.16	400	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.432	400	09/22/2004
Ethylbenzene	**5.11**	0.432	400	09/22/2004
Hexachlorobutadiene	BQL	0.432	400	09/22/2004

N.C. CERTIFICATION #481

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB01(1-2)
Client Project ID: Building 900
Lab Sample ID: G128-1383-1D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
%Solids: 83.0

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	2.16	400	09/22/2004
Iodomethane	BQL	0.432	400	09/22/2004
Isopropylbenzene	**0.549**	0.432	400	09/22/2004
4-Isopropyltoluene	**1.67**	0.432	400	09/22/2004
Methylene chloride	BQL	2.16	400	09/22/2004
4-Methyl-2-pentanone	BQL	2.16	400	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.432	400	09/22/2004
Naphthalene	BQL	0.432	400	09/22/2004
n-Propyl benzene	**1.46**	0.432	400	09/22/2004
Styrene	BQL	0.432	400	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.432	400	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.432	400	09/22/2004
Tetrachloroethene	BQL	0.432	400	09/22/2004
Toluene	**2.10**	0.432	400	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.432	400	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.432	400	09/22/2004
Trichloroethene	BQL	0.432	400	09/22/2004
1,1,1-Trichloroethane	BQL	0.432	400	09/22/2004
1,1,2-Trichloroethane	BQL	0.432	400	09/22/2004
Trichlorofluoromethane	BQL	0.432	400	09/22/2004
1,2,3-Trichloropropane	BQL	0.432	400	09/22/2004
1,2,4-Trimethylbenzene	**7.79**	0.432	400	09/22/2004
1,3,5-Trimethylbenzene	**3.15**	0.432	400	09/22/2004
Vinyl chloride	BQL	0.432	400	09/22/2004
m-,p-Xylene	**22.5**	0.865	400	09/22/2004
o-Xylene	**7.77**	0.432	400	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0101	101
1,2-Dichloroethane-d4	0.01	0.00915	92
Toluene-d8	0.01	0.0103	103

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: RNP

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB01(1-2)Dup.
Client Project ID: Building 900
Lab Sample ID: G128-1383-2D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
%Solids: 80.1

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	1.25	50	09/22/2004
Benzene	**0.0502**	0.0502	50	09/22/2004
Bromobenzene	BQL	0.0502	50	09/22/2004
Bromochloromethane	BQL	0.0502	50	09/22/2004
Bromodichloromethane	BQL	0.0502	50	09/22/2004
Bromoform	BQL	0.0502	50	09/22/2004
Bromomethane	BQL	0.0502	50	09/22/2004
2-Butanone	BQL	1.25	50	09/22/2004
n-Butylbenzene	BQL	0.0502	50	09/22/2004
sec-Butylbenzene	BQL	0.0502	50	09/22/2004
tert-Butylbenzene	BQL	0.0502	50	09/22/2004
Carbon disulfide	BQL	0.0502	50	09/22/2004
Carbon tetrachloride	BQL	0.0502	50	09/22/2004
Chlorobenzene	BQL	0.0502	50	09/22/2004
Chloroethane	BQL	0.0502	50	09/22/2004
Chloroform	BQL	0.0502	50	09/22/2004
Chloromethane	BQL	0.0502	50	09/22/2004
2-Chlorotoluene	BQL	0.0502	50	09/22/2004
4-Chlorotoluene	BQL	0.0502	50	09/22/2004
Dibromochloromethane	BQL	0.0502	50	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	0.251	50	09/22/2004
Dibromomethane	BQL	0.0502	50	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.0502	50	09/22/2004
1,2-Dichlorobenzene	BQL	0.0502	50	09/22/2004
1,3-Dichlorobenzene	BQL	0.0502	50	09/22/2004
1,4-Dichlorobenzene	BQL	0.0502	50	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	0.251	50	09/22/2004
1,1-Dichloroethane	BQL	0.0502	50	09/22/2004
1,1-Dichloroethene	BQL	0.0502	50	09/22/2004
1,2-Dichloroethane	BQL	0.0502	50	09/22/2004
cis-1,2-Dichloroethene	BQL	0.0502	50	09/22/2004
trans-1,2-dichloroethene	BQL	0.0502	50	09/22/2004
1,2-Dichloropropane	BQL	0.0502	50	09/22/2004
1,3-Dichloropropane	BQL	0.0502	50	09/22/2004
2,2-Dichloropropane	BQL	0.0502	50	09/22/2004
1,1-Dichloropropene	BQL	0.0502	50	09/22/2004
cis-1,3-Dichloropropene	BQL	0.0502	50	09/22/2004
trans-1,3-Dichloropropene	BQL	0.0502	50	09/22/2004
Dichlorodifluoromethane	BQL	0.251	50	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.0502	50	09/22/2004
Ethylbenzene	**0.447**	0.0502	50	09/22/2004
Hexachlorobutadiene	BQL	0.0502	50	09/22/2004
2-Hexanone	BQL	0.251	50	09/22/2004
Iodomethane	BQL	0.0502	50	09/22/2004
Isopropylbenzene	**0.0502**	0.0502	50	09/22/2004

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB01(1-2)Dup.
Client Project ID: Building 900
Lab Sample ID: G128-1383-2D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
%Solids: 80.1

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	**0.0833**	0.0502	50	09/22/2004
Methylene chloride	BQL	0.251	50	09/22/2004
4-Methyl-2-pentanone	BQL	0.251	50	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.0502	50	09/22/2004
Naphthalene	**0.123**	0.0502	50	09/22/2004
n-Propyl benzene	**0.154**	0.0502	50	09/22/2004
Styrene	BQL	0.0502	50	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.0502	50	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.0502	50	09/22/2004
Tetrachloroethene	BQL	0.0502	50	09/22/2004
Toluene	**0.250**	0.0502	50	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.0502	50	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.0502	50	09/22/2004
Trichloroethene	BQL	0.0502	50	09/22/2004
1,1,1-Trichloroethane	BQL	0.0502	50	09/22/2004
1,1,2-Trichloroethane	BQL	0.0502	50	09/22/2004
Trichlorofluoromethane	BQL	0.0502	50	09/22/2004
1,2,3-Trichloropropane	BQL	0.0502	50	09/22/2004
1,2,4-Trimethylbenzene	**0.918**	0.0502	50	09/22/2004
1,3,5-Trimethylbenzene	**0.413**	0.0502	50	09/22/2004
Vinyl chloride	BQL	0.0502	50	09/22/2004
m-,p-Xylene	**1.85**	0.100	50	09/22/2004
o-Xylene	**0.685**	0.0502	50	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0101	101
1,2-Dichloroethane-d4	0.01	0.00885	88
Toluene-d8	0.01	0.0104	104

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: RWP

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB02(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-3D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:50
Date Received: 09/17/2004
Matrix: Soil
%Solids: 83.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	11.8	400	09/22/2004
Benzene	**0.880**	0.473	400	09/22/2004
Bromobenzene	BQL	0.473	400	09/22/2004
Bromochloromethane	BQL	0.473	400	09/22/2004
Bromodichloromethane	BQL	0.473	400	09/22/2004
Bromoform	BQL	0.473	400	09/22/2004
Bromomethane	BQL	0.473	400	09/22/2004
2-Butanone	BQL	11.8	400	09/22/2004
n-Butylbenzene	BQL	0.473	400	09/22/2004
sec-Butylbenzene	BQL	0.473	400	09/22/2004
tert-Butylbenzene	BQL	0.473	400	09/22/2004
Carbon disulfide	BQL	0.473	400	09/22/2004
Carbon tetrachloride	BQL	0.473	400	09/22/2004
Chlorobenzene	BQL	0.473	400	09/22/2004
Chloroethane	BQL	0.473	400	09/22/2004
Chloroform	BQL	0.473	400	09/22/2004
Chloromethane	BQL	0.473	400	09/22/2004
2-Chlorotoluene	BQL	0.473	400	09/22/2004
4-Chlorotoluene	BQL	0.473	400	09/22/2004
Dibromochloromethane	BQL	0.473	400	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	2.37	400	09/22/2004
Dibromomethane	BQL	0.473	400	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.473	400	09/22/2004
1,2-Dichlorobenzene	BQL	0.473	400	09/22/2004
1,3-Dichlorobenzene	BQL	0.473	400	09/22/2004
1,4-Dichlorobenzene	BQL	0.473	400	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	2.37	400	09/22/2004
1,1-Dichloroethane	BQL	0.473	400	09/22/2004
1,1-Dichloroethene	BQL	0.473	400	09/22/2004
1,2-Dichloroethane	BQL	0.473	400	09/22/2004
cis-1,2-Dichloroethene	BQL	0.473	400	09/22/2004
trans-1,2-dichloroethene	BQL	0.473	400	09/22/2004
1,2-Dichloropropane	BQL	0.473	400	09/22/2004
1,3-Dichloropropane	BQL	0.473	400	09/22/2004
2,2-Dichloropropane	BQL	0.473	400	09/22/2004
1,1-Dichloropropene	BQL	0.473	400	09/22/2004
cis-1,3-Dichloropropene	BQL	0.473	400	09/22/2004
trans-1,3-Dichloropropene	BQL	0.473	400	09/22/2004
Dichlorodifluoromethane	BQL	2.37	400	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.473	400	09/22/2004
Ethylbenzene	**10.2**	0.473	400	09/22/2004
Hexachlorobutadiene	BQL	0.473	400	09/22/2004
2-Hexanone	BQL	2.37	400	09/22/2004
Iodomethane	BQL	0.473	400	09/22/2004
Isopropylbenzene	**0.487**	0.473	400	09/22/2004

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB02(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-3D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 11:50
Date Received: 09/17/2004
Matrix: Soil
%Solids: 83.7

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	**4.55**	0.473	400	09/22/2004
Methylene chloride	BQL	2.37	400	09/22/2004
4-Methyl-2-pentanone	BQL	2.37	400	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.473	400	09/22/2004
Naphthalene	BQL	0.473	400	09/22/2004
n-Propyl benzene	**0.965**	0.473	400	09/22/2004
Styrene	BQL	0.473	400	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.473	400	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.473	400	09/22/2004
Tetrachloroethene	BQL	0.473	400	09/22/2004
Toluene	**4.33**	0.473	400	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.473	400	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.473	400	09/22/2004
Trichloroethene	BQL	0.473	400	09/22/2004
1,1,1-Trichloroethane	BQL	0.473	400	09/22/2004
1,1,2-Trichloroethane	BQL	0.473	400	09/22/2004
Trichlorofluoromethane	BQL	0.473	400	09/22/2004
1,2,3-Trichloropropane	BQL	0.473	400	09/22/2004
1,2,4-Trimethylbenzene	**2.95**	0.473	400	09/22/2004
1,3,5-Trimethylbenzene	**1.29**	0.473	400	09/22/2004
Vinyl chloride	BQL	0.473	400	09/22/2004
m-,p-Xylene	**35.0**	0.946	400	09/22/2004
o-Xylene	**10.7**	0.473	400	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.01	100
1,2-Dichloroethane-d4	0.01	0.00901	90
Toluene-d8	0.01	0.0102	102

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: RW

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB03(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-4D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 12:15
Date Received: 09/17/2004
Matrix: Soil
%Solids: 89.1

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	1.28	50	09/22/2004
Benzene	**0.280**	0.0512	50	09/22/2004
Bromobenzene	BQL	0.0512	50	09/22/2004
Bromochloromethane	BQL	0.0512	50	09/22/2004
Bromodichloromethane	BQL	0.0512	50	09/22/2004
Bromoform	BQL	0.0512	50	09/22/2004
Bromomethane	BQL	0.0512	50	09/22/2004
2-Butanone	BQL	1.28	50	09/22/2004
n-Butylbenzene	BQL	0.0512	50	09/22/2004
sec-Butylbenzene	BQL	0.0512	50	09/22/2004
tert-Butylbenzene	BQL	0.0512	50	09/22/2004
Carbon disulfide	BQL	0.0512	50	09/22/2004
Carbon tetrachloride	BQL	0.0512	50	09/22/2004
Chlorobenzene	BQL	0.0512	50	09/22/2004
Chloroethane	BQL	0.0512	50	09/22/2004
Chloroform	BQL	0.0512	50	09/22/2004
Chloromethane	BQL	0.0512	50	09/22/2004
2-Chlorotoluene	BQL	0.0512	50	09/22/2004
4-Chlorotoluene	BQL	0.0512	50	09/22/2004
Dibromochloromethane	BQL	0.0512	50	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	0.256	50	09/22/2004
Dibromomethane	BQL	0.0512	50	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.0512	50	09/22/2004
1,2-Dichlorobenzene	BQL	0.0512	50	09/22/2004
1,3-Dichlorobenzene	BQL	0.0512	50	09/22/2004
1,4-Dichlorobenzene	BQL	0.0512	50	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	0.256	50	09/22/2004
1,1-Dichloroethane	BQL	0.0512	50	09/22/2004
1,1-Dichloroethene	BQL	0.0512	50	09/22/2004
1,2-Dichloroethane	BQL	0.0512	50	09/22/2004
cis-1,2-Dichloroethene	BQL	0.0512	50	09/22/2004
trans-1,2-dichloroethene	BQL	0.0512	50	09/22/2004
1,2-Dichloropropane	BQL	0.0512	50	09/22/2004
1,3-Dichloropropane	BQL	0.0512	50	09/22/2004
2,2-Dichloropropane	BQL	0.0512	50	09/22/2004
1,1-Dichloropropene	BQL	0.0512	50	09/22/2004
cis-1,3-Dichloropropene	BQL	0.0512	50	09/22/2004
trans-1,3-Dichloropropene	BQL	0.0512	50	09/22/2004
Dichlorodifluoromethane	BQL	0.256	50	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.0512	50	09/22/2004
Ethylbenzene	BQL	0.0512	50	09/22/2004
Hexachlorobutadiene	BQL	0.0512	50	09/22/2004
2-Hexanone	BQL	0.256	50	09/22/2004
Iodomethane	BQL	0.0512	50	09/22/2004
Isopropylbenzene	BQL	0.0512	50	09/22/2004

Results for Volatiles
by GCMS 8260B/5035

Client Sample ID: UST900-SB03(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-4D
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09/17/2004 12:15
Date Received: 09/17/2004
Matrix: Soil
%Solids: 89.1

Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.0512	50	09/22/2004
Methylene chloride	BQL	0.256	50	09/22/2004
4-Methyl-2-pentanone	BQL	0.256	50	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.0512	50	09/22/2004
Naphthalene	**0.0824**	0.0512	50	09/22/2004
n-Propyl benzene	BQL	0.0512	50	09/22/2004
Styrene	BQL	0.0512	50	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.0512	50	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.0512	50	09/22/2004
Tetrachloroethene	BQL	0.0512	50	09/22/2004
Toluene	BQL	0.0512	50	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.0512	50	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.0512	50	09/22/2004
Trichloroethene	BQL	0.0512	50	09/22/2004
1,1,1-Trichloroethane	BQL	0.0512	50	09/22/2004
1,1,2-Trichloroethane	BQL	0.0512	50	09/22/2004
Trichlorofluoromethane	BQL	0.0512	50	09/22/2004
1,2,3-Trichloropropane	BQL	0.0512	50	09/22/2004
1,2,4-Trimethylbenzene	BQL	0.0512	50	09/22/2004
1,3,5-Trimethylbenzene	BQL	0.0512	50	09/22/2004
Vinyl chloride	BQL	0.0512	50	09/22/2004
m-,p-Xylene	BQL	0.102	50	09/22/2004
o-Xylene	BQL	0.0512	50	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0102	102
1,2-Dichloroethane-d4	0.01	0.00897	90
Toluene-d8	0.01	0.0102	102

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: UST900-SB04(2-3)
Client Project ID: Building 900
Lab Sample ID G128-1383-5A
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-17-2004 12:50
Date Received: 09/17/2004
Matrix: Soil
%Solids: 85.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0448	1	09/22/2004
Benzene	BQL	0.00448	1	09/22/2004
Bromobenzene	BQL	0.00448	1	09/22/2004
Bromochloromethane	BQL	0.00448	1	09/22/2004
Bromodichloromethane	BQL	0.00448	1	09/22/2004
Bromoform	BQL	0.00448	1	09/22/2004
Bromomethane	BQL	0.00448	1	09/22/2004
2-Butanone	BQL	0.0224	1	09/22/2004
n-Butylbenzene	BQL	0.00448	1	09/22/2004
sec-Butylbenzene	BQL	0.00448	1	09/22/2004
tert-Butylbenzene	BQL	0.00448	1	09/22/2004
Carbon disulfide	BQL	0.00448	1	09/22/2004
Carbon tetrachloride	BQL	0.00448	1	09/22/2004
Chlorobenzene	BQL	0.00448	1	09/22/2004
Chloroethane	BQL	0.00448	1	09/22/2004
Chloroform	BQL	0.00448	1	09/22/2004
Chloromethane	BQL	0.00448	1	09/22/2004
2-Chlorotoluene	BQL	0.00448	1	09/22/2004
4-Chlorotoluene	BQL	0.00448	1	09/22/2004
Dibromochloromethane	BQL	0.00448	1	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	0.00448	1	09/22/2004
Dibromomethane	BQL	0.00448	1	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.00448	1	09/22/2004
1,2-Dichlorobenzene	BQL	0.00448	1	09/22/2004
1,3-Dichlorobenzene	BQL	0.00448	1	09/22/2004
1,4-Dichlorobenzene	BQL	0.00448	1	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	0.00448	1	09/22/2004
1,1-Dichloroethane	BQL	0.00448	1	09/22/2004
1,1-Dichloroethene	BQL	0.00448	1	09/22/2004
1,2-Dichloroethane	BQL	0.00448	1	09/22/2004
cis-1,2-Dichloroethene	BQL	0.00448	1	09/22/2004
trans-1,2-dichloroethene	BQL	0.00448	1	09/22/2004
1,2-Dichloropropane	BQL	0.00448	1	09/22/2004
1,3-Dichloropropane	BQL	0.00448	1	09/22/2004
2,2-Dichloropropane	BQL	0.00448	1	09/22/2004
1,1-Dichloropropene	BQL	0.00448	1	09/22/2004
cis-1,3-Dichloropropene	BQL	0.00448	1	09/22/2004
trans-1,3-Dichloropropene	BQL	0.00448	1	09/22/2004
Dichlorodifluoromethane	BQL	0.00448	1	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.00448	1	09/22/2004
Ethylbenzene	**0.00482**	0.00448	1	09/22/2004
Hexachlorobutadiene	BQL	0.00448	1	09/22/2004
2-Hexanone	BQL	0.00448	1	09/22/2004
Iodomethane	BQL	0.00448	1	09/22/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: UST900-SB04(2-3)
Client Project ID: Building 900
Lab Sample ID G128-1383-5A
Lab Project ID: G128-1383
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-17-2004 12:50
Date Received: 09/17/2004
Matrix: Soil
%Solids: 85.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	0.00448	1	09/22/2004
4-Isopropyltoluene	BQL	0.00448	1	09/22/2004
Methylene chloride	BQL	0.0179	1	09/22/2004
4-Methyl-2-pentanone	BQL	0.00448	1	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00448	1	09/22/2004
Naphthalene	BQL	0.00448	1	09/22/2004
n-Propyl benzene	BQL	0.00448	1	09/22/2004
Styrene	BQL	0.00448	1	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.00448	1	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.00448	1	09/22/2004
Tetrachloroethene	BQL	0.00448	1	09/22/2004
Toluene	BQL	0.00448	1	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.00448	1	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.00448	1	09/22/2004
Trichloroethene	BQL	0.00448	1	09/22/2004
1,1,1-Trichloroethane	BQL	0.00448	1	09/22/2004
1,1,2-Trichloroethane	BQL	0.00448	1	09/22/2004
Trichlorofluoromethane	BQL	0.00448	1	09/22/2004
1,2,3-Trichloropropane	BQL	0.00448	1	09/22/2004
1,2,4-Trimethylbenzene	**0.0175**	0.00448	1	09/22/2004
1,3,5-Trimethylbenzene	BQL	0.00448	1	09/22/2004
Vinyl chloride	BQL	0.00448	1	09/22/2004
m-,p-Xylene	BQL	0.00896	1	09/22/2004
o-Xylene	BQL	0.00448	1	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0485	97
1,2-Dichloroethane-d4	0.05	0.0632	126
Toluene-d8	0.05	0.0508	102

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Trip Blank
Client Project ID: Building 900
Lab Sample ID G128-1383-6A
Lab Project ID: G128-1383
Report Basis: 0.0

Analyzed By: JTF
Date Collected: 09-17-2004 00:00
Date Received: 09/17/2004
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0500	1	09/22/2004
Benzene	BQL	0.00500	1	09/22/2004
Bromobenzene	BQL	0.00500	1	09/22/2004
Bromochloromethane	BQL	0.00500	1	09/22/2004
Bromodichloromethane	BQL	0.00500	1	09/22/2004
Bromoform	BQL	0.00500	1	09/22/2004
Bromomethane	BQL	0.00500	1	09/22/2004
2-Butanone	BQL	0.0250	1	09/22/2004
n-Butylbenzene	BQL	0.00500	1	09/22/2004
sec-Butylbenzene	BQL	0.00500	1	09/22/2004
tert-Butylbenzene	BQL	0.00500	1	09/22/2004
Carbon disulfide	BQL	0.00500	1	09/22/2004
Carbon tetrachloride	BQL	0.00500	1	09/22/2004
Chlorobenzene	BQL	0.00500	1	09/22/2004
Chloroethane	BQL	0.00500	1	09/22/2004
Chloroform	BQL	0.00500	1	09/22/2004
Chloromethane	BQL	0.00500	1	09/22/2004
2-Chlorotoluene	BQL	0.00500	1	09/22/2004
4-Chlorotoluene	BQL	0.00500	1	09/22/2004
Dibromochloromethane	BQL	0.00500	1	09/22/2004
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	09/22/2004
Dibromomethane	BQL	0.00500	1	09/22/2004
1,2-Dibromoethane (EDB)	BQL	0.00500	1	09/22/2004
1,2-Dichlorobenzene	BQL	0.00500	1	09/22/2004
1,3-Dichlorobenzene	BQL	0.00500	1	09/22/2004
1,4-Dichlorobenzene	BQL	0.00500	1	09/22/2004
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	09/22/2004
1,1-Dichloroethane	BQL	0.00500	1	09/22/2004
1,1-Dichloroethene	BQL	0.00500	1	09/22/2004
1,2-Dichloroethane	BQL	0.00500	1	09/22/2004
cis-1,2-Dichloroethene	BQL	0.00500	1	09/22/2004
trans-1,2-dichloroethene	BQL	0.00500	1	09/22/2004
1,2-Dichloropropane	BQL	0.00500	1	09/22/2004
1,3-Dichloropropane	BQL	0.00500	1	09/22/2004
2,2-Dichloropropane	BQL	0.00500	1	09/22/2004
1,1-Dichloropropene	BQL	0.00500	1	09/22/2004
cis-1,3-Dichloropropene	BQL	0.00500	1	09/22/2004
trans-1,3-Dichloropropene	BQL	0.00500	1	09/22/2004
Dichlorodifluoromethane	BQL	0.00500	1	09/22/2004
Diisopropyl ether (DIPE)	BQL	0.00500	1	09/22/2004
Ethylbenzene	BQL	0.00500	1	09/22/2004
Hexachlorobutadiene	BQL	0.00500	1	09/22/2004
2-Hexanone	BQL	0.00500	1	09/22/2004
Iodomethane	BQL	0.00500	1	09/22/2004

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Trip Blank
Client Project ID: Building 900
Lab Sample ID G128-1383-6A
Lab Project ID: G128-1383
Report Basis: 0.0

Analyzed By: JTF
Date Collected: 09-17-2004 00:00
Date Received: 09/17/2004
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	0.00500	1	09/22/2004
4-Isopropyltoluene	BQL	0.00500	1	09/22/2004
Methylene chloride	BQL	0.0200	1	09/22/2004
4-Methyl-2-pentanone	BQL	0.00500	1	09/22/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00500	1	09/22/2004
Naphthalene	BQL	0.00500	1	09/22/2004
n-Propyl benzene	BQL	0.00500	1	09/22/2004
Styrene	BQL	0.00500	1	09/22/2004
1,1,1,2-Tetrachloroethane	BQL	0.00500	1	09/22/2004
1,1,2,2-Tetrachloroethane	BQL	0.00500	1	09/22/2004
Tetrachloroethene	BQL	0.00500	1	09/22/2004
Toluene	BQL	0.00500	1	09/22/2004
1,2,3-Trichlorobenzene	BQL	0.00500	1	09/22/2004
1,2,4-Trichlorobenzene	BQL	0.00500	1	09/22/2004
Trichloroethene	BQL	0.00500	1	09/22/2004
1,1,1-Trichloroethane	BQL	0.00500	1	09/22/2004
1,1,2-Trichloroethane	BQL	0.00500	1	09/22/2004
Trichlorofluoromethane	BQL	0.00500	1	09/22/2004
1,2,3-Trichloropropane	BQL	0.00500	1	09/22/2004
1,2,4-Trimethylbenzene	BQL	0.00500	1	09/22/2004
1,3,5-Trimethylbenzene	BQL	0.00500	1	09/22/2004
Vinyl chloride	BQL	0.00500	1	09/22/2004
m-,p-Xylene	BQL	0.0100	1	09/22/2004
o-Xylene	BQL	0.00500	1	09/22/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0479	96
1,2-Dichloroethane-d4	0.05	0.0665	133
Toluene-d8	0.05	0.0502	100

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: RNP

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB01(1-2)
Client Project ID: Building 900
Lab Sample ID: G128-1383-1I
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
Solids: 83.0

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.396	1	10/01/2004
Acenaphthylene	BQL	0.396	1	10/01/2004
Anthracene	BQL	0.396	1	10/01/2004
Benzo[a]anthracene	BQL	0.396	1	10/01/2004
Benzo[a]pyrene	BQL	0.396	1	10/01/2004
Benzo[b]fluoranthene	BQL	0.396	1	10/01/2004
Benzo[g,h,i]perylene	BQL	0.396	1	10/01/2004
Benzo[k]fluoranthene	BQL	0.396	1	10/01/2004
Benzoic Acid	BQL	0.792	1	10/01/2004
Bis(2-chloroethoxy)methane	BQL	0.396	1	10/01/2004
Bis(2-chloroethyl)ether	BQL	0.396	1	10/01/2004
Bis(2-chloroisopropyl)ether	BQL	0.396	1	10/01/2004
Bis(2-ethylhexyl)phthalate	BQL	0.396	1	10/01/2004
4-bromophenyl phenyl ether	BQL	0.396	1	10/01/2004
Butylbenzylphthalate	BQL	0.396	1	10/01/2004
2-Chloronaphthalene	BQL	0.396	1	10/01/2004
2-Chlorophenol	BQL	0.396	1	10/01/2004
4-Chloro-3-methylphenol	BQL	0.396	1	10/01/2004
4-Chloroaniline	BQL	1.98	1	10/01/2004
4-Chlorophenyl phenyl ether	BQL	0.396	1	10/01/2004
Chrysene	BQL	0.396	1	10/01/2004
Dibenzo[a,h]anthracene	BQL	0.396	1	10/01/2004
Dibenzofuran	BQL	0.396	1	10/01/2004
Di-n-Butylphthalate	BQL	0.396	1	10/01/2004
1,2-Dichlorobenzene	BQL	0.396	1	10/01/2004
1,3-Dichlorobenzene	BQL	0.396	1	10/01/2004
1,4-Dichlorobenzene	BQL	0.396	1	10/01/2004
3,3'-Dichlorobenzidine	BQL	0.792	1	10/01/2004
2,4-Dichlorophenol	BQL	0.396	1	10/01/2004
Diethylphthalate	BQL	0.396	1	10/01/2004
Dimethylphthalate	BQL	0.396	1	10/01/2004
2,4-Dimethylphenol	BQL	0.396	1	10/01/2004
Di-n-octylphthalate	BQL	0.396	1	10/01/2004
4,6-Dinitro-2-methylphenol	BQL	1.98	1	10/01/2004
2,4-Dinitrophenol	BQL	1.98	1	10/01/2004
2,4-Dinitrotoluene	BQL	0.396	1	10/01/2004
2,6-Dinitrotoluene	BQL	0.396	1	10/01/2004
Fluoranthene	BQL	0.396	1	10/01/2004
Fluorene	BQL	0.396	1	10/01/2004
Hexachlorobenzene	BQL	0.396	1	10/01/2004
Hexachlorobutadiene	BQL	0.396	1	10/01/2004
Hexachlorocyclopentadiene	BQL	0.792	1	10/01/2004

Results for Semivolatiles by GCMS 8270

Client Sample ID: UST900-SB01(1-2)
Client Project ID: Building 900
Lab Sample ID: G128-1383-1I
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 11:10
Date Received: 09/17/2004
Matrix: Soil
Solids: 83.0

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.396	1	10/01/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.396	1	10/01/2004
Isophorone	BQL	0.396	1	10/01/2004
2-Methylnaphthalene	BQL	0.396	1	10/01/2004
2-Methylphenol	BQL	0.396	1	10/01/2004
3- & 4-Methylphenol	BQL	0.396	1	10/01/2004
Naphthalene	BQL	0.396	1	10/01/2004
2-Nitroaniline	BQL	0.396	1	10/01/2004
3-Nitroaniline	BQL	1.98	1	10/01/2004
4-Nitroaniline	BQL	1.98	1	10/01/2004
Nitrobenzene	BQL	0.396	1	10/01/2004
2-Nitrophenol	BQL	0.396	1	10/01/2004
4-Nitrophenol	BQL	1.98	1	10/01/2004
N-Nitrosodi-n-propylamine	BQL	0.396	1	10/01/2004
N-Nitrosodiphenylamine	BQL	0.396	1	10/01/2004
Pentachlorophenol	BQL	1.98	1	10/01/2004
Phenanthrene	BQL	0.396	1	10/01/2004
Phenol	BQL	0.396	1	10/01/2004
Pyrene	BQL	0.396	1	10/01/2004
1,2,4-Trichlorobenzene	BQL	0.396	1	10/01/2004
2,4,5-Trichlorophenol	BQL	0.396	1	10/01/2004
2,4,6-Trichlorophenol	BQL	0.396	1	10/01/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.8	68
2-Fluorophenol	10	6.9	69
Nitrobenzene-d5	10	6.9	69
Phenol-d6	10	6.7	67
2,4,6-Tribromophenol	10	6.6	66
4-Terphenyl-d14	10	7.3	74

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: PNP

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB02(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-3I
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 11:50
Date Received: 09/17/2004
Matrix: Soil
Solids: 83.7

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.401	1	10/01/2004
Acenaphthylene	BQL	0.401	1	10/01/2004
Anthracene	BQL	0.401	1	10/01/2004
Benzo[a]anthracene	BQL	0.401	1	10/01/2004
Benzo[a]pyrene	BQL	0.401	1	10/01/2004
Benzo[b]fluoranthene	BQL	0.401	1	10/01/2004
Benzo[g,h,i]perylene	BQL	0.401	1	10/01/2004
Benzo[k]fluoranthene	BQL	0.401	1	10/01/2004
Benzoic Acid	1.06	0.801	1	10/01/2004
Bis(2-chloroethoxy)methane	BQL	0.401	1	10/01/2004
Bis(2-chloroethyl)ether	BQL	0.401	1	10/01/2004
Bis(2-chloroisopropyl)ether	BQL	0.401	1	10/01/2004
Bis(2-ethylhexyl)phthalate	BQL	0.401	1	10/01/2004
4-bromophenyl phenyl ether	BQL	0.401	1	10/01/2004
Butylbenzylphthalate	BQL	0.401	1	10/01/2004
2-Chloronaphthalene	BQL	0.401	1	10/01/2004
2-Chlorophenol	BQL	0.401	1	10/01/2004
4-Chloro-3-methylphenol	BQL	0.401	1	10/01/2004
4-Chloroaniline	BQL	2.00	1	10/01/2004
4-Chlorophenyl phenyl ether	BQL	0.401	1	10/01/2004
Chrysene	BQL	0.401	1	10/01/2004
Dibenzo[a,h]anthracene	BQL	0.401	1	10/01/2004
Dibenzofuran	BQL	0.401	1	10/01/2004
Di-n-Butylphthalate	BQL	0.401	1	10/01/2004
1,2-Dichlorobenzene	BQL	0.401	1	10/01/2004
1,3-Dichlorobenzene	BQL	0.401	1	10/01/2004
1,4-Dichlorobenzene	BQL	0.401	1	10/01/2004
3,3'-Dichlorobenzidine	BQL	0.801	1	10/01/2004
2,4-Dichlorophenol	BQL	0.401	1	10/01/2004
Diethylphthalate	BQL	0.401	1	10/01/2004
Dimethylphthalate	BQL	0.401	1	10/01/2004
2,4-Dimethylphenol	BQL	0.401	1	10/01/2004
Di-n-octylphthalate	BQL	0.401	1	10/01/2004
4,6-Dinitro-2-methylphenol	BQL	2.00	1	10/01/2004
2,4-Dinitrophenol	BQL	2.00	1	10/01/2004
2,4-Dinitrotoluene	BQL	0.401	1	10/01/2004
2,6-Dinitrotoluene	BQL	0.401	1	10/01/2004
Fluoranthene	BQL	0.401	1	10/01/2004
Fluorene	BQL	0.401	1	10/01/2004
Hexachlorobenzene	BQL	0.401	1	10/01/2004
Hexachlorobutadiene	BQL	0.401	1	10/01/2004
Hexachlorocyclopentadiene	BQL	0.801	1	10/01/2004

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB02(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-3I
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 11:50
Date Received: 09/17/2004
Matrix: Soil
Solids: 83.7

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.401	1	10/01/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.401	1	10/01/2004
Isophorone	BQL	0.401	1	10/01/2004
2-Methylnaphthalene	BQL	0.401	1	10/01/2004
2-Methylphenol	BQL	0.401	1	10/01/2004
3- & 4-Methylphenol	BQL	0.401	1	10/01/2004
Naphthalene	**0.409**	0.401	1	10/01/2004
2-Nitroaniline	BQL	0.401	1	10/01/2004
3-Nitroaniline	BQL	2.00	1	10/01/2004
4-Nitroaniline	BQL	2.00	1	10/01/2004
Nitrobenzene	BQL	0.401	1	10/01/2004
2-Nitrophenol	BQL	0.401	1	10/01/2004
4-Nitrophenol	BQL	2.00	1	10/01/2004
N-Nitrosodi-n-propylamine	BQL	0.401	1	10/01/2004
N-Nitrosodiphenylamine	BQL	0.401	1	10/01/2004
Pentachlorophenol	BQL	2.00	1	10/01/2004
Phenanthrene	**0.741**	0.401	1	10/01/2004
Phenol	BQL	0.401	1	10/01/2004
Pyrene	BQL	0.401	1	10/01/2004
1,2,4-Trichlorobenzene	BQL	0.401	1	10/01/2004
2,4,5-Trichlorophenol	BQL	0.401	1	10/01/2004
2,4,6-Trichlorophenol	BQL	0.401	1	10/01/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
2-Fluorophenol	10	8.1	81
Nitrobenzene-d5	10	8.3	83
Phenol-d6	10	7.8	78
2,4,6-Tribromophenol	10	7.8	78
4-Terphenyl-d14	10	9.3	93

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: BNP

Results for Semivolatiles by GCMS 8270

Client Sample ID: UST900-SB03(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-4I
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 12:15
Date Received: 09/17/2004
Matrix: Soil
Solids: 89.1

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.314	1	10/01/2004
Acenaphthylene	BQL	0.314	1	10/01/2004
Anthracene	BQL	0.314	1	10/01/2004
Benzo[a]anthracene	BQL	0.314	1	10/01/2004
Benzo[a]pyrene	BQL	0.314	1	10/01/2004
Benzo[b]fluoranthene	BQL	0.314	1	10/01/2004
Benzo[g,h,i]perylene	BQL	0.314	1	10/01/2004
Benzo[k]fluoranthene	BQL	0.314	1	10/01/2004
Benzoic Acid	BQL	0.628	1	10/01/2004
Bis(2-chloroethoxy)methane	BQL	0.314	1	10/01/2004
Bis(2-chloroethyl)ether	BQL	0.314	1	10/01/2004
Bis(2-chloroisopropyl)ether	BQL	0.314	1	10/01/2004
Bis(2-ethylhexyl)phthalate	BQL	0.314	1	10/01/2004
4-bromophenyl phenyl ether	BQL	0.314	1	10/01/2004
Butylbenzylphthalate	BQL	0.314	1	10/01/2004
2-Chloronaphthalene	BQL	0.314	1	10/01/2004
2-Chlorophenol	BQL	0.314	1	10/01/2004
4-Chloro-3-methylphenol	BQL	0.314	1	10/01/2004
4-Chloroaniline	BQL	1.57	1	10/01/2004
4-Chlorophenyl phenyl ether	BQL	0.314	1	10/01/2004
Chrysene	BQL	0.314	1	10/01/2004
Dibenzo[a,h]anthracene	BQL	0.314	1	10/01/2004
Dibenzofuran	BQL	0.314	1	10/01/2004
Di-n-Butylphthalate	BQL	0.314	1	10/01/2004
1,2-Dichlorobenzene	BQL	0.314	1	10/01/2004
1,3-Dichlorobenzene	BQL	0.314	1	10/01/2004
1,4-Dichlorobenzene	BQL	0.314	1	10/01/2004
3,3'-Dichlorobenzidine	BQL	0.628	1	10/01/2004
2,4-Dichlorophenol	BQL	0.314	1	10/01/2004
Diethylphthalate	BQL	0.314	1	10/01/2004
Dimethylphthalate	BQL	0.314	1	10/01/2004
2,4-Dimethylphenol	BQL	0.314	1	10/01/2004
Di-n-octylphthalate	BQL	0.314	1	10/01/2004
4,6-Dinitro-2-methylphenol	BQL	1.57	1	10/01/2004
2,4-Dinitrophenol	BQL	1.57	1	10/01/2004
2,4-Dinitrotoluene	BQL	0.314	1	10/01/2004
2,6-Dinitrotoluene	BQL	0.314	1	10/01/2004
Fluoranthene	BQL	0.314	1	10/01/2004
Fluorene	BQL	0.314	1	10/01/2004
Hexachlorobenzene	BQL	0.314	1	10/01/2004
Hexachlorobutadiene	BQL	0.314	1	10/01/2004
Hexachlorocyclopentadiene	BQL	0.628	1	10/01/2004

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB03(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-4l
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 12:15
Date Received: 09/17/2004
Matrix: Soil
Solids: 89.1

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.314	1	10/01/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.314	1	10/01/2004
Isophorone	BQL	0.314	1	10/01/2004
2-Methylnaphthalene	BQL	0.314	1	10/01/2004
2-Methylphenol	BQL	0.314	1	10/01/2004
3- & 4-Methylphenol	BQL	0.314	1	10/01/2004
Naphthalene	BQL	0.314	1	10/01/2004
2-Nitroaniline	BQL	0.314	1	10/01/2004
3-Nitroaniline	BQL	1.57	1	10/01/2004
4-Nitroaniline	BQL	1.57	1	10/01/2004
Nitrobenzene	BQL	0.314	1	10/01/2004
2-Nitrophenol	BQL	0.314	1	10/01/2004
4-Nitrophenol	BQL	1.57	1	10/01/2004
N-Nitrosodi-n-propylamine	BQL	0.314	1	10/01/2004
N-Nitrosodiphenylamine	BQL	0.314	1	10/01/2004
Pentachlorophenol	BQL	1.57	1	10/01/2004
Phenanthrene	BQL	0.314	1	10/01/2004
Phenol	BQL	0.314	1	10/01/2004
Pyrene	BQL	0.314	1	10/01/2004
1,2,4-Trichlorobenzene	BQL	0.314	1	10/01/2004
2,4,5-Trichlorophenol	BQL	0.314	1	10/01/2004
2,4,6-Trichlorophenol	BQL	0.314	1	10/01/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
2-Fluorophenol	10	7.4	74
Nitrobenzene-d5	10	7.6	76
Phenol-d6	10	7.5	75
2,4,6-Tribromophenol	10	7.4	74
4-Terphenyl-d14	10	8.8	88

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB04(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-5J
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 12:50
Date Received: 09/17/2004
Matrix: Soil
Solids: 85.6

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.379	1	10/01/2004
Acenaphthylene	BQL	0.379	1	10/01/2004
Anthracene	BQL	0.379	1	10/01/2004
Benzo[a]anthracene	BQL	0.379	1	10/01/2004
Benzo[a]pyrene	BQL	0.379	1	10/01/2004
Benzo[b]fluoranthene	BQL	0.379	1	10/01/2004
Benzo[g,h,i]perylene	BQL	0.379	1	10/01/2004
Benzo[k]fluoranthene	BQL	0.379	1	10/01/2004
Benzoic Acid	BQL	0.758	1	10/01/2004
Bis(2-chloroethoxy)methane	BQL	0.379	1	10/01/2004
Bis(2-chloroethyl)ether	BQL	0.379	1	10/01/2004
Bis(2-chloroisopropyl)ether	BQL	0.379	1	10/01/2004
Bis(2-ethylhexyl)phthalate	BQL	0.379	1	10/01/2004
4-bromophenyl phenyl ether	BQL	0.379	1	10/01/2004
Butylbenzylphthalate	BQL	0.379	1	10/01/2004
2-Chloronaphthalene	BQL	0.379	1	10/01/2004
2-Chlorophenol	BQL	0.379	1	10/01/2004
4-Chloro-3-methylphenol	BQL	0.379	1	10/01/2004
4-Chloroaniline	BQL	1.89	1	10/01/2004
4-Chlorophenyl phenyl ether	BQL	0.379	1	10/01/2004
Chrysene	BQL	0.379	1	10/01/2004
Dibenzo[a,h]anthracene	BQL	0.379	1	10/01/2004
Dibenzofuran	BQL	0.379	1	10/01/2004
Di-n-Butylphthalate	BQL	0.379	1	10/01/2004
1,2-Dichlorobenzene	BQL	0.379	1	10/01/2004
1,3-Dichlorobenzene	BQL	0.379	1	10/01/2004
1,4-Dichlorobenzene	BQL	0.379	1	10/01/2004
3,3'-Dichlorobenzidine	BQL	0.758	1	10/01/2004
2,4-Dichlorophenol	BQL	0.379	1	10/01/2004
Diethylphthalate	BQL	0.379	1	10/01/2004
Dimethylphthalate	BQL	0.379	1	10/01/2004
2,4-Dimethylphenol	BQL	0.379	1	10/01/2004
Di-n-octylphthalate	BQL	0.379	1	10/01/2004
4,6-Dinitro-2-methylphenol	BQL	1.89	1	10/01/2004
2,4-Dinitrophenol	BQL	1.89	1	10/01/2004
2,4-Dinitrotoluene	BQL	0.379	1	10/01/2004
2,6-Dinitrotoluene	BQL	0.379	1	10/01/2004
Fluoranthene	BQL	0.379	1	10/01/2004
Fluorene	BQL	0.379	1	10/01/2004
Hexachlorobenzene	BQL	0.379	1	10/01/2004
Hexachlorobutadiene	BQL	0.379	1	10/01/2004
Hexachlorocyclopentadiene	BQL	0.758	1	10/01/2004

Results for Semivolatiles
by GCMS 8270

Client Sample ID: UST900-SB04(2-3)
Client Project ID: Building 900
Lab Sample ID: G128-1383-5J
Lab Project ID: G128-1383
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 09/17/2004 12:50
Date Received: 09/17/2004
Matrix: Soil
Solids: 85.6

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.379	1	10/01/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.379	1	10/01/2004
Isophorone	BQL	0.379	1	10/01/2004
2-Methylnaphthalene	BQL	0.379	1	10/01/2004
2-Methylphenol	BQL	0.379	1	10/01/2004
3- & 4-Methylphenol	BQL	0.379	1	10/01/2004
Naphthalene	BQL	0.379	1	10/01/2004
2-Nitroaniline	BQL	0.379	1	10/01/2004
3-Nitroaniline	BQL	1.89	1	10/01/2004
4-Nitroaniline	BQL	1.89	1	10/01/2004
Nitrobenzene	BQL	0.379	1	10/01/2004
2-Nitrophenol	BQL	0.379	1	10/01/2004
4-Nitrophenol	BQL	1.89	1	10/01/2004
N-Nitrosodi-n-propylamine	BQL	0.379	1	10/01/2004
N-Nitrosodiphenylamine	BQL	0.379	1	10/01/2004
Pentachlorophenol	BQL	1.89	1	10/01/2004
Phenanthrene	**0.398**	0.379	1	10/01/2004
Phenol	BQL	0.379	1	10/01/2004
Pyrene	BQL	0.379	1	10/01/2004
1,2,4-Trichlorobenzene	BQL	0.379	1	10/01/2004
2,4,5-Trichlorophenol	BQL	0.379	1	10/01/2004
2,4,6-Trichlorophenol	BQL	0.379	1	10/01/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.7	67
2-Fluorophenol	10	6.7	67
Nitrobenzene-d5	10	6.7	67
Phenol-d6	10	6.6	66
2,4,6-Tribromophenol	10	5.6	56
4-Terphenyl-d14	10	7.5	75

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: RNP

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB01(1-2)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/17/04
Date Analyzed	09/25/04
Dry Weight	83
Dilution Factor	1
C_5-C_8 Aliphatics**	13 (mg/Kg)
C_9-C_{12} Aliphatics**	42 (mg/Kg)
C_9-C_{10} Aromatics**	18 (mg/Kg)
Surrogate % Recovery - PID	110
Surrogate % Recovery - FID	110

* = 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: g128-1383-1e

Reviewed By: BNP

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB02(2-3)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/17/04
Date Analyzed	09/25/04
Dry Weight	84
Dilution Factor	1
C_5-C_8 Aliphatics**	25 (mg/Kg)
C_9-C_{12} Aliphatics**	63 (mg/Kg)
C_9-C_{10} Aromatics**	13 (mg/Kg)
Surrogate % Recovery - PID	170***
Surrogate % Recovery - FID	300***

* = 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.

***= High surrogate recovery due to matrix interference

Lab Info: g128-1383-3e

Reviewed By: PNV

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB03(2-3)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/17/04
Date Analyzed	09/25/04
Dry Weight	89
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	110
Surrogate % Recovery - FID	150***

* = 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.

***= High surrogate recovery due to matrix interference

Lab Info: g128-1383-4e

Reviewed By: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB04(2-3)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/17/04
Date Analyzed	09/25/04
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	99
Surrogate % Recovery - FID	120

* = 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: g128-1383-5e

Reviewed By: PNP

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 08/27/04 PID Initial Calibration Date: 08/27/04

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	4.4	14	100	10
C_9-C_{12} Aliphatics	3.4	11	100	10
C_9-C_{10} Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	5.5	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C_9-C_{12} Aliphatics	10	17.3	Calibration Factor
	250		
	500		
	750		
	1000		
C_9-C_{10} Aromatics	10	2.8	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 09/24/04

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	2000	200	0.7
C_9-C_{12} Aliphatics	500	50	9.5
C_9-C_{10} Aromatics	500	50	-6.9

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

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

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB01(1-2)
Sample Matrix	Soil
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/22/04
Date Analyzed	10/05/04
Dry Weight	83
Dilution Factor	1:1
C_9-C_{18} Aliphatics*	35 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	78
Aromatic Surrogate % Recovery	76
Fractionation Surrogate 1 % Recovery	75

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1383-1H

Reviewed By: BJV

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB02(2-3)
Sample Matrix	Soil
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/22/04
Date Analyzed	10/05/04
Dry Weight	83.7
Dilution Factor	1:1
C_9-C_{18} Aliphatics*	23 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	20 (mg/Kg)
Aliphatic Surrogate % Recovery	70
Aromatic Surrogate % Recovery	80
Fractionation Surrogate 1 % Recovery	81

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1383-3H

Reviewed By: BJW

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB03(2-3)
Sample Matrix	Soil
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/22/04
Date Analyzed	09/26/04
Dry Weight	89.1
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	120
Aromatic Surrogate % Recovery	110

Comments:

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

Lab info: G128-1383-4H

Reviewed By: RNV

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Building 900

Sample Information and Analytical Results	
Sample Identification	UST900-SB04(2-3)
Sample Matrix	Soil
Date Collected	09/17/04
Date Received	09/17/04
Date Extracted	09/22/04
Date Analyzed	09/26/04
Dry Weight	85.6
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	150
Aromatic Surrogate % Recovery	150

Comments:

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

Lab info: G128-1383-5H

Reviewed By: RNP

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 08/09/04

Calibration Ranges and Limits

Range	MDL (µg/L)		ML (µg/L)		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/mL)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	6	9.70	Calibration Factor
	30		
	60		
	120		
	240		
C_{19}-C_{36} Aliphatics	8	8.6	Calibration Factor
	40		
	80		
	160		
	320		
C_{11}-C_{22} Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 09/26/04

Calibration Check

Range	Levels (µg/mL)	RPD
C_9-C_{18} Aliphatics	120	-9.6
C_{19}-C_{36} Aliphatics	160	-14.9
C_{11}-C_{22} Aromatics	340	-6.5

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

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# 42131

Page 1 of 1

Client: Catlin | Project ID: Building 900 | Date: 9-17-04 | Report To: Mike E. Mason @ Catlin

Address: 220 Old Dairy Rd. | Contact: Mike E. Mason | Turnaround: standard

Address: Wilmington NC 28405 | Phone: 910-452-5861 | Job Number: 204-039

Quote #: DoD 101 | Fax: 910-452-7563 | P.O. Number: 240820-2 | Invoice To: Sheila @ Catlin

PARADIGM ANALYTICAL LABORATORIES, INC.

Sample ID	Date	Time	Matrix	Preservatives: Ice	Methanol	Sodium Bisulfate		Analyses: EPA 8260/5035 +IPE +MTBE	EPA 8270	MADEP VPH	MADEP EPH						
BT900-SB01(1-2)	9-17-04	11:10	S	✓	✓	✓		✓	✓	✓	✓						
BT900-SB01(1-2) Dup.	9-17-04	11:10	S	✓	✓	✓		✓									
BT900-SB02(2-3)	9-17-04	11:50	S	✓	✓	✓		✓	✓	✓	✓						
BT900-SB03(2-3)	9-17-04	12:15	S	✓	✓	✓		✓	✓	✓	✓						
BT900-SB04(2-3)	9-17-04	12:50	S	✓	✓	✓		✓	✓	✓	✓						
H2O Blank				✓	✓	✓		✓									

Comments: Please specify any special reporting requirements

6128-1383

- Release and Summary

EDD format

N.C. CERTIFICATION #481

Relinquished By	Date	Time	Received By	Date	Time	Temperature
Tom Hart	9-17	3:50p	Julie Johnson	9/17/04	1550	on ice 10.6°C
						coming down in temp

State Certification Requested: NC ✓ SC _____ Other _____

SEE REVERSE FOR TERMS AND CONDITIONS

ORIGINAL