

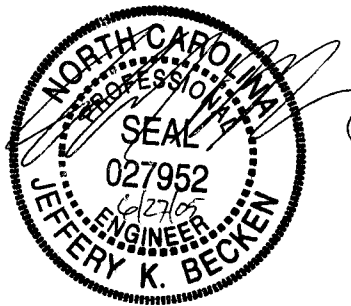
ADDITIONAL SAMPLING REPORT

BUILDING H-19

**MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

APRIL 27, 2005

**NCDENR Incident No.: 17633
Navy Contract No.: N62470-01-D-3009
Delivery Order No.: 0124
CATLIN Project No.: 204-055**



Prepared by:

**CATLIN Engineers and Scientists
P.O. Box 10279
Wilmington, North Carolina 28404-0279
(910) 452-5861**

TABLE OF CONTENTS

	<u>Page</u>
LIST OF ACRONYMS	i
EXECUTIVE SUMMARY	1
1.0 TITLE PAGE	3
2.0 INTRODUCTION	4
2.1 PURPOSE OF INVESTIGATION	4
2.2 SCOPE OF WORK	4
3.0 SITE HISTORY	4
4.0 SITE REMEDIATION	5
4.1 SOIL	5
4.1.1 IMPLEMENTED REMEDIAL APPROACH	5
4.1.2 MONITORING DATA	5
4.2 GROUNDWATER	8
4.2.1 IMPLEMENTED REMEDIAL APPROACH	8
4.2.2 MONITORING DATA	8
5.0 ACTUAL COST FOR REMEDIATION	11
6.0 RECEPTOR SURVEY	12
7.0 CONCLUSION AND PETITION FOR SITE CLOSURE	12
8.0 LIMITATIONS	13
9.0 REFERENCES	14

TABLES

TABLE 1	SUMMARY OF KNOWN PREVIOUSLY SUBMITTED ENVIRONMENTAL REPORTS
TABLE 2	SUMMARY OF SOIL LABORATORY RESULTS - EPA METHOD 8270
TABLE 3	SUMMARY OF SOIL LABORATORY RESULTS - EPA METHOD 8260
TABLE 4	SUMMARY OF SOIL LABORATORY RESULTS - MADEP VPH/EPH
TABLE 5	SUMMARY OF SOIL LABORATORY RESULTS - MADEP VPH/EPH AS COMPARED TO NCDENR MSCCs
TABLE 6	SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA METHOD 625
TABLE 7	SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA METHOD 6210D
TABLE 8	SUMMARY OF GROUNDWATER LABORATORY RESULTS - MADEP VPH/EPH
TABLE 9	SUMMARY OF GROUNDWATER LABORATORY RESULTS - MADEP VPH/EPH AS COMPARED TO NCDENR 2L GWQS
TABLE 10	SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA METHOD METALS BY 3030C PREP

FIGURES

FIGURE 1	SITE VICINITY MAP WITH POTENTIAL RECEPTORS
FIGURE 2	SITE PLAN WITH MONITORING WELL NETWORK
FIGURE 3	SITE PLAN WITH NOVEMBER 2004 SOIL BORING LOCATIONS
FIGURE 4	SUMMARY OF NOVEMBER 2004 GROUNDWATER LABORATORY RESULTS WITH EXCEEDANCES OF NCDENR 2L GWQS

APPENDICES

APPENDIX A	HISTORICAL SOIL DATA AND FIGURES
APPENDIX B	HISTORICAL GROUNDWATER DATA AND FIGURES
APPENDIX C	BORING LOGS FROM NOVEMBER 2004 SAMPLING EVENT
APPENDIX D	RISK CLASSIFICATION AND LAND USE FORM
APPENDIX E	LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION FROM NOVEMBER 2004 SAMPLING EVENT

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
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	Mooreville 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
NAVFAC Atlantic	Naval Facilities Atlantic Division
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

ADDITIONAL SAMPLING REPORT
BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

CATLIN PROJECT NO.: 204-055
APRIL 27, 2005

EXECUTIVE SUMMARY

The Building H-19 project site is located in the Hadnot Point area of the MCB Camp Lejeune. The project area, Building H-19, is an Engineers Office (former Paint Shop) located north of Cutler Street within a highly developed area adjacent to Buildings H-21 and Former Building H-39. The former Building H-20, a boiler plant for the old Naval Hospital, was located approximately 100 feet northeast of Building H-19. The former Building H-20 was located adjacent to an underground storage tank (UST) basin consisting of three USTs: two 15,000-gallon heating oil tanks (H-19-1 and H-19-2) and one 5,000-gallon waste oil tank (H-19-3), which were used for the former boilers located in Building H-20. These USTs were removed in May and June 1993.

Various companies conducted site assessments between 1993 and 1998 for the Building H-19 project site. These assessment reports were utilized in the development of a Corrective Action Plan (CAP) dated July 22, 1998. The CAP identified the presence of soil and groundwater petroleum contamination. The recommended remediation strategy within the CAP for site restoration was excavation of the soil contamination areas and natural attenuation of the groundwater contamination. It is our understanding that the soil excavation activities were not implemented and that the natural attenuation groundwater monitoring was implemented in January 1998, which was prior to finalizing the CAP. Subsequent to the CAP preparation, Law Engineering and Environmental Services, Inc. (LAW), now known as MACTEC Engineering and Consulting, Inc. (MACTEC), prepared four reports of which three were groundwater monitoring reports and one was a Draft Site Assessment Report (SAR). The Draft SAR included the findings of additional soil and groundwater assessment activities.

MACTEC concluded within the Draft SAR that the Building H-19 project site should meet the criteria for Low Risk with a land use classification of Industrial/Commercial. Therefore, MACTEC stated that the applicable clean-up levels should be the Industrial/Commercial Maximum Soil Contaminant Concentrations (MSCCs) for soil and the Gross Contaminant Levels (GCLs) for groundwater. The Draft SAR concluded that groundwater contamination was not at concentrations in excess of the GCLs; however, exceedances of the NCAC T15A:02L Groundwater Quality Standards (2L GWQS) for some of the contaminants of concern were present. Based on a review of the historical soil data, it appears that two soil samples were collected which detected contaminant concentrations above the applicable State Action Levels.

As part of this investigation CATLIN collected two soil samples from areas of historical soil contamination and groundwater samples from site monitoring wells to assess the current groundwater conditions at the Building H-19 project site.

Based on the results of this investigation and previous reports, it appears that the site is suitable for No Further Action status with appropriate land use restrictions identified within an approved Notice of Residual Petroleum. However, based on economic analysis and level of effort, Camp Lejeune has decided to forego implementation of land use restrictions at this site. Therefore, the revised cleanup levels are the residential MSCCs for the soil contamination and the 2L GWQS for the groundwater contamination. CATLIN recommends that monitored natural attenuation be utilized to meet the revised cleanup levels and that a monitoring event be conducted every other year to assess the monitored natural attenuation of the contaminated soil and groundwater.

ADDITIONAL SAMPLING REPORT

1.0 TITLE PAGE

DATE OF REPORT: April 27, 2005
Facility ID: N/A UST Incident Number (if known): 17633
Site Name: Building H-19
Site Location: Marine Corps Base, Camp Lejeune
Nearest City/Town: Camp Lejeune County: Onslow
Risk Classification: Low Risk Land Use Classification: Industrial/Commercial
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: Same as above
Address: MCB Camp Lejeune 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: May/June, 1993
Longitude: 77° 22' 13" W Latitude: 34° 40' 36" N
Estimated Quantity of Release: Unknown
Cause of Release: Leaking Underground Storage Tanks
Source of Release (e.g. Piping/UST):
USTs and piping

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

Two 15,000 gallon USTs used to store diesel fuel and one 5,000 gallon UST which stored waste oil.

I, Jeffery K. Becken 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)

2.0 INTRODUCTION

2.1 PURPOSE OF INVESTIGATION

The purpose of this report is to provide information regarding the recent sampling event (November 2004) and to evaluate the Building H-19 project site for site closure in accordance with the Guidelines for Assessment and Corrective Action, dated April 2001 (Guidelines). The site location is shown on Figure 1.

The work conducted herein was conducted in general accordance with the Workplan titled Additional Soil Sampling and Site Closure Report at Building H-19. CATLIN was authorized to perform this investigation by the Naval Facilities Atlantic Division (NAFAC Atlantic) in accordance with the Order of Supplies Contract Number N62470-01-D-3009, Delivery Order Number 0124.

2.2 SCOPE OF WORK

The project scope consisted of the collection of two soil samples from areas of historical soil contamination and the collection of groundwater samples from site monitoring wells to assess the current groundwater conditions at the Building H-19 project site. The scope also included a re-evaluation of the risk characterization for the subject site. The findings are summarized within this report.

3.0 SITE HISTORY

The Building H-19 project site is located in the Hadnot Point area of the MCB Camp Lejeune. The project area, Building H-19, is an Engineers Office (former Paint Shop) located north of Cutler Street within a highly developed area adjacent to Buildings H-21 and former Building H-39. The former Building H-20, a boiler plant for the old Naval Hospital, was located approximately 100 feet northeast of Building H-19. The former Building H-20 was located adjacent to an underground storage tank (UST) basin consisting of three USTs: two 15,000-gallon heating oil tanks (H-19-1 and H-19-2) and one 5,000-gallon waste oil tank (H-19-3), which were used for the former boilers located in Building H-20. The site plan is illustrated on Figure 2. These USTs were removed in May and June 1993 and were apparently the source of the release. The quantity of the release is unknown. A summary of the known previously submitted environmental reports is provided in Table 1.

The Building H-19 USTs, H-19-1 through H-19-3, were removed in May and June of 1993. Approximately 174 tons of contaminated soil were removed from the subject site by Peele's Pump and Tank Company (Peele's) and delivered to Carlisle Contractors, Inc. for remediation.

Site assessments were conducted between 1993 and 1998 for the Building H-19 project site by Peele's, R.E. Wright Environmental, Inc. (Wright), and LAW (now known as MACTEC). These assessment reports were utilized by CATLIN to prepare a CAP dated July 22, 1998. The CAP identified the presence of soil and groundwater petroleum contamination. The

recommended remediation strategy for site restoration within the CAP was excavation of the soil contamination areas and natural attenuation of the groundwater contamination. It is our understanding that the soil excavation activities were not implemented and that the natural attenuation groundwater monitoring was implemented in January 1998, which was prior to finalizing the CAP. Subsequent to the CAP preparation, LAW/MACTEC prepared four reports of which three were groundwater monitoring reports and one was a Draft Site Assessment Report (SAR). The Draft SAR included the findings of additional soil and groundwater assessment activities. The findings from the historical soil and groundwater sampling events are provided in Appendices A and B, respectively.

Based on findings, MACTEC concluded within the Draft SAR that the Building H-19 project site should meet the criteria for Low Risk with a land use classification of Industrial/Commercial. Therefore, MACTEC stated that the applicable clean-up levels should be the Industrial/Commercial MSCCs for soil and the GCLs for groundwater. The Draft SAR concluded that groundwater contamination was not at concentrations in excess of the GCLs; however, the Draft SAR did indicate exceedances of 2L GWQS for some of the contaminants of concern. Based on a review of the historical soil data, it appears that two soil samples were collected which detected contaminant concentrations above the applicable State Action Levels. These locations were at monitoring well MW-2 and direct push boring DP-7. As part of this investigation CATLIN collected additional soil samples from the two (2) referenced locations and additional groundwater samples from all monitoring wells to assess current site conditions.

4.0 SITE REMEDIATION

4.1 SOIL

4.1.1 IMPLEMENTED REMEDIAL APPROACH

As previously discussed, excavation of contaminant soils was the recommended remedial approach for soil remediation; however, natural attenuation was the implemented corrective action for the remediation of the soil contamination at the Building H-19 project site.

4.1.2 MONITORING DATA

The following sections are a brief summary of the historical soil monitoring data for the Building H-19 project site.

4.1.2.1 SUMMARY OF MAY 1993 SOIL SAMPLING EVENT

On May 2, 1993, Peele's removed two 15,000-gallon capacity USTs that had been used to store diesel fuel. Peele's reported collecting three grab soil samples from the excavation floor upon removal of the USTs. The soil samples were analyzed for metals according to the Toxicity Characteristic Leachate Procedure (TCLP) and/or oil and grease. One soil sample exhibited oil and grease at a concentration of

600 mg/kg. The soil samples were collected from approximately 13 feet below land surface (BLS). Peele's reported encountering groundwater during excavation activities. Subsequently, soil samples were likely obtained from within the groundwater table and are not considered vadose zone soil contamination.

4.1.2.2 SUMMARY OF JUNE 1993 SOIL SAMPLING EVENT

Peele's removed a 5,000-gallon waste oil UST on June 2, 1993. Peele's collected three soil samples from the floor of the excavation, approximately 12 feet BLS during the UST removal. Two soil samples were tested for oil and grease and one sample was tested for metals according to TCLP. The soil samples tested for oil and grease exhibited concentrations of 1,800 and 100 mg/kg. The TCLP results did not reveal any metals present within the sample analyzed. Peele's reported encountering groundwater during excavation activities. Subsequently, soil samples were likely obtained from within the groundwater table and are not considered vadose zone soil contamination. Therefore, the results were likely influenced by the presence of groundwater.

4.1.2.3 SUMMARY OF MARCH 1995 SOIL SAMPLING EVENT

Wright advanced seven soil borings to depths of approximately 11 to 14.3 feet BLS on March 6 and 7, 1995. Wright selected a soil sample from each soil boring with the highest photo ionization detector reading (PID) for laboratory analysis for TPH gasoline range organics (TPH GRO), TPH diesel range organics (TPH DRO), oil and grease, halogenated solvents, and metals according to TCLP. The laboratory detected TPH DRO at a concentration of 580 mg/kg in the soil sample collected from USTH19-MW2. The laboratory also detected 1,2,4-Trimethylbenzene and 1,3,5-Trimethyl benzene in the USTH19-MW2 soil sample. A summary of the laboratory soil results from this sampling event are provided in Appendix A.

4.1.2.4 SUMMARY OF THE JANUARY THROUGH MARCH 1997 SOIL SAMPLING EVENTS

LAW advanced 19 Powerprobe borings, three hand-auger borings, and seven hollow stem auger borings at the Building H-19 project site between January and March 1997. A vadose zone soil sample was collected from each boring and analyzed for selective analytes. One soil sample, USTH19-DP7, revealed concentrations above the applicable action level, at that time. A summary of the laboratory soil results from this sampling event is provided in Appendix A.

4.1.2.5 SUMMARY OF THE JULY 2000 SOIL SAMPLING EVENT

LAW collected five soil samples for laboratory analysis by EPA Method 8260, 8270, 6010B, and MADEP VPH and EPH. One of the five soil samples was collected from an area that exhibited exceedances of the applicable action level. This previous sample was collected from the boring of monitoring well USTH19-MW2. LAW identified the sample collected in the vicinity of USTH19-MW2 as USTH19-SB01-04. The laboratory detected benzo[a]anthracene (1.1 mg/kg), benzo[a]pyrene (1.1 mg/kg), and benzo[b]fluoranthene (1.5 mg/kg) in soil sample USTH19-SB03-02 at concentrations that exceeded their MSCCs. All other samples and analytes were below the lowest applicable MSCCs. A summary of the laboratory soil results from these samples are provided in Appendix A.

4.1.2.6 SUMMARY OF THE NOVEMBER 2004 SOIL SAMPLING EVENT

Based on a review of the above data, it appears that two soil samples (USTH19-SB03-02 and DP-7) exhibited contaminant concentrations above the applicable Action Levels. Therefore, CATLIN collected two additional soil samples at these locations on November 29, 2004 for Risk Based Analysis. The soil boring locations from this sampling event are illustrated on Figure 3. All sampling was conducted in general accordance with the approved Workplan by use of a hand auger device. One soil sample was selected from each boring for laboratory analysis by current Risk Based Analyses. The laboratory samples were selected from an interval with the highest Flame Ionization Detector (FID) result within the vadose zone. Each boring interval description and field screening result is included on the boring logs in Appendix C.

The laboratory 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. The laboratory reports and chain of custody documentation are provided in Appendix E. Samples were tested for the current risk based analyses using EPA Method 8260, 8270, and MADEP VPH and EPH.

Benzo[a]pyrene was detected in soil samples USTH19-SB01 (3-4) and USTH19-SB02 (3-4) at 0.469 mg/kg and 0.488 mg/kg, respectively, in exceedance of the lowest of the MSCCs. However, these results did not exceed the Industrial/Commercial MSCC for benzo[a]pyrene. All other analytes were below the lowest MSCCs. Refer to Tables 2 through 5 for soil analytical results.

4.2 GROUNDWATER

4.2.1 IMPLEMENTED REMEDIAL APPROACH

As previously discussed, natural attenuation was the implemented corrective action for the remediation of the groundwater contamination at the Building H-19 project site.

4.2.2 MONITORING DATA

The following sections are a brief summary of the historical groundwater samples collected for the Building H-19 project site.

4.2.2.1 SUMMARY OF MARCH 1997 GROUNDWATER SAMPLING EVENT

Wright installed and sampled seven monitoring wells, USTH19-MW01 through USTH19-MW07 in March 1997. The groundwater samples were analyzed per EPA Method 502.2 and 625. The laboratory results from this sampling event revealed exceedances of the applicable 2L GWQS from only two of the seven monitoring wells, USTH19-MW03 and USTH19-MW07. A summary of the laboratory groundwater results from this sampling event is provided in Appendix B.

4.2.2.2 SUMMARY OF FEBRUARY 1997 GROUNDWATER SAMPLING EVENT

LAW collected sixteen groundwater samples for laboratory analysis by EPA Method 502.2 and 625 in February 1997 as part of a Leaking UST Site Assessment. The laboratory detected EPA Method 502.2 analytes in ten of the sixteen groundwater samples that exceeded the 2L GWQS. Four EPA Method 625 compounds were detected above the respective 2L GWQS for one groundwater sample collected. A summary of the laboratory groundwater results from this sampling event is provided in Appendix B.

4.2.2.3 SUMMARY OF MARCH/APRIL 1997 GROUNDWATER SAMPLING EVENT

Based on the groundwater results of the February 1997 sampling event, LAW installed seven new monitoring wells (USTH19-MW08 through USTH19-MW14). LAW sampled monitoring wells USTH19-MW08 through USTH19-MW14 between March 27 and April 10, 1997 for laboratory analysis per EPA Method 625, 502.2, and 6010. The laboratory detected compounds from EPA Method 502.2 concentrations that exceeded respective 2L GWQS in

groundwater samples collected from monitoring wells USTH19-MW09, USTH19-MW10, USTH19-MW11, and USTH19-MW13. The laboratory did not detect any analytes per EPA Method 625 or 6010 at concentrations in excess of the 2L GWQS. A summary of the laboratory groundwater sampling results from this sampling event is provided in Appendix B.

4.2.2.4 SUMMARY OF JANUARY 1998 GROUNDWATER SAMPLING EVENT

LAW conducted a natural attenuation monitoring event in January 1998. LAW gauged nine of the site monitoring wells for depth to water and free-phase product and sampled two monitoring wells, USTH19-MW07 and USTH19-MW10 during this event. The groundwater samples were analyzed for VOCs and SVOCs. The laboratory detected only exceedances of the applicable 2L GWQS for tetrachloroethene at a concentration of 1.52 µg/L in the groundwater sample collected from monitoring well USTH19-MW07. A summary of the laboratory groundwater sampling results from this sampling event is provided in Appendix B.

4.2.2.5 SUMMARY OF JULY 1998 GROUNDWATER SAMPLING EVENT

LAW conducted another natural attenuation monitoring event in July 1998 by gauging and collecting groundwater samples from monitoring wells USTH19-MW07 and USTH19-MW10. The groundwater samples were analyzed for VOCs and SVOCs. Only one analyte, tetrachloroethene, in one monitoring well, USTH19-MW07, was reported by LAW at a concentration in excess of the respective 2L GWQS. A summary of the laboratory groundwater sampling results from this sampling event is provided in Appendix B.

4.2.2.6 SUMMARY OF JULY 2000 GROUNDWATER GAUGING EVENT

On July 19, 2000, LAW gauged 12 of the 14 monitoring wells for depth to water and free-phase product. Monitoring wells USTH19-MW08 and USTH19-MW12 could not be located. LAW did not identify the presence of free-phase product during this gauging event.

4.2.2.7 SUMMARY OF OCTOBER 2000 GROUNDWATER SAMPLING EVENT

On October 10, 2000, LAW gauged and sampled monitoring wells USTH19-MW01, USTH19-MW02, USTH19-MW03, USTH19-MW05, and USTH19-MW07. The groundwater samples were

analyzed for VOCs, SVOCs, MADEP VPH, MADEP EPH, chromium and lead. The laboratory did not detect VOCs, SVOCs, MADEP VPH, MADEP EPH, chromium and lead at concentrations above the laboratory quantitation limit for any of the groundwater samples. However, the laboratory detected low concentrations of one known and two unknown TICs, in the groundwater sample from USTH19-MW03. A summary of the laboratory groundwater sampling results from this sampling event is provided in Appendix B.

4.2.2.8 SUMMARY OF JANUARY 2001 GROUNDWATER GAUGING EVENT

LAW conducted an additional gauging event of all site monitoring wells except USTH19-MW12 on January 16, 2001. Monitoring well USTH19-MW03 detected a 0.01 foot thickness of free-phase product during the gauging event. LAW did not report the presence of free-phase product in any other monitoring wells during this event.

4.2.2.9 SUMMARY OF APRIL 2001 GROUNDWATER SAMPLING EVENT

On April 11, 2001, LAW gauged all site monitoring wells except USTH19-MW12, and sampled monitoring wells USTH19-MW01, USTH19-MW02, USTH19-MW03, USTH19-MW05, and USTH19-MW07. The groundwater samples were analyzed for VOCs, SVOCs, MADEP VPH, MADEP EPH, chromium and lead. The laboratory did not detect VOCs, SVOCs, MADEP VPH, MADEP EPH, chromium or lead at concentrations that exceeded 2L GWQS. However, the laboratory detected low concentrations of unknown TICs in the groundwater samples collected from monitoring wells USTH19-MW01, USTH19-MW03, and USTH19-MW07.

4.2.2.10 SUMMARY OF SEPTEMBER 2001, NOVEMBER 2001, MARCH 2002, AND MAY 2002 GAUGING EVENTS

LAW conducted additional gauging events during September 2001, November 2001, March 2002, and May 2002 of all monitoring wells. LAW did not detect a measurable thickness of free-phase product during any of these gauging events.

4.2.2.11 SUMMARY OF MAY 2002 GROUNDWATER SAMPLING EVENT

In May 2002, LAW gauged and sampled monitoring wells USTH19-MW01, USTH19-MW02, USTH19-MW03, USTH19-MW05, and USTH19-MW07. The groundwater samples were analyzed for VOCs, SVOCs, MADEP VPH, MADEP EPH, chromium and lead.

The laboratory did not detect SVOCs, MADEP VPH, MADEP EPH, chromium or lead at concentrations that exceeded the applicable 2L GWQS. The laboratory detected chloroform in the groundwater sample from monitoring well USTH19-MW01 at a concentration that exceeded the 2L GWQS. A summary of the laboratory groundwater sampling results from this sampling event is provided in Appendix B.

4.2.2.12 SUMMARY OF NOVEMBER 2004 GROUNDWATER SAMPLING EVENT

CATLIN personnel obtained representative groundwater samples from all site monitoring wells, except USTH19-MW08, which could not be located, on November 24, 2004 to confirm current groundwater conditions. The location of the monitoring wells at the Building H-19 project site that were sampled in November 2004 are illustrated on Figure 4. The selected wells were first developed (a minimum of three volumes) utilizing either a disposable bailer or a pump. The laboratory groundwater 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. The laboratory reports and chain of custody documentation are provided in Appendix E.

One groundwater sample was collected from each monitoring well for laboratory analysis by the current risk based analysis using MADEP VPH, MADEP EPH, EPA 625, EPA 6210D, and EPA 6010B (chromium and lead only). Bis(2-ethylhexyl)phthalate was detected in groundwater sample USTH19-MW09 at 24.8 ug/L in exceedance of the 2L GWQS. C₉-C₂₂ Aromatics were detected in groundwater sample USTH19-MW06 and USTH19-MW10 at concentrations of <340 ug/L and <220 ug/L, respectively, in exceedance of the 2L GWQS. Seven of the thirteen monitoring wells sampled detected lead above the 2L GWQS. However, the groundwater samples were not collected with low flow sampling techniques, and thus may have been influenced by suspended solids within the samples. All other analytes were below the 2L GWQS. Refer to Tables 6 through 10 for groundwater analytical results.

5.0 ACTUAL COST FOR REMEDIATION

SECTION NOT APPLICABLE TO THIS PROJECT.

6.0 RECEPTOR SURVEY

Potential receptors were re-evaluated during the preparation of this Additional Soil Sampling and Site Closure Report using the Risk Classification and Land Use Form provided in Appendix D. The receptor survey performed as part of the plan identified the following receptors within 1,500 feet of the site:

- There is no surface water bodies located within 500 feet of the subject site. The closest surface water body is the New River, located around the subject site (site is on a peninsula). The closest distance is approximately 625 feet north of the site.
- Physical reconnaissance and review of the Well Head Protection Plan – 2002 Update prepared by AH Environmental indicated that there are no water supply wells located within 1,500 feet of the subject site.
- According to the Well Head Protection Plan Update (2002), the site is not located within a potential wellhead protection area.
- The closest residence is approximately 825 feet east of the site.
- The Fitness Center is the closest place of public assembly and is located approximately 400 feet southeast from the subject site.

Based on information provided by MCB, Camp Lejeune, these potential receptors are not reported to have been impacted by the potentially contaminated soils and/or groundwater. The potential receptors are presented on the Site Vicinity Map on Figure 1.

Based on the findings presented above, it appears that the site receptors are consistent with the receptors previously observed by LAW/MACTEC and thus the risk classification should continue to be Low Risk with an Industrial/Commercial land use classification. Therefore, the applicable cleanup levels are Industrial/Commercial MSCCs for soil and GCLs for groundwater.

7.0 CONCLUSION AND PETITION FOR SITE CLOSURE

Based on November 2004 soil assessment activities, no soil contamination is present at the subject site in excess of the Industrial/Commercial MSCCs.

Based on the November 2004 groundwater monitoring activities, no free-phase product is currently present within the existing monitoring wells. Additionally, all laboratory analytical results were below the established GCLs. The contaminant plume does not appear to be migrating and/or increasing in size. The contaminant plume appears to continue to be naturally attenuating by aerobic and/or anaerobic biodegradation.

Based on the results of this investigation and previous reports, it appears that the site is suitable for No Further Action status with appropriate land use restrictions identified within an approved Notice of Residual Petroleum (NRP). However, based on economic analysis and level of effort, Camp Lejeune has decided to forego implementation of land use restrictions at this site. Therefore, the revised cleanup levels are the residential MSCCs for the soil contamination and the 2L GWQS for the groundwater contamination. CATLIN recommends that monitored natural attenuation be utilized to meet the revised cleanup levels and that a

monitoring event consisting of the following be conducted every other year to assess the monitored natural attenuation of the contaminated soil and groundwater:

Soil:

Sample at a location in the vicinity of boring USTH19-SB01(3-4) and USTH19-SB02(3-4) for benzo[a]pyrene in accordance with EPA Method 8270. This compound was the only contaminant of concern identified during the November 29, 2004 sampling event that exceeded the residential MSCCs.

Groundwater:

Sample monitoring wells USTH19-MW02, USTH19-MW03, USTH19-MW04, USTH19-MW05, USTH19-MW06, USTH19-MW07, USTH19-MW09, USTH19-MW10 and USTH19-MW14 for bis(2-ethylhexyle)phthalate per EPA Method 625, C9-C22 Aromatics per MADEP VPH/EPH and lead per EPA Prep Method 3030C utilizing low-flow sampling techniques. These compounds were the only contaminants of concern identified during the November 29, 2004 sampling event that exceeded the 2L GWQS.

Report:

Following each sampling event a monitoring report should be prepared that includes a description of the sampling techniques utilized, a summary of the findings in comparison to the cleanup levels and a recommendation for future activities.

8.0 LIMITATIONS

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

9.0 REFERENCES

- AH Environmental Consultants, *Final Report, Wellhead Protection Plan – 2002 Update, Marine Corps Base, Camp Lejeune*. August 2002.
- CATLIN Engineers and Scientists, *Leaking Underground Storage Tank Corrective Action Plan for Soil Remediation via Soil Excavation and Natural Attenuation of Dissolved Phase Groundwater Contamination at Building H-19, Marine Corps Base Camp Lejeune, North Carolina*, July 22, 1998.
- CATLIN Engineers and Scientist, *Workplan for Additional Soil Sampling and Site Closure Report at Building H-19, Marine Corps Base Camp Lejeune, North Carolina*, September 9, 2004.
- LAW Engineering and Environmental Services, Inc., *Draft Leaking Underground Storage Tank Site Assessment Report, UST H-19, Marine Corp Base Camp Lejeune, North Carolina*, May 1997.
- LAW Engineering and Environmental Services, Inc., *Report of Natural Attenuation Monitoring, Building H-19, Marine Corp Base Camp Lejeune, North Carolina*, February 1998.
- LAW Engineering and Environmental Services, Inc., *Second Natural Attenuation Monitoring Report, Building H-19, Hadnot Point, Marine Corp Base Camp Lejeune, North Carolina*, September 1998.
- LAW Engineering and Environmental Services, Inc., *First Semi-Annual Groundwater Monitoring Report, Building H-19-1, H-19-2, and H-19-3, Marine Corp Base Camp Lejeune, North Carolina*, December 12, 2000.
- LAW Engineering and Environmental Services, Inc., *Second Semi-Annual Groundwater Monitoring Report, Building H-19-1, H-19-2, and H-19-3, Marine Corp Base Camp Lejeune, North Carolina*, May 23, 2001.
- MACTEC Engineering and Consulting, Inc., *DRAFT Site Assessment Report Former Underground Storage Tanks H-19-1, H-19-2, and H-19-3, Building H-19, Marine Corp Base Camp Lejeune, North Carolina*, December 23, 2003.
- North Carolina Department of Environment and Natural Resources, Division of Waste Management, Underground Storage Tank Section, *Guidelines for Assessment and Corrective Action*, April 1, 2001.
- North Carolina Department of Environment and Natural Resources, Division of Waste Management, Underground Storage Tank Section, *Guidelines for Tank Closure*, December 2000.

North Carolina Administrative Code, Title 15A, Chapter 2, Subchapter 2L, December 2, 2002, Groundwater Classification Standards, North Carolina Environmental Management Commission, Raleigh, North Carolina, 28pp.

Peele's Pump and Tank Company, *Initial Site Assessment Report, Tank Closure by Removal, (2) 15,000-gallon heating oil [sic], Building H-19, Marine Corp Base Camp Lejeune, North Carolina*, 1993.

Peele's Pump and Tank Company, *Initial Site Assessment Report, Tank Closure by Removal, (2) 5,000-gallon waste oil [sic], Building H-19, Marine Corp Base Camp Lejeune, North Carolina*, 1993.

R.E. Wright Environmental, Inc., *Five Plus Two Additional Wells Site Check, UST H-19, Marine Corps Base Camp Lejeune, North Carolina*, June 1995.

TABLES

TABLE 1 SUMMARY OF KNOWN PREVIOUSLY SUBMITTED ENVIRONMENTAL REPORTS BUILDING H-19 MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA		
REPORT TITLE	REPORT AUTHOR	REPORT DATE
Initial Site Assessment Report, UST Closure by Removal, (2) 15,000-gallon heating oil, Building H-19	Peele's Pump and Tank Company	1993
Initial Site Assessment Report, UST Closure by Removal, (2) 5,000-gallon waste oil, Building H-19	Peele's Pump and Tank Company	1993
Five Plus Two Additional Wells Site Check, UST H-19	R.E. Wright	June 1995
Leaking UST Site Assessment Report (Draft), UST H-19	LAW	May 1, 1997
Report of Natural Attenuation Monitoring, Building H-19	LAW	February 1998
LUST Corrective Action Plan for Soil remediation via Soil excavation and Natural Attenuation of Dissolved Phase Groundwater Contamination, Building H-19	CATLIN	July 22, 1998
Second Natural Attenuation Monitoring Report, Building H-19, Hadnot Point	LAW	September 1998
First Semi-Annual Groundwater Monitoring Report, Building H-19-1, H-19-2, and H-19-3	LAW	December 12, 2002
Second Natural Semi-Annual Monitoring Report, Building H-19-1, H-19-2, and H-19-3	LAW	May 23, 2001
Site Assessment Report, Former USTs H-19-1, H-19-2, and H-19-3	MACTEC	December 23, 2003

TABLE 2 SUMMARY OF SOIL LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern →		Benzo[a]pyrene	Benzo[b]fluoranthene	All Other Target Analytes
	Date Collected	Sample Depth (ft. BGS)			
Residential MSCC (mg/kg)			0.088	0.88	Varies
Industrial/Commercial MSCC (mg/kg)			0.78	8	Varies
Soil to Groundwater MSCC (mg/kg)			0.091	1	Varies
USTH19-SB01(3-4)	11/29/2004	3-4	0.469	0.539	BQL
USTH19-SB02(3-4)	11/29/2004	3-4	0.488	0.588	BQL

All results in mg/kg.

ft. BGS = feet below ground surface

BQL = Below Quantitation Limit. Refer to laboratory report for a complete list of analytical and quantitation limits.

MSCC = Maximum Soil Contaminant Concentration

Shaded concentrations exceed lowest corresponding MSCC.

TABLE 3 SUMMARY OF SOIL LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: EPA Method 8260

Sample ID	Contaminant of Concern →		All Target Analytes
	Date Collected	Sample Depth (ft. BGS)	
Residential MSCC (mg/kg)			Varies
Industrial/Commercial MSCC (mg/kg)			Varies
Soil to Groundwater MSCC (mg/kg)			Varies
USTH19-SB01(3-4)	11/29/2004	3-4	BQL
USTH19-SB02(3-4)	11/29/2004	3-4	BQL

All results in mg/kg.

ft. BGS = feet below ground surface

BQL = Below Quantitation Limit. Refer to laboratory report for a complete list of analytes and quantitation limits.

MSCC = Maximum Soil Contaminant Concentration

TABLE 4 SUMMARY OF SOIL LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: MADEP Method 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. BGS)						
USTH19-SB01(3-4)	11/29/2004	3-4	<10	<10	<10	18	22	<10
USTH19-SB02(3-4)	11/29/2004	3-4	<10	<10	<10	<10	<10	<10
USTH19-SB02(3-4)Dup	11/29/2004	3-4	<10	<10	<10	NA	NA	NA

All results in mg/kg.

ft. BGS = feet below ground surface

NA = Not Analyzed

DUP = Duplicate Sample

TABLE 5 SUMMARY OF SOIL LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: MADEP Method VPH/EPH AS COMPARED TO NCDENR MSCCs

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C9-C22 Aromatics	C19-C36 Aliphatics
	Date Collected	Sample Depth (ft. BGS)				
Residential MSCC (mg/kg)			939	9,386	469	93,860
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	12,264	#
Soil to Groundwater MSCC (mg/kg)			72	3,255	34	##
USTH19-SB01(3-4)	11/29/2004	3-4	<10	<28	<20	22
USTH19-SB02(3-4)	11/29/2004	3-4	<10	<20	<20	<10

All results in mg/kg.

ft. BGS = feet below ground surface

= Health-Based Level (>100%)

= Considered Immobile

MSCC = Maximum Soil Contaminant Concentration

TABLE 6 SUMMARY OF GROUNDWATER LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: EPA Method 625

Well ID	Contaminant of Concern →		Bis(2-ethylhexyl)phthalate	Fluoranthene	Fluorene	Naphthalene
	Sample ID	Date Collected				
GCL (ug/L)			3,000	280	950	15,500
2L GWQS (ug/L)			3	280	280	21
USTH19-MW01	USTH19-MW01	11/24/2004	<10	<10	<10	<10
USTH19-MW02	USTH19-MW02	11/24/2004	<10	<10	<10	<10
USTH19-MW03	USTH19-MW03	11/24/2004	<10	<10	<10	<10
USTH19-MW04	USTH19-MW04	11/24/2004	<10	<10	<10	<10
USTH19-MW05	USTH19-MW05	11/24/2004	4.40J	<10	<10	<10
USTH19-MW06	USTH19-MW06	11/24/2004	1.40J	<10	<10	<10
USTH19-MW07	USTH19-MW07	11/24/2004	<10	<10	<10	<10
USTH19-MW09	USTH19-MW09	11/24/2004	24.8	1.60J	<10	<10
USTH19-MW10	USTH19-MW10	11/24/2004	2.40J	<10	1.90J	3.20J
USTH19-MW11	USTH19-MW11	11/24/2004	2.10J	<10	<10	<10
USTH19-MW12	USTH19-MW12	11/24/2004	2.00J	<10	<10	<10
USTH19-MW13	USTH19-MW13	11/24/2004	7.10J	<10	<10	<10
USTH19-MW14	USTH19-MW14	11/24/2004	2.20J	<10	<10	<10

J = Estimated concentration, below calibration range and above MDL.

NE = None Established

All results in µg/L

GCL = Gross Contaminant Level

2L GWQS = 2L Groundwater Quality Standards

Shaded concentrations exceeded the corresponding 2L GWQS.

TABLE 7 SUMMARY OF GROUNDWATER LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: EPA Method 6210D

Well ID	Contaminant of Concern →		n-Butylbenzene	sec-Butylbenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	Isopropylbenzene	Naphthalene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylene	All Other Analytes
	Sample ID	Date Collected											
GCL (ug/L)			6,900	8,500	39,500	NE	25,000	15,500	NE	28,500	25,000	87,500	Varies
2L GWQS (ug/L)			70	70	75	1,400	70	21	2,100	350	350	530	Varies
USTH19-MW01	USTH19-MW01	11/24/2004	<0.5	<0.5	<0.5	5.25	<0.5	<0.5	10.6	<0.5	<0.5	<1.5	BQL
USTH19-MW02	USTH19-MW02	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW03	USTH19-MW03	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW04	USTH19-MW04	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW05	USTH19-MW05	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW06	USTH19-MW06	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW07	USTH19-MW07	11/24/2004	0.580	1.69	<0.5	<5	1.04	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW09	USTH19-MW09	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW10	USTH19-MW10	11/24/2004	<0.5	0.940	<0.5	<5	<0.5	4.98	<0.5	0.770	0.670	<1.650	BQL
USTH19-MW11	USTH19-MW11	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW12	USTH19-MW12	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	2.53	<0.5	<0.5	<1.5	BQL
USTH19-MW13	USTH19-MW13	11/24/2004	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	BQL
USTH19-MW14	USTH19-MW14	11/24/2004	<0.5	<0.5	0.710	<5	<0.5	<0.5	3.79	<0.5	<0.5	<1.5	BQL

BQL = Below Quantitation Limit

NE = None Established

GCL = Gross Contaminant Level

2LGWQS = 2L Groundwater Quality Standards

All results in µg/L

TABLE 8 SUMMARY OF GROUNDWATER LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: MADEP Method VPH/EPH

Well ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics
	Sample ID	Date Collected						
USTH19-MW01	USTH19-MW01	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW02	USTH19-MW02	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW03	USTH19-MW03	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW04	USTH19-MW04	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW05	USTH19-MW05	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW06	USTH19-MW06	11/24/2004	<100	<100	<100	920	110	240
USTH19-MW07	USTH19-MW07	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW09	USTH19-MW09	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW10	USTH19-MW10	11/24/2004	<100	<100	<100	170	<100	120
USTH19-MW11	USTH19-MW11	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW12	USTH19-MW12	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW13	USTH19-MW13	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW14	USTH19-MW14	11/24/2004	<100	<100	<100	<100	<100	<100
USTH19-MW14 DUP	USTH19-MW14 DUP	11/24/2004	<100	<100	<100	NA	NA	NA

NA = Not Analyzed

All results in µg/L

TABLE 9 SUMMARY OF GROUNDWATER LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - H-19

Facility ID#: N/A

Analytical Method: MADEP Method VPH/EPH AS COMPARED TO NCDENR 2L GWQS

Well ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C9-C22 Aromatics	C19-C36 Aliphatics
	Sample ID	Date Collected				
GCL (ug/L) 2L GWQS (ug/L)			NE 420	NE 4,200	NE 210	NE 42,000
USTH19-MW01	USTH19-MW01	11/24/2004	<100	<200	<200	<100
USTH19-MW02	USTH19-MW02	11/24/2004	<100	<200	<200	<100
USTH19-MW03	USTH19-MW03	11/24/2004	<100	<200	<200	<100
USTH19-MW04	USTH19-MW04	11/24/2004	<100	<200	<200	<100
USTH19-MW05	USTH19-MW05	11/24/2004	<100	<200	<200	<100
USTH19-MW06	USTH19-MW06	11/24/2004	<100	<1020	<340	110
USTH19-MW07	USTH19-MW07	11/24/2004	<100	<200	<200	<100
USTH19-MW09	USTH19-MW09	11/24/2004	<100	<200	<200	<100
USTH19-MW10	USTH19-MW10	11/24/2004	<100	<270	<220	<100
USTH19-MW11	USTH19-MW11	11/24/2004	<100	<200	<200	<100
USTH19-MW12	USTH19-MW12	11/24/2004	<100	<200	<200	<100
USTH19-MW13	USTH19-MW13	11/24/2004	<100	<200	<200	<100
USTH19-MW14	USTH19-MW14	11/24/2004	<100	<200	<200	<100

NE = None Established

All results in µg/L

GCL = Gross Contaminant Level

2LGWQS = 2L Groundwater Quality Standards

Shaded concentrations exceeded the corresponding 2LGWQS.

TABLE 10 SUMMARY OF GROUNDWATER LABORATORY RESULTS

Date: November 2004

Incident Number and Name: 17633 - Building H-19

Facility ID#: N/A

Analytical Method: EPA Method METALS by 3030C prep

Well ID	Contaminant of Concern →		Chromium	Lead
	Sample ID	Date Collected		
GCL (ug/L)			50,000	15,000
2L GWQS (ug/L)			50	15
USTH19-MW01	USTH19-MW01	11/24/2004	<10.0	<10.0
USTH19-MW02	USTH19-MW02	11/24/2004	19.1	64.4
USTH19-MW03	USTH19-MW03	11/24/2004	<10.0	32.6
USTH19-MW04	USTH19-MW04	11/24/2004	<10.0	22.8
USTH19-MW05	USTH19-MW05	11/24/2004	14.4	31.2
USTH19-MW06	USTH19-MW06	11/24/2004	<10.0	<10.0
USTH19-MW07	USTH19-MW07	11/24/2004	23.4	22.1
USTH19-MW09	USTH19-MW09	11/24/2004	14.1	53.0
USTH19-MW10	USTH19-MW10	11/24/2004	<10.0	<10.0
USTH19-MW11	USTH19-MW11	11/24/2004	<10.0	<10.0
USTH19-MW12	USTH19-MW12	11/24/2004	<10.0	10.1
USTH19-MW13	USTH19-MW13	11/24/2004	34.4	<10.0
USTH19-MW14	USTH19-MW14	11/24/2004	23.7	21.3

All results in µg/L

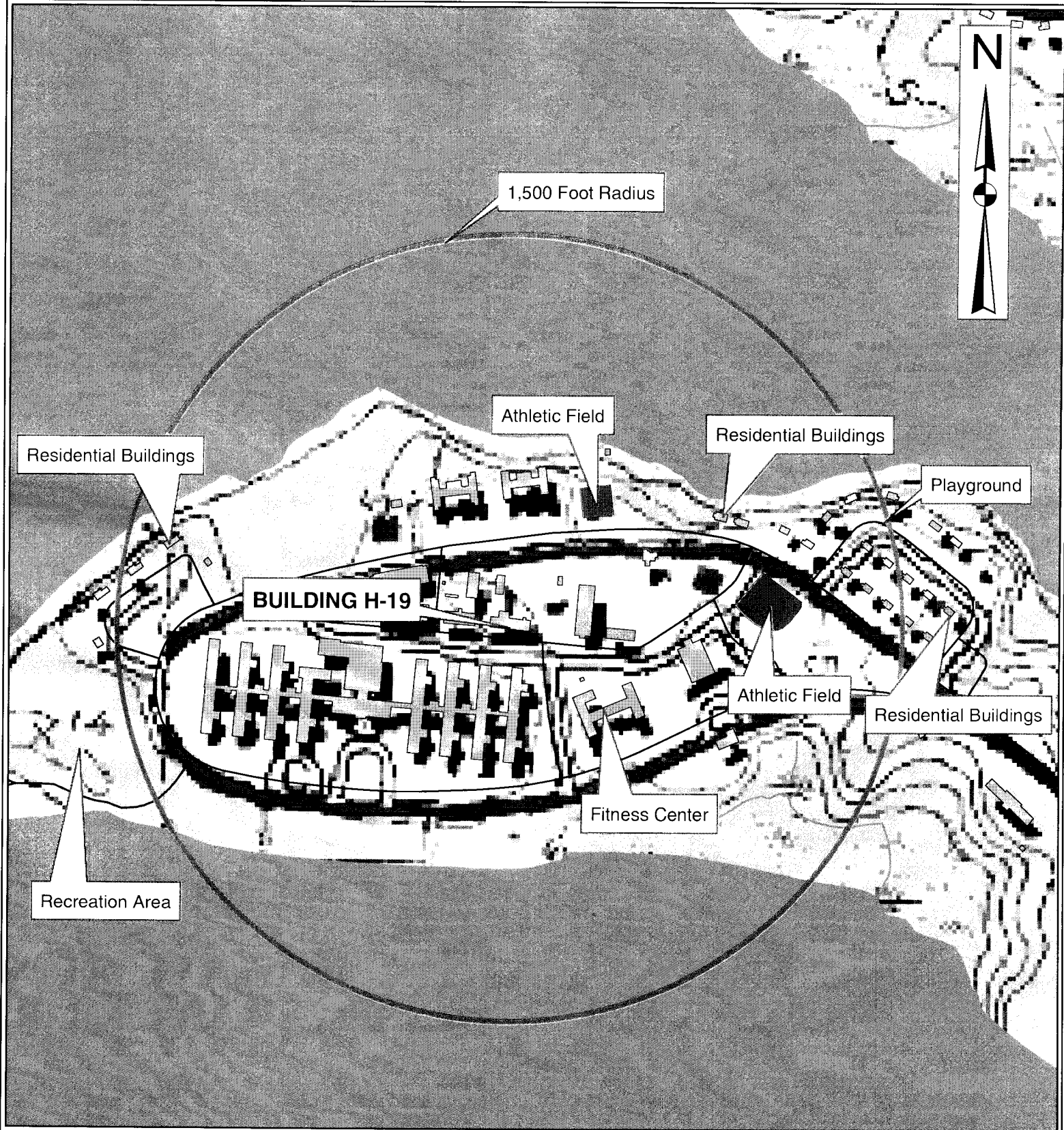
GCL = Gross Contaminant Level

2L GWQS = 2L Groundwater Quality Standards

Shaded concentrations exceeded the corresponding 2L GWQS.

Note: Samples were not collected with low flow sampling techniques, and thus may have been influenced by suspended solids within the samples.

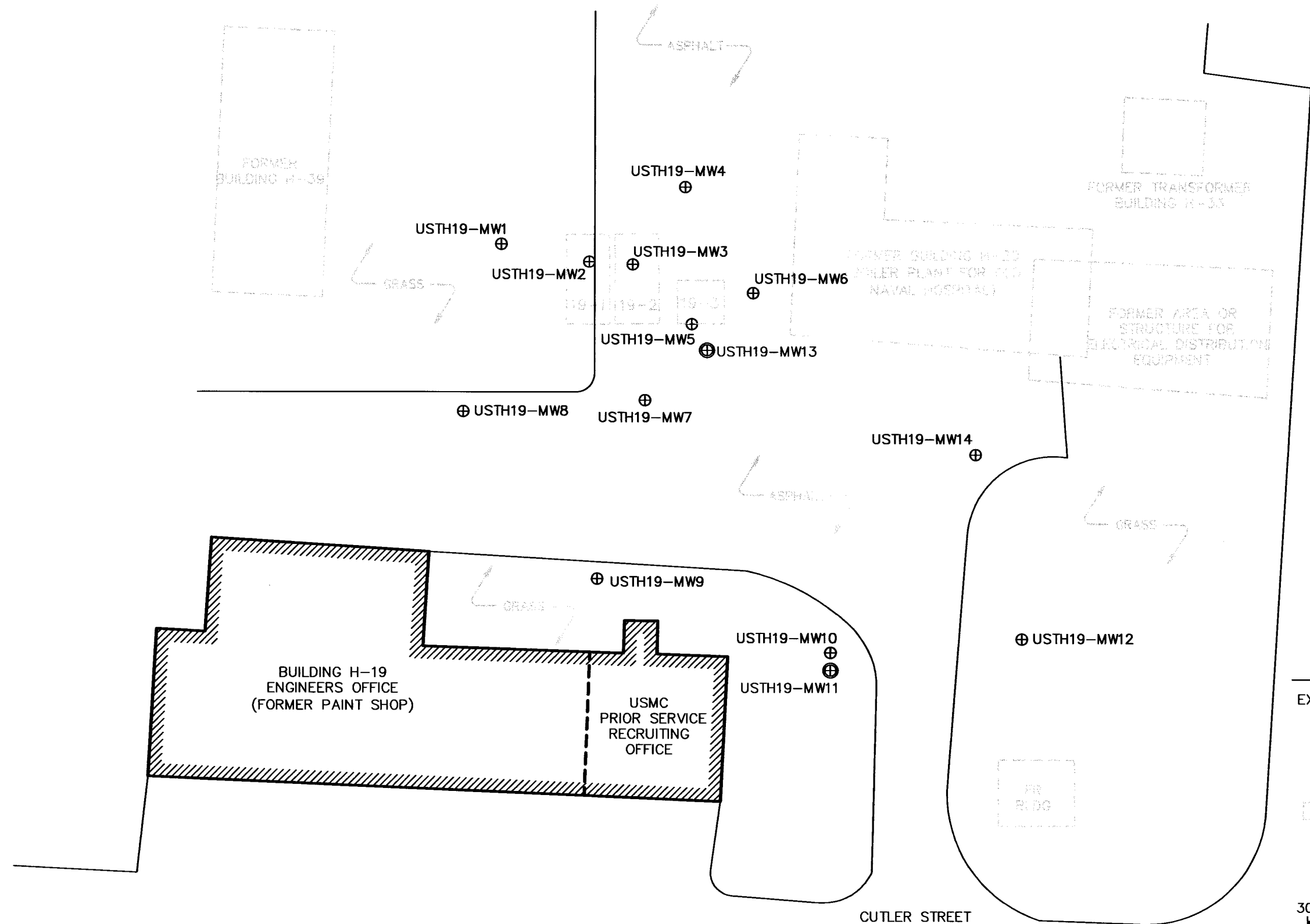
FIGURES



Data Sources: USGS Topographic Quadrangles, Jacksonville South (1952, Photorevised 1988) and Camp Lejeune (1952, Photorevised 1971). All GIS Data Supplied by MCB Camp Lejeune, Business and Logistics Support Department.

500 250 0 500 Feet
SCALE

	PROJECT ADDITIONAL SAMPLING REPORT BUILDING H-19 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SITE VICINITY MAP WITH POTENTIAL RECEPTORS			FIGURE 1
	JOB NO. 204-055	DATE APR 2005	SCALE AS SHOWN	DRAWN BY SAC	CHECKED BY JKB	



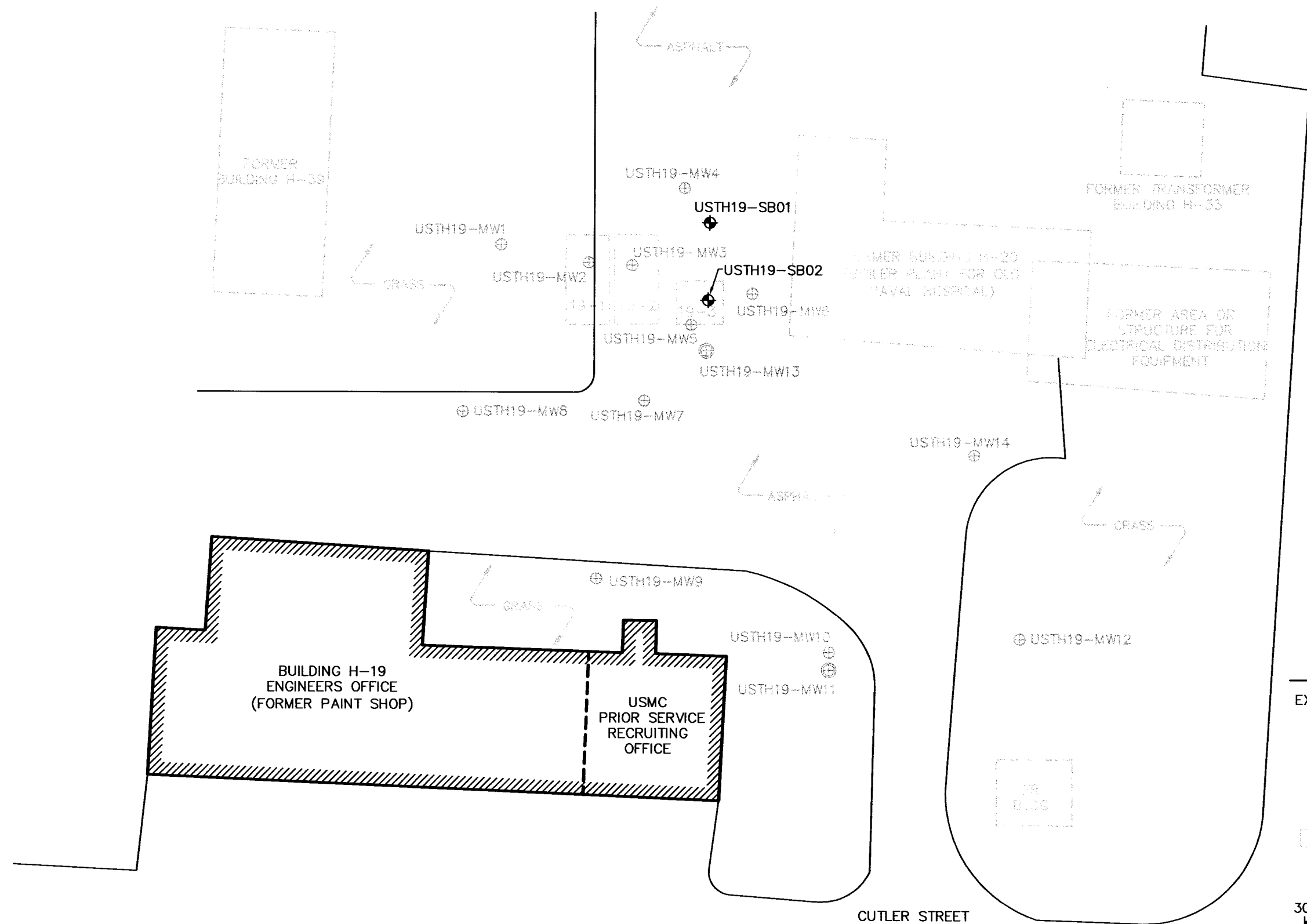
LEGEND

EXISTING	DESCRIPTION
	BUILDING
	TYPE II MONITORING WELL
	TYPE III MONITORING WELL
	FORMER STRUCTURES

30 15 0 30
SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM MACTEC ENGINEERING AND CONSULTING, INC.

 ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT BUILDING H-19 ADDITIONAL SAMPLING REPORT MARINE CORPS BASE CAMP LEJEUNE, N.C.		TITLE SITE PLAN WITH MONITORING WELL NETWORK		FIGURE 2
	JOB NO. 204-055	DATE: JAN 2005	SCALE: 1"=30'	DRAWN BY: HCS CHECKED BY: JKB	



LEGEND

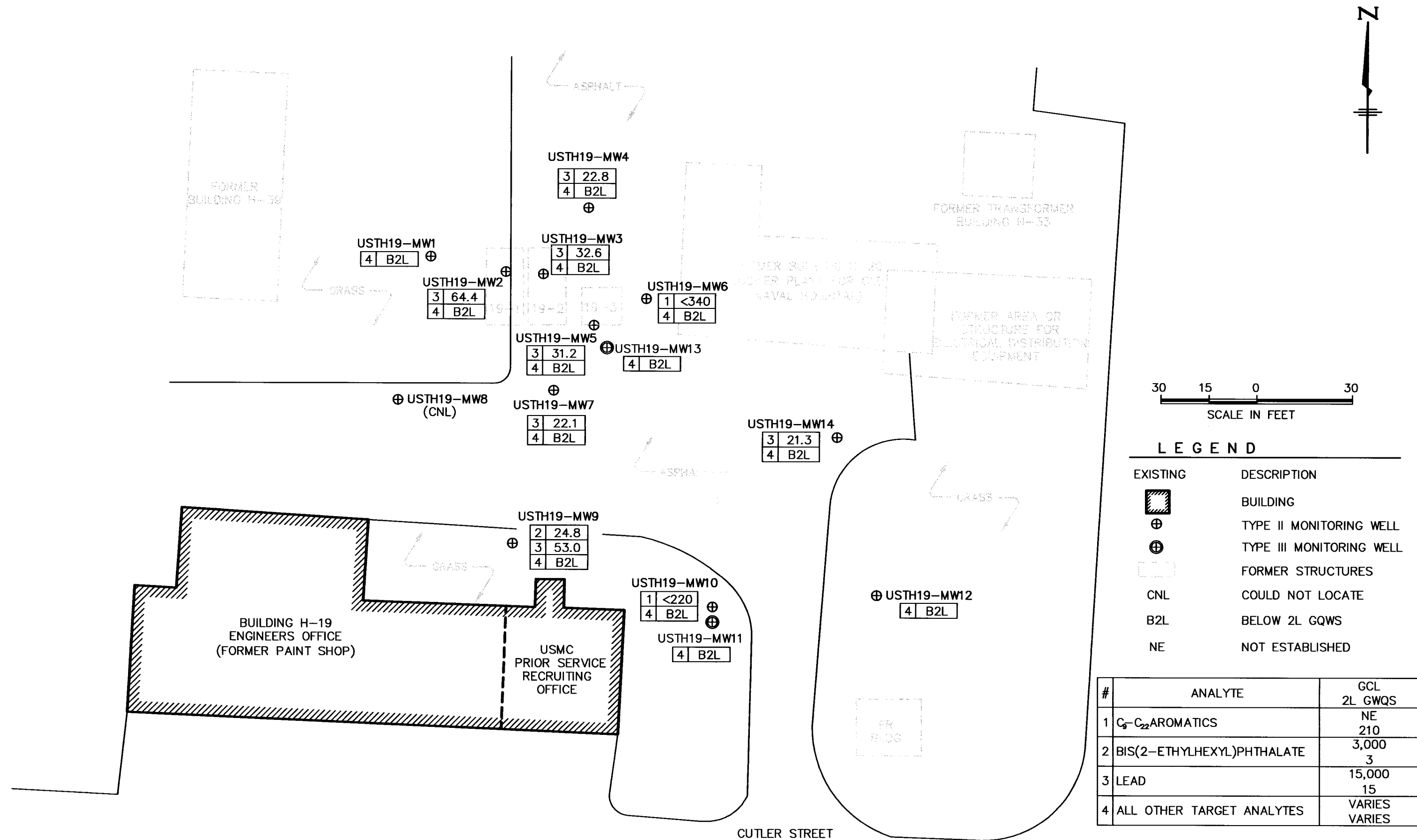
EXISTING	NEW	DESCRIPTION
		BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SOIL BORING
		FORMER STRUCTURES

30 15 0 30
SCALE IN FEET

NOTE:
1. MAP ADAPTED FROM MACTEC ENGINEERING AND CONSULTING, INC.

 ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT	BUILDING H-19 ADDITIONAL SAMPLING REPORT MARINE CORPS BASE CAMP LEJEUNE, N.C.		TITLE	SITE PLAN WITH NOVEMBER 2004 SOIL BORING LOCATIONS		FIGURE	3	
	JOB NO.	204-055	DATE	JAN 2005	SCALE	1"=30'	DRAWN BY		HCS

204055-2046-03



NOTE:
 1. MAP ADAPTED FROM MACTEC ENGINEERING AND CONSULTING, INC.
 2. ALL RESULTS IN $\mu\text{g/L}$.
 3. REFER TO LABORATORY REPORT FOR ADDITIONAL RESULTS BELOW 2L GWQS

APPENDIX A

HISTORICAL SOIL DATA AND FIGURES

**FIVE PLUS TWO ADDITIONAL SITE CHECK
JUNE 1995**

TABLE 2

Soil Sample Analytical Results - UST H-19
Marine Corps Base, Camp Lejeune, North Carolina
REWEI Project 95113

Concentrations reported in milligrams per kilogram (mg/kg), except as noted.

Analysis	Reportable Concentrations	MW-1 (6-8 Feet bgs)	MW-2 (7-8 Feet bgs)	MW-3 (10-11 Feet bgs)	MW-4 (6-8 Feet bgs)	MW-5 (2-4 Feet bgs)	MW-5 Duplicate	MW-6 (4-6 Feet bgs)	MW-6 Duplicate	MW-7 (0.5-2 Feet bgs)
EPA Method 8015-3550 (DRO)	40	BDL	580	BDL	BDL	BDL	BDL	BDL	BDL	BDL
EPA Method 8015-5030 (GRO)	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
EPA Method 9071 (oil and grease)	250	62.2	182	84	45.9	25.7	10.3	BDL	58.3	81.9
EPA Method 8021 [$\mu\text{g/kg}$] (halogenated solvents)	MDL	BDL	BDL*	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2,4 Trimethylbenzene			0.023							
1,3,5 Trimethylbenzene			0.009							
TCLP VOC's	--	NA	BDL	NA	NA	NA	NA	NA	NA	NA
TCLP SVOC's	--	NA	BDL	NA	NA	NA	NA	NA	NA	NA
TCLP Inorganics barium cadmium lead mercury	--	NA	BDL* 0.512 0.005 0.032 0.0005	NA	NA	NA	NA	NA	NA	NA

EPA = United States Environmental Protection Agency

BDL = Below Detection Limits

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

TCLP = Toxicity Leaching Characteristics Procedure

bgs = Below ground surface

VOC's = Volatile organic compounds

SVOC's = Semi-volatile organic compounds

 $\mu\text{g/kg}$ = Micrograms per kilogram

MDL = Method detection limits

NA = Not analyzed

* All parameters of analysis method were below detection limits, except as noted (Appendix D).

Results in boldface indicate concentrations in excess of North Carolina Reportable Concentrations

TABLE 2 (cont)

Soil Sample Analytical Results - UST H-19
Marine Corps Base, Camp Lejeune, North Carolina
REWEI Project 95113

Concentrations reported in milligrams per kilogram (mg/kg), except as noted.

Analysis	Reportable Concentrations	MW-5	MW-5 Duplicate	MW-6	MW-6 Duplicate	MW-7
EPA Method 8015-3550 (DRO) TYPE:	40	BDL	BDL	BDL	BDL	BDL
EPA Method 8015-5030 (GRO) TYPE:	10	BDL	BDL	BDL	BDL	BDL
EPA Method 9071 (oil and grease)	250	25.7	10.3	BDL	58.3	81.9
EPA Method 8021 [$\mu\text{g/kg}$] (halogenated solvents)	MDL	BDL	BDL	BDL	BDL	BDL

**SITE ASSESSMENT REPORT
DECEMBER 23, 2003**

Table 2

Date: 12/19/03

Summary of Soil Sampling Results - July 2000
Incident No. and Name: No. 17633, MCB Building H-19

Facility ID#: not assigned

Analytical Method →			8270										8081	8082	MADEP Hydrocarbon Fractions				6010B		
Contaminant of Concern →																					
Sample ID	Date Collected	Sample Depth (ft. bis)	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Fluoranthene	Indeno(1,2,3-c,d)pyrene	Pyrene	Pesticides	PCB's	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₃₂ Aromatics	Chromium	Lead	
USTH19-SB01-04	7/12/00	7 to 9	<0.34	<0.34	<0.34	<0.34	<0.34	1.2	<0.34	<0.34	<0.34	<0.34	NCD	NCD	<10	<10	<10	<10	<10	4.85	4.50
USTH19-SB02-04	7/12/00	7 to 9	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	NCD	NCD	<10	<10	<10	<10	<10	3.02	15.6
USTH19-SB03-02	7/12/00	3 to 5	1.1	1.1	1.5	0.46	1.2	<0.34	1.5	1.7	0.52	1.7	NCD	NCD	<10	<10	<10	<10	<10	2.71	20.2
USTH19-SB04-01	7/18/00	1 to 3	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	NT	NT	13	11	<10	12	NT	NT	NT
USTH19-SB05-01	7/12/00	1 to 3	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	NT	NT	<10	<10	<10	<10	NT	NT	NT
USTH19-SB06-04	7/6/00	7 to 9	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	NT	NT	<10	<10	<10	<10	NT	NT	NT
Soil-to-Groundwater MSCC (mg/kg)			0.34	0.091	1	6,720	12	6.67	38	276	3	286	N/A	N/A	72	3,255	Immobil	34	27	270	270
Residential MSCC (mg/kg)			0.88	0.088	0.88	469	9	46	88	620	0.88	469	N/A	N/A	939	9,386	93,860	469	47	400	400
Industrial/Commercial MSCC (mg/kg)			8	0.78	8	12,264	78	410	780	16,400	8	12,264	N/A	N/A	24,528	245,280	HBL > 100%	12,264	1,226	400	400

N/A = Not Applicable

NCD = No compounds detected by the referenced Method

NT = Sample not tested by the referenced Method

MSCC = Maximum Soil Contaminant Concentration

ft. bls = feet below land surface

Concentrations given in milligrams per kilogram (mg/kg)

<# = Result less than the given practical quantitation limit (PQL)

Bold numbers indicate concentrations in excess of PQL

Shaded cells indicate concentrations in excess of the Industrial/Commercial MSCC

HBL = Health Based Level

Prepared by: WSL Date: 12/19/03
Checked by: DBH Date: 12/19/03

TABLE 4.2
SUMMARY OF LABORATORY ANALYTICAL RESULTS, SOIL SAMPLES (DIRECT PUSH)
LEAKING UNDERGROUND STORAGE TANKS
SITE ASSESSMENT REPORT
UST H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA
LAW JOB NO. 30740-6-0600/0010

SAMPLE LOCATION		LABORATORY RESULTS		
BORING IDENTIFICATION	SAMPLE DEPTH (FT) below land surface	TPH-GASOLINE (mg/Kg)	TPH-DIESEL (mg/Kg)	OTHER TEST
GEOPROBE ASSESSMENT:				
H19-DP1	4 to 7	ND	ND	--
H19-DP2	0 to 1.5	ND	ND	--
H19-DP3	4 to 6	ND	ND	--
H19-DP4	4 to 6	ND	ND	--
H19-DP5	6 to 8	ND	ND	--
H19-DP6	4 to 8	ND	ND	--
	6 to 8	--	--	EPA 8021 = ND
H19-DP7	2 to 4	8.90	239	--
H19-DP8	0 to 2	--	--	Oil & Grease = 111
H19-DP9	2 to 4	--	--	Oil & Grease = ND EPA 8021 = ND
	6 to 8	ND	ND	--
H19-DP10	6 to 8	ND	ND	EPA 8021 = ND
H19-DP11	2 to 6	ND	ND	EPA 8021 = ND Oil & Grease = ND
H19-DP12	4 to 8	ND	ND	EPA 8021 = ND Oil & Grease = 11.3
H19-DP13	0 to 4	ND	ND	--
H19-DP14	4 to 8	ND	ND	EPA 8021 = ND
H19-DP15	0 to 4	--	ND	Oil & Grease = 122
H19-DP16	4 to 6	ND	ND	--
	6 to 8	--	--	EPA 8021 = ND

Bold # = 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

TABLE 4.3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SOIL SAMPLES (MONITORING WELLS/HAND AUGER PROBES)

UST H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA
LAW JOB. NO. 30740-6-0600/0010

PARAMETER	MONITORING WELL/HAND AUGER PROBE NO.	MW-13	HA-1	HA-2	HA-3	COMPOSITE SOIL SAMPLE FROM ROLL-OFF BOX	N.C. CORRECTIVE ACTION LIMITS (mg/kg) (mg/L for TCLP)
	SAMPLE INTERVAL (FT)	3 to 5	2 to 6	2 to 6	2 to 6.5	--	
	DATE SAMPLED	3/19/97	3/20/97	3/20/97	3/20/97	3/25/97	
Soil PH		7.66	7.34	--	--	8.62	--
Ignitability		No Flash	No Flash	--	--	No Flash	No Flash > 200° F Flashpoint
EPA Method 6010 (TCLP) [Metals, mg/L} Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver		.09 .68 ND .01 ND ND ND ND	.08 .70 ND ND .21 ND ND ND	.06 .67 ND ND ND ND ND ND	.03 .56 ND ND ND ND ND ND	ND .60 ND ND ND ND ND ND	5.0 100.0 1.0 5.0 5.0 .20 1.0 5.0
EPA Method 1311 (TCLP) Volatiles		ND	ND	ND	ND	ND	Compound Specific
EPA Method 1311 (TCLP) Semi-volatiles		ND	ND	ND	ND	ND	Compound Specific

ND: Not Detected or Compounds not detected by laboratory test

--: Laboratory test not performed or not applicable

*: Specific action levels have not been established for EPA 8021 compounds

APPENDIX B

HISTORICAL GROUNDWATER DATA AND FIGURES

**DRAFT LEAKING UNDERGROUND STORAGE TANK
SITE ASSESSMENT REPORT
MAY 1997**

TABLE 2.2 (Page 1 of 2)
LABORATORY ANALYSIS RESULTS,
MARCH 7-8, 1995 GROUNDWATER SAMPLING
R.E. WRIGHT ENVIRONMENTAL, INC., FIVE PLUS TWO ADDITIONAL WELL SITE CHECK REPORT
UST H-19
MCB CAMP LEJEUNE, NORTH CAROLINA

LABORATORY ANALYSIS RESULTS - GROUNDWATER SAMPLES	N.C. GROUNDWATER QUALITY STANDARD¹ (µg/L)	DETECTED CONCENTRATIONS (µg/L)									
		MW-1	MW-2	MW-2 Duplicate	MW-3	MW-3 Duplicate	MW-4	MW-5	MW-6	MW-7	
		EPA Method 502.2, Detected Parameters									
Benzene	1	BDL	BDL	BDL	1.40	1.20	BDL	BDL	BDL	BDL	
n-Butylbenzene	--	BDL	BDL	BDL	5.80	5.20	BDL	BDL	BDL	BDL	
sec-Butylbenzene	--	BDL	BDL	BDL	2.20	1.70	BDL	BDL	BDL	BDL	
P-Isopropyltoluene	--	BDL	BDL	BDL	1.40	1.20	BDL	BDL	BDL	BDL	
Naphthalene	21	BDL	BDL	BDL	12.70	13.0	BDL	BDL	BDL	BDL	
1,2,4 - Trimethylbenzene	--	BDL	BDL	BDL	8.50	8.20	BDL	BDL	BDL	BDL	
1,3,5 - Trimethylbenzene	--	BDL	BDL	BDL	7.30	6.50	BDL	BDL	BDL	BDL	
Ethylbenzene	29	BDL	BDL	BDL	BDL	1.40	BDL	BDL	BDL	BDL	
Xylenes (total)	530	BDL	BDL	BDL	BDL	7.10	BDL	BDL	BDL	BDL	
TOTAL BTEX		BDL	BDL	BDL	1.40	9.70	BDL	BDL	BDL	BDL	
Total EPA 502.2		BDL	BDL	BDL	39.30	45.50	BDL	BDL	BDL	189	

BDL - Not detected at laboratory method detection limit for test
¹ - North Carolina Administrative Code, Title 15A, Subchapter 2L
Bolded Text - Concentrations above N.C. Groundwater Standard.
* Groundwater Standard not applicable

TABLE 2.2 (Page 2 of 2)
 LABORATORY ANALYSIS RESULTS,
 MARCH 7-8, 1995 GROUNDWATER SAMPLING
 R.E. WRIGHT ENVIRONMENTAL, INC. FIVE PLUS TWO ADDITIONAL WELL SITE CHECK REPORT
 UST H-19
 MCB CAMP LEJEUNE, NORTH CAROLINA

LABORATORY ANALYSIS RESULTS - GROUNDWATER SAMPLES	N.C. GROUNDWATER QUALITY STANDARD ¹ (µg/L)	DETECTED CONCENTRATION (µg/L)									
		MW-1	MW-2	MW-2 Duplicate	MW-3	MW-3 Duplicate	MW-4	MW-5	MW-6	MW-7	
EPA Method 625, Detected Parameters											
Ancenaphthene	80	BDL	BDL	BDL	14.80	12.20	BDL	BDL	BDL	BDL	BDL
Fluorene	--	BDL	BDL	BDL	10.10	8.40	BDL	BDL	BDL	BDL	BDL
Anthracene	2100	BDL	BDL	BDL	12.00	7.65	BDL	BDL	BDL	BDL	BDL
Total EPA 625		BDL	BDL	BDL	36.90	28.25	BDL	BDL	BDL	BDL	BDL

BDL - Not detected at or above laboratory method detection limit for test
¹ - North Carolina Administrative Code, Title 15A, Subchapter 2L
Bolded Text - Concentrations above N.C. Groundwater Standard.
 * Groundwater Standard not applicable

**SUMMARY OF LABORATORY TEST RESULTS:
SECOND NATURAL ATTENUATION MONITORING EVENT
JANUARY/FEBRUARY 1998**

TABLE 1 - SUMMARY OF CURRENT AND HISTORICAL LABORATORY RESULTS, BUILDING H-19

Contaminant Identified as Greater than 0.1 µg/L [N.C. 21C Groundwater Standard: 10 µg/L]	USTH19-MW17 (July 1998)	USTH19-MW17 (January 1998)	USTH19-MW17 (February 1998)	USTH19-MW17 (July 1998)	USTH19-MW10 (January 1998)	USTH19-MW10 (February 1997)
VOCs, EPA 502.2	Concentrations Identified (µg/L)					
Ethylbenzene [29]	ND	ND	0.07	ND	0.22	3.20
Isopropylbenzene [70]	2.71	5.32	2.34	ND	ND	1.64
methyl-tert-butyl-ether [200]	ND	ND	ND	ND	0.22	ND
n-Butylbenzene [70]	8.81	ND	7.82	ND	ND	11.40
n-Propylbenzene [70]	.39	1.54	0.39	ND	ND	1.52
Naphthalene [21]	.33	ND	0.13	ND	1.33	19.40
sec-Butylbenzene [70]	3.72	7.21	3.37	ND	ND	ND
Styrene [100]	.51	2.05	0.61	ND	ND	ND
Tert-Butylbenzene [70]	.87	2.52	0.33	ND	ND	ND
Tetrachloroethene [0.7]	1.35	1.52	ND	ND	ND	0.62
Toluene [1000]	.42	1.93	0.92	ND	ND	0.32
Trichlorofluoromethane [2100]	ND	ND	ND	ND	ND	0.62
1,2,4-Trimethylbenzene [350]	4.06	0.92	4.31	ND	ND	2.28
1,3,5-Trimethylbenzene [350]	ND	ND	0.58	ND	ND	1.62
Total Xylenes [530]	1.12	1.14	ND	ND	ND	3.64
Total EPA 502.2	24.29	24.15	20.87	--	1.77	46.26
B N SVOCs, EPA 625	Concentrations Identified (µg/L)					
Bis (2-ethylhexyl) phthalate	7.56	ND		ND	ND	ND
Fluorene [280.0]	ND	ND	ND	ND	ND	2.20
Naphthalene [21]	ND	ND	1.32	ND	ND	14.90
Phenanthrene [210]	ND	ND	ND	ND	ND	ND
Total EPA 625	7.56	--	1.32	--	--	17.1

Note: A duplicate groundwater sample was obtained from well USTH19-MW10. No EPA 502.2 or EPA 625 compounds were identified.

B N = Base Neutrals

Bold Numbers = Concentration above N.C. 2L Groundwater Std.

MDL = Method Detection Limit

ND = Not Detected

VOCs = Volatile Organic Compounds

SVOCs = Semi-volatile Organic Compounds

**LEAKING UNDERGROUND STORAGE TANK
CORRECTIVE ACTION PLAN
SOIL REMEDIATION VIA EXCAVATION AND NATURAL ATTENUATION OF
DISSOLVED PHASE GROUNDWATER CONTAMINATION
JULY 22, 1998**

TABLE 1.5 (Page 1 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVAL	1.9-6.9	2.8-7.8	2.7-7.7	4.6-9.6	5-10	4.5-9.5	2.8-7.8	
	SAMPLE DATES	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	
EPA METHOD 502.2 Volatile Organic Compounds (concentration data in µg/l)									
Benzene		ND	ND	.06	.05	ND	ND	.05	1.0
n-Butylbenzene		ND	ND	ND	ND	ND	ND	ND	70
sec-Butylbenzene		ND	ND	ND	ND	ND	ND	ND	70
tert-Butylbenzene		ND	ND	ND	ND	ND	ND	ND	70
Chloroform		.22	.05	.03	.02	ND	ND	ND	0.19
1,2 Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND	620
Ethylbenzene		ND	ND	.10	ND	ND	ND	.13	29
Isopropylbenzene		ND	ND	ND	ND	ND	ND	ND	70
p-Isopropyltoluene		ND	ND	ND	ND	ND	ND	ND	*
Naphthalene		.27	.10	.10	.13	.43	ND	.41	21
n-Propylbenzene		ND	ND	ND	ND	ND	ND	ND	70
Styrene		ND	ND	ND	ND	ND	ND	ND	100
1,1,1,2-Tetrachloroethane		ND	ND	ND	ND	ND	ND	ND	*
Tetrachloroethene		.12	.10	.10	.12	.19	.15	.23	0.7
Toluene		1.24	5.75	3.97	1.02	1.54	.58	6.91	1000
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND	ND	ND	*
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	.58	350
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	350
Total Xylenes		ND	ND	.44	ND	.40	ND	.42	530
Total BTEX		1.24	5.75	4.57	1.07	1.94	.58	7.51	NA
Total EPA Method 502.2 (Volatile Organics)		1.85	6.00	4.80	2.56	2.56	.73	8.73	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.5 (Page 2 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	N.C. GROUNDWATER STANDARDS µg/l
	SCREENED INTERVAL	1.9-6.9	2.8-7.8	2.7-7.7	4.6-9.6	5-10	4.5-9.5	2.8-7.8	
	SAMPLE DATES	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	2/20/97	
EPA METHOD 625 Base Neutrals Only (concentration data in µg/l)									
Acenaphthene		ND	ND	ND	ND	ND	ND	ND	80
Anthracene		ND	ND	ND	ND	ND	2.34	ND	2100
Benzo(a)anthracene		ND	ND	ND	ND	ND	1.39	ND	.05
Benzo(b)fluoranthene		ND	ND	ND	ND	ND	3.32	ND	0.047
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	1.56	ND	0.47
Benzo(g,h,i) perylene		ND	ND	ND	ND	ND	2.44	ND	210
Benzo(a)pyrene		ND	ND	ND	ND	ND	1.74	ND	0.0047
Chrysene		ND	ND	ND	ND	ND	1.62	ND	4.80
Fluoranthene		ND	ND	ND	ND	ND	5.59	ND	280
Fluorene		ND	ND	ND	ND	ND	ND	ND	280
Naphthalene		ND	ND	ND	ND	ND	ND	1.78	21
Phenanthrene		ND	ND	ND	ND	ND	ND	ND	210
Pyrene		ND	ND	ND	ND	ND	7.91	ND	210
Total EPA 625 B,N Compounds		ND	ND	ND	ND	ND	27.91	1.78	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A-02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.5 (Page 3 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-8	DP-9	DP-10	DP-11	DP-12	DP-16	DP17 (duplicate of DP-16)	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVAL	2.4-7.4	4.4-9.4	0-9.6	2.9-7.9	2.8-7.8	2.8-7.8	2.8-7.8	
	SAMPLE DATES	2/20/97	2/21/97	2/20/97	2/21/97	2/21/97	2/21/97	2/21/97	
EPA METHOD 502.2 Volatile Organic Compounds (concentration data in µg/l)									
Benzene		.09	.26	.15	.22	.23	ND	.08	1.0
n-Butylbenzene		ND	ND	159.00	44.50	ND	ND	.22	70
sec-Butylbenzene		ND	ND	28.10	15.40	.43	ND	.37	70
tert-Butylbenzene		ND	ND	6.26	5.80	ND	ND	ND	70
Chloroform		ND	ND	ND	ND	ND	ND	ND	0.19
1,2 Dichlorobenzene		ND	.25	ND	ND	.21	ND	ND	620
Ethylbenzene		.06	ND	2.64	2.85	.17	.37	ND	29
Isopropylbenzene		ND	ND	13.90	13.50	ND	ND	.19	70
p-Isopropyltoluene		ND	ND	4.69	ND	ND	ND	ND	*
Naphthalene		.16	.36	7.71	1.93	.63	.43	.58	21
n-Propylbenzene		ND	ND	9.58	5.92	ND	ND	ND	70
Styrene		ND	ND	ND	4.01	ND	ND	ND	100
1,1,1,2-Tetrachloroethane		ND	ND	.17	ND	ND	ND	ND	*
Tetrachloroethene		.13	ND	ND	ND	.27	ND	.17	0.7
Toluene		1.80	9.15	14.80	6.87	5.37	9.43	8.62	1000
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND	ND	ND	*
1,2,4-Trimethylbenzene		ND	.49	61.50	4.85	.73	ND	ND	350
1,3,5-Trimethylbenzene		ND	ND	84.10	10.30	.28	ND	ND	350
Total Xylenes		ND	.72	40.05	9.94	.55	.23	.28	530
Total BTEX		1.95	9.87	57.64	19.88	6.32	10.03	8.98	NA
Total EPA Method 502.2 (Volatile Organics)		2.24	10.97	432.65	126.09	8.87	10.46	10.51	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.5 (Page 4 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-8	DP-9	DP-10	DP-11	DP-12	DP-16	DP-17 (duplicate of DP-16)	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVAL	2.4-7.4	4.4-9.4	0-9.6	2.9-7.9	2.8-7.8	2.8-7.8	2.8-7.8	
	SAMPLE DATES	2/20/97	2/21/97	2/20/97	2/21/97	2/21/97	2/21/97	2/21/97	
	EPA METHOD 625 Base Neutrals Only (concentration data in µg/l)								
Acenaphthene		ND	ND	ND	ND	ND	ND	ND	80
Anthracene		ND	ND	ND	ND	ND	ND	ND	2100
Benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	.05
Benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	.047
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	0.47
Benzo(g,h,i) perylene		ND	ND	ND	ND	ND	ND	ND	210
Benzo(a)pyrene		ND	ND	ND	ND	ND	ND	ND	0.0047
Chrysene		ND	ND	ND	ND	ND	ND	ND	4.80
Fluoranthene		ND	ND	ND	ND	ND	ND	ND	280
Fluorene		ND	ND	ND	ND	ND	ND	ND	280
Naphthalene		ND	ND	ND	1.12	ND	ND	ND	21
Phenanthrene		ND	ND	ND	ND	ND	ND	ND	210
Pyrene		ND	ND	ND	ND	ND	ND	ND	210
Total EPA 625 B,N Compounds		ND	ND	ND	1.12	ND	ND	ND	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.5 (Page 5 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-18	DP-19	DP-20	TB 10666	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVAL	4.8-9.8	1.9-6.9	4.9-9.9		
	SAMPLE DATES	2/21/97	2/21/97	2/21/97		
EPA METHOD 502.2 Volatile Organic Compounds (concentration data in µg/l)						
Benzene		.15	.42	ND	ND	1.0
n-Butylbenzene		.50	.24	10.50	ND	70
sec-Butylbenzene		ND	ND	2.17	ND	70
tert-Butylbenzene		ND	ND	ND	ND	70
Chloroform		ND	ND	ND	ND	0.19
1,2 Dichlorobenzene		.17	.19	ND	ND	620
Ethylbenzene		ND	.27	1.80	ND	29
Isopropylbenzene		ND	ND	1.54	ND	70
p-Isopropyltoluene		ND	ND	1.12	ND	*
Naphthalene		1.73	ND	68.90	.22	21
n-Propylbenzene		ND	ND	1.98	ND	70
Styrene		ND	ND	.73	ND	100
1,1,1,2-Tetrachloroethane		ND	ND	ND	ND	*
Tetrachloroethene		.19	.24	ND	ND	0.7
Toluene		2.84	20.5	7.41	.12	1000
1,2,4-Trichlorobenzene		ND	.35	ND	ND	*
1,2,4-Trimethylbenzene		.40	ND	17.40	ND	350
1,3,5-Trimethylbenzene		ND	ND	9.75	ND	350
Total Xylenes		.40	.39	8.65	.66	530
Total BTX		3.39	21.58	17.86	.78	NA
Total EPA Method 502.2 (Volatile Organics)		6.38	22.60	131.95	1.00	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.5 (Page 6 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER SAMPLES (POWERPROBE™)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	DIRECT PUSH PROBE SAMPLE NUMBER	DP-18	DP-19	DP-20	TB Trip Blank	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVAL	4.8-9.8	1.9-6.9	4.9-9.9		
	SAMPLE DATES	2/21/97	2/21/97	2/21/97		
	EPA METHOD 625 Base Neutrals Only (concentration data in µg/l)					
Acenaphthene		ND	ND	1.25	ND	80
Anthracene		ND	ND	ND	ND	2100
Benzo(a)anthracene		ND	ND	ND	ND	.05
Benzo(b)fluoranthene		ND	ND	ND	ND	0.047
Benzo(k)fluoranthene		ND	ND	ND	ND	0.47
Benzo(g,h,i) perylene		ND	ND	ND	ND	210
Benzo(a)pyrene		ND	ND	ND	ND	0.0047
Chrysene		ND	ND	ND	ND	4.80
Fluoranthene		ND	ND	ND	ND	280
Fluorene		ND	ND	1.12	ND	280
Naphthalene		ND	ND	15.10	ND	21
Phenanthrene		ND	ND	ND	ND	210
Pyrene		ND	ND	ND	ND	210
Total EPA 625 B,N Compounds		ND	ND	17.47	ND	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit

TABLE 1.6 (Page 1 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (EXISTING AND NEW MONITORING WELLS)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	MONITORING WELL NO. (Type II unless specified)	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	N.C. GROUNDWATER STANDARDS
	SCREENED INTERVALS (feet)	4-14'	1-11'	1.5-11.5'	4-14'	4-14'	4-14'	
	SAMPLE DATES	2/12/97	2/11/97	2/12/97	2/11/97	2/11/97	2/11/97	
EPA METHOD 502.2 Volatile Organic Compound Results								
BENZENE				.37				1.0
CHLOROFORM		.40			.02			.19
CIS-1,2-DICHLOROETHANE				.14				70
1,2-DICHLOROBENZENE		.15						620
1,2-DICHLOROETHANE			.14					.38
ISOPROPYLBENZENE				.13				70
n-BUTYLBENZENE				.24				70
NAPHTHALENE		.13	1.21	.89			.53	21
SEC-BUTYLBENZENE				.27				70
TOLUENE		.22	.30	.39			.16	1,000.0
TOTAL XYLENES		.17	.62	.17				530.0
TOTAL BTX		.39	.92	.93	ND	ND	.16	NA
TOTAL EPA METHOD 502.2		1.07	2.27	2.60	.02	ND	.69	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

TABLE 1.6 (Page 2 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (EXISTING AND NEW MONITORING WELLS)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	MONITORING WELL NO. (TYPE)	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	NC GROUNDWATER STANDARDS
	SCREENED INTERVALS	4-14'	1-11'	1.5-11.5'	4-14'	4-14'	4-14'	
	SAMPLE DATES	2/12/97	2/11/97	2/12/97	2/11/97	2/11/97	2/11/97	
EPA METHOD 625 Base Neutral Semi-Volatile Compound Results								
NAPHTHALENE		8.59						21.0
PHENANTHRENE				1.31				210.0
TOTAL EPA METHOD 625		8.59	ND	1.31	ND	ND	ND	NA
TOTAL METALS BY EPA METHOD 6010 (ICP) Results								
ARSENIC		--	--	--	--	--	--	50.0
BARIUM		--	--	--	--	--	--	2,000.0
CADMIUM		--	--	--	--	--	--	5.0
CHROMIUM		--	--	--	--	--	--	50.0
LEAD		--	--	--	--	--	--	15.0
SELENIUM		--	--	--	--	--	--	50.0
SILVER		--	--	--	--	--	--	18.0

All results in ug/L

ND = Not Detected

NA = Not Applicable

-- = Sample not analyzed for test.

TABLE 1.6 (Page 3 of 6)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (EXISTING AND NEW MONITORING WELLS)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	MONITORING WELL NO. OR HYDROPUNCH NO.)	MW-7 (TYPE II)	MW-15 RINSE BLANK	TRIP BLANK 1 (resampling of existing wells)	MW-8	MW-9	MW-10	N.C. GROUNDWATER STANDARDS
SCREENED INTERVALS (feet)	4 - 14'		--	--	3.8 - 13.8'	3.9 - 13.9'	4 - 14'	
	SAMPLE DATES	2/12/97	2/11/97	2/11/97	3/27/97	4/10/97	3/27/97	
EPA METHOD 502.2 Volatile Organic Compound Results								
BENZENE		.08						1.0
BROMOFORM				.75				.19
CHLOROFORM		.05	.06	.02		1.14		.19
DIBROMOCHLOROMETHANE				.17		.07		*
1,2-DICHLOROETHANE		.05						.38
ETHYLBENZENE		.07						
ISOPROPYLBENZENE		2.34					3.20	29.0
n-BUTYLBENZENE		7.82					1.64	70
n-PROPYLBENZENE		.39					11.40	70
NAPHTHALENE		.13	.16				1.52	70
SEC-BUTYLBENZENE		3.37					19.40	21.0
STYRENE		.61						70
TERT-BUTYLBENZENE		.33						100.0
TETRACHLOROETHENE								350
TOLUENE		.92					.62	.70
TRICHLOROFLUOROMETHANE							.32	1,000.0
1,2,4-TRIMETHYLBENZENE		4.31					0.62	2.1
1,3,5-TRIMETHYLBENZENE		.58					2.28	350
TOTAL XYLENES							1.62	350
							3.64	530.0
TOTAL BTEX		1.07	ND	ND	ND	ND	7.16	NA
TOTAL EPA METHOD 502.2		21.05	.22	.94	ND	1.21	46.26	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* = The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit.

TABLE 1.6 (Page 4 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (EXISTING AND NEW MONITORING WELLS)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	MONITORING WELL NO. OR HYDROPUNCH NO.	MW-7 (TYPE II)	MW-15 RINSE BLANK	TRIP BLANK 1 (2/11/97)	MW-8	MW-9	MW-10	N.C. GROUNDWATER STANDARDS
SCREENED INTERVALS	4-14'		--	--	3.8 - 13.8'	3.9 - 13.9'	4 - 14'	
SAMPLE DATES	3/27/97	2/11/97	2/11/97	2/11/97	3/27/97	4/10/97	3/27/97	
EPA METHOD 625 Base Neutral Semi-Volatile Organic Compounds Results								
FLUORENE							2.20	280.0
NAPHTHALENE	1.32			--			14.90	21.0
PHENANTHRENE				--			ND	210.0
TOTAL EPA METHOD 625	1.32	ND		--	ND	ND	17.10	NA
TOTAL METALS BY EPA METHOD 6010 (ICP) results								
ARSENIC	--	--	--	--				50.0
BARIUM	--	--	--	--	62.0	39.0	79.0	2,000.0
CADMIUM	--	--	--	--				5.0
CHROMIUM	--	--	--	--				50.0
LEAD	--	--	--	--				15.0
SELENIUM	--	--	--	--				50.0
SILVER	--	--	--	--				18.0

All results in ug/L

ND = Not Detected

NA = Not Applicable

-- = Sample not analyzed for test.

TABLE 1.6 (Page 5 of 6)

SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (EXISTING AND NEW MONITORING WELLS)

BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	MONITORING WELL NO. (TYPE)	MW-11 (Type III)	MW-12	MW-13 (Type III)	MW-14	Trip Blank 2	Trip Blank 3	Rinse Blank	Drum Composite	N.C. GROUND WATER STANDARDS
	SCREENED INTERVALS	35 - 40	4 - 14	35 - 40	4.1 - 14.1					
	SAMPLE DATES	3/27/97	3/27/97	4/10/97	3/27/97	3/27/97	4/10/97	3/27/97	4/10/97	
EPA METHOD 502.2 Volatile Organic Compounds Results										
BENZENE		.05		.06						1.0
BROMODICHLOROMETHANE		.05								0.56
BROMOFORM						.34				.19
n-BUTYLBENZENE									.23	70
CHLOROFORM		.73		1.28					.49	.19
DIBROMOCHLOROMETHANE		.03								*
CIS-1,2-DICHLOROETHENE				7.31						70.0
TRANS-1,2-DICHLOROETHENE				2.22						70.0
1,3-DICHLOROPROPANE						.10				*
ETHYLBENZENE									.21	29.0
ISOPROPYLBENZENE		.13							.18	70
P-ISOPROPYLTOLUENE				.48						*
METHYL-TERT-BUTYL-ETHER					1.03	.19				200
NAPHTHALENE		.36						.71	.08	21.0
STYRENE		.38		.18	.69					100.0
TETRACHLOROETHENE						.17				0.7
TOLUENE		.20		.11				.08	.08	1,000.0
TOTAL XYLENES		.18						.18	.18	530.0
TRICHLOROETHENE				21.10					7.14	2.8
1,1,2-TRICHLOROETHANE				.06					.23	2,100.0
TRICHLOROFLUOROMETHANE					.58					2.1
TOTAL BTX		.43	ND	.17	ND	ND	ND	ND	.47	NA
TOTAL EPA METHOD 502.2		2.11	.27	32.80	2.30	.80	ND	.79	9.54	NA

All results in ug/L

ND = Not Detected

NA = Not Applicable

Shaded areas indicate concentrations detected above NCAC T15A:02L Standards.

* = The North Carolina Groundwater Quality Standard is equal to the Laboratory Method Detection Limit.

TABLE 1.6 (Page 6 of 6)

**SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES (MONITORING WELLS & HYDROPUNCHES)**

**BUILDING H-19
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

PARAMETER	MONITORING WELL NO. (TYPE)	MW-11 (TYPE III)	MW-12	MW-13 (TYPE III)	MW-14	Trip Blank 2	Trip Blank 3	Rinse Blank	Drum Composite	N.C. GROUND WATER STANDARDS
	SCREENED INTERVALS	35-40	4 - 14	35 - 40	4.1 - 14.1	--	--	--	--	
	SAMPLE DATES	3/27/97	3/27/97	3/27/97	3/27/97	3/27/97	4/10/97	3/27/97	4/10/97	
EPA METHOD 625 Base Neutral Semi-Volatile Organic Compounds Results										
FLUORENE							--	--		280.0
NAPHTHALENE							--	--		21.0
PHENANTHRENE							--	--		210.0
TOTAL EPA METHOD 625		ND	ND	ND	ND	ND	--	--	ND	NA
TOTAL METALS BY EPA METHOD 6010 Results										
ARSENIC		--		--		--	--	--		50.0
BARIUM		--	117.00	--	119.00	--	--	--	33	2,000.0
CADMIUM		--		--		--	--	--		5.0
CHROMIUM		--		--		--	--	--		50.0
LEAD		--		--		--	--	--		15.0
SELENIUM		--		--		--	--	--		50.0
SILVER		--		--		--	--	--		18.0

All results in ug/L

ND = Not Detected

NA = Not Applicable

-- = Sample not analyzed for test.

**SECOND SEMI-ANNUAL GROUNDWATER
MONITORING REPORT
MAY 2001**

TABLE 3 (PAGE 1 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW01-00D*	USTH19- GW01-01B	USTH19- GW02-00D*	USTH19- GW02-01B	GROSS CONTAMINATION LEVELS (GCL)	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)	3 to 13	3 to 13	4 to 14	4 to 14		
	SAMPLE DATE	10/11/00	4/11/01	10/11/00	4/11/01		
STANDARD METHOD 6210D - VOLATILE ORGANIC COMPOUNDS (mg/L)							
Chloroform		ND	.016	ND	ND	190	.19
Total Standard Method 6210D		ND	.016	ND	ND	N/A	N/A
EPA METHOD 625 - BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)							
<i>No compounds detected</i>							
EPA METHOD 625 - TENTATIVELY IDENTIFIED COMPOUNDS - TICs (mg/L)							
Known TICs [Concentration]		ND	ND	ND	ND	N/A	N/A
Unknown TICs [Concentration]		ND	1 [0.0041]	ND	ND	N/A	N/A
EPA METHOD 6010B - METALS (mg/L)							
Lead		ND	ND	ND	0.0105	15	0.015

* = Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0093.
 ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.
 N/A = Not applicable

TABLE 3 (PAGE 2 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW03-00D*	USTH19- GW03-01B	USTH19- GW05-00D*	USTH19- GW05-01B	GROSS CONTAMINATION LEVELS (GCL)	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)	1 to 11	1 to 11	3 to 13	3 to 13		
	SAMPLE DATE	10/11/00	4/11/01	10/11/00	4/11/01		
STANDARD METHOD 6210D - VOLATILE ORGANIC COMPOUNDS (mg/L)							
<i>No compounds detected</i>							
EPA METHOD 625 - BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)							
<i>No compounds detected</i>							
EPA METHOD 625 - TENTATIVELY IDENTIFIED COMPOUNDS - TICs (mg/L)							
Known TICs [Concentration]	1 [.028]	ND	ND	ND	ND	N/A	N/A
Unknown TICs [Concentration]	2 [.0181]	2 [.0226]	ND	ND	ND	N/A	N/A
EPA METHOD 6010B - METALS (mg/L)							
Lead	ND	0.0101	ND	ND	ND	15	0.015

* = Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0093.

ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.

N/A = Not applicable

TABLE 3 (PAGE 3 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW07-98A* 4 to 14	USTH19- GW07-00D** 4 to 14	USTH19- GW07-01B 4 to 14	GROSS CONTAMINATION LEVELS (GCL)	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)					
	SAMPLE DATE	1/30/98	10/11/00	4/11/01		
STANDARD METHOD 6210D (including historical results by EPA Method 502.2) - VOLATILE ORGANIC COMPOUNDS (mg/L)						
n-Butylbenzene		ND	ND	.003	6.9	.070
sec-Butylbenzene		.00721	ND	.007	8.5	.070
tert-Butylbenzene		.00252	ND	.001	15.0	.070
Isopropylbenzene		.00532	ND	.008	25.0	.070
4-Isopropyltoluene		ND	ND	.0008	Not established	Not established
Naphthalene		ND	ND	.001	15.5	.021
n-Propylbenzene		.00154	ND	ND	30.0	.070
Styrene		.00205	ND	ND	100.0***	0.10
Tetrachloroethene		.00152	ND	ND	7.0	0.0007
Toluene		.00193	ND	ND	257.5	1.000
1,2,4-Trimethylbenzene		.000933	ND	.0007	28.5	.35
Xylenes (Total)		.001143	ND	ND	87.5	.530
Total EPA Method 502.2		.02417	ND	ND	N/A	N/A
Total Standard Method 6210D		ND	ND	.0215	N/A	N/A
EPA METHOD 625 - BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)						
<i>No compounds detected</i>						
EPA METHOD 625, TENTATIVELY IDENTIFIED COMPOUNDS - TICs (mg/L)						
Known TICs [Concentration]		ND	ND	ND	N/A	N/A
Unknown TICs [Concentration]		ND	ND	4 [.0192]	N/A	N/A
EPA METHOD 6010B, METALS (mg/L)						
<i>No metals detected</i>						

* = Data from LAW Report of Natural Attenuation Monitoring, February 1998; Delivery Order 0026
 ** = Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0093
 *** = GCL = 1,000 * groundwater standard because 1/2 of the water solubility of styrene = 160 mg/L.
 ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.
 N/A = Not applicable

TABLE 4 (PAGE 1 OF 3)
SUMMARY OF MADEP VPH AND EPH LABORATORY RESULTS (GROUNDWATER SAMPLES)
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW01-00D Note 3	USTH19- GW01-01B	USTH19- GW02-00D Note 3	USTH19- GW02-01B	INTERIM GROUNDWATER STANDARD* (VPH and EPH Class Ranges)
	WELL SCREEN DEPTHS (ft)	3 to 13	3 to 13	4 to 14	4 to 14	
	SAMPLE DATES	10/11/00	4/11/01	10/11/00	4/11/01	
MADEP, Total Volatile Petroleum Hydrocarbon Compounds (VPH), mg/L						
C5 to C8 Aliphatics		ND	ND	ND	ND	
C9 to C12 Aliphatics		ND	ND	ND	ND	
C9 to C10 Aromatics		ND	ND	ND	ND	
MADEP, Total Extractable Petroleum Hydrocarbon Compounds (EPH), mg/L						
C9 to C18 Aliphatics		ND	ND	ND	ND	
C19 to C36 Aliphatics		ND	ND	ND	ND	
C11 to C22 Aromatics		ND	ND	ND	ND	
MADEP, CARBON CLASS RANGE TOTALS, mg/L (if concentration identified)						
C5 to C8 Aliphatics (VPH)		ND	ND	ND	ND	0.42
C9 to C12 Aliphatics		ND	ND	ND	ND	Not Established: Note 1
C9 to C10 Aromatics		ND	ND	ND	ND	Not Established: Note 2
C9 to C18 Aliphatics (VPH + EPH)		ND	ND	ND	ND	4.2
C19 to C36 Aliphatics (EPH)		ND	ND	ND	ND	42.0
C11 to C22 Aromatics (VPH + EPH)		ND	ND	ND	ND	0.21

ND = No compounds detected above the laboratory practical quantitation limit (PQL). See laboratory reports

Shaded Cells = Groundwater Contaminant Concentration exceeds the N.C. Groundwater Standard

MADEP = Massachusetts Department of Environmental Protection.

* Gross Contamination levels have not been established for these parameters

Notes:

1. The DWQ has not established a groundwater standard for the C9 to C12 aliphatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C9 to C18 aliphatic compound class, which includes both VPH and EPH.
2. The DWQ has not established a groundwater standard for the C9 to C10 aromatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C11 to C32 aromatic compound class which includes both VPH and EPH.
3. Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0093.

TABLE 4 (PAGE 2 OF 3)
SUMMARY OF MADEP VPH AND EPH LABORATORY RESULTS (GROUNDWATER SAMPLES)
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW03-00D Note 6	USTH19- GW03-01B	USTH19- GW05-00D Note 6	USTH19- GW05-01B	INTERIM GROUNDWATER STANDARD* (VPH and EPH Class Ranges)
WELL SCREEN DEPTHS (ft)		1 to 11	1 to 11	3 to 13	3 to 13	
SAMPLE DATES		10/11/00	4/11/01	10/11/00	4/11/01	
MADEP, Total Volatile Petroleum Hydrocarbon Compounds (VPH), mg/L						
C5 to C8 Aliphatics		ND	ND	ND	ND	
C9 to C12 Aliphatics		ND	ND	ND	ND	
C9 to C10 Aromatics		ND	ND	ND	ND	
MADEP, Total Extractable Petroleum Hydrocarbon Compounds (EPH), mg/L						
C9 to C18 Aliphatics		ND	ND	ND	ND	
C19 to C36 Aliphatics		ND	ND	ND	ND	
C11 to C22 Aromatics		ND	ND	ND	ND	
MADEP, CARBON CLASS RANGE TOTALS, mg/L (if concentration identified)						
C5 to C8 Aliphatics (VPH)		ND	ND	ND	ND	0.42
C9 to C12 Aliphatics		ND	ND	ND	ND	Not Established: Note 4
C9 to C10 Aromatics		ND	ND	ND	ND	Not Established: Note 5
C9 to C18 Aliphatics (VPH + EPH)		ND	ND	ND	ND	4.2
C19 to C36 Aliphatics (EPH)		ND	ND	ND	ND	42.0
C9 to C32 Aromatics (VPH + EPH)		ND	ND	ND	ND	0.21

ND = No compounds detected above the laboratory practical quantitation limit (PQL). See laboratory reports

Shaded Cells = Groundwater Contaminant Concentration exceeds the N.C. Groundwater Standard

MADEP = Massachusetts Department of Environmental Protection.

* Gross Contamination levels have not been established for these parameters

Notes:

- The DWQ has not established a groundwater standard for the C9 to C12 aliphatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C9 to C18 aliphatic compound class, which includes both VPH and EPH.
- The DWQ has not established a groundwater standard for the C9 to C10 aromatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C9 to C32 aromatic compound class which includes both VPH and EPH.
- Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0093.

TABLE 4 (PAGE 3 OF 3)
SUMMARY OF MADEP VPH AND EPH LABORATORY RESULTS (GROUNDWATER SAMPLES)
FORMER USTs H-19-1, H-19-2 and H-19-3 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH19- GW07-00D Note 9	USTH19- GW07-00D	INTERIM GROUNDWATER STANDARD* (VPH and EPH Class Ranges)
	WELL SCREEN DEPTHS (ft)	4 to 14	4 to 14	
	SAMPLE DATES	10/11/00	4/11/01	
MADEP, Total Volatile Petroleum Hydrocarbon Compounds (VPH), mg/L				
C5 to C8 Aliphatics		ND	ND	
C9 to C12 Aliphatics		ND	.260	
C9 to C10 Aromatics		ND	ND	
MADEP, Total Extractable Petroleum Hydrocarbon Compounds (EPH), mg/L				
C9 to C18 Aliphatics		ND	ND	
C19 to C36 Aliphatics		ND	ND	
C11 to C22 Aromatics		ND	ND	
MADEP, CARBON CLASS RANGE TOTALS, mg/L (if concentration identified)				
C5 to C8 Aliphatics (VPH)		ND	ND	0.42
C9 to C12 Aliphatics		ND	.260	Not Established: Note 7
C9 to C10 Aromatics		ND	ND	Not Established: Note 8
C9 to C18 Aliphatics (VPH + EPH)		ND	.260	4.2
C19 to C36 Aliphatics (EPH)		ND	ND	42.0
C11 to C22 Aromatics (VPH + EPH)		ND	ND	0.21

ND = No compounds detected above the laboratory practical quantitation limit (PQL). See laboratory reports

Shaded Cells = Groundwater Contaminant Concentration exceeds the N.C. Groundwater Standard

MADEP = Massachusetts Department of Environmental Protection.

* Gross Contamination levels have not been established for these parameters

Notes:

7. The DWQ has not established a groundwater standard for the C9 to C12 aliphatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C9 to C18 aliphatic compound class, which includes both VPH and EPH.

8. The DWQ has not established a groundwater standard for the C9 to C10 aromatic compound class of VPH. Instead, the DWQ established a groundwater standard for the C11 to C32 aromatic compound class which includes both VPH and EPH.

9. Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000, Delivery Order 0093.

**SITE ASSEMENT REPORT
DECEMBER 23, 2003**

Table 3

Summary of Groundwater Sampling Results – May 2002
 Date: 12/19/03 Incident No. and Name: No. 17633, MCB Building H-19

Analytical Method →		6210D						MADEP VPH and EPH				Facility ID#: Not assigned	
Well and Sample ID	Contaminant of Concern → Date Collected	625						6010B					
		n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	Isopropylbenzene	TICS	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics ¹	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics ²	Chromium	Lead
USTH19-MW01	5/30/02	<0.5	<0.5	<0.5	13	<0.5	None Detected	<100	<100	<100	<100	<10	<10
USTH19-MW02	5/30/02	<0.5	<0.5	<0.5	<0.5	<0.5	None Detected	<100	<100	<100	<100	<10	<10
USTH19-MW03	5/30/02	<0.5	<0.5	<0.5	<0.5	<0.5	2 [21.6]	<100	<100	<100	<100	<10	<10
USTH19-MW05	5/30/02	<0.5	<0.5	<0.5	<0.5	<0.5	1 [5.9]	<100	<100	<100	<100	<10	<10
USTH19-MW07	5/30/02	1	5	0.9	<0.5	3	2 [10]	<100	<100	<100	<100	<10	<10
NC Groundwater Quality Standard		70	70	70	0.00019	70	N/E	420	4,200	42,000	210	50	15
GCL		6,900	8,500	15,000	190	25,000	N/E	N/E	N/E	N/E	N/E	50,000	15,000

All concentrations given in micrograms per liter (µg/l)

<# = Analytical result is less than the referenced practical quantitation limit (PQL)

Bold numbers indicate concentrations in excess of the PQL

Shaded cells with bold numbers indicate concentrations in excess of the North Carolina Groundwater Quality Standard

TICs = Tentatively Identified Compounds

#[#] = Number of TICs identified and [their total estimated concentration]

GCL = Gross Contaminant Level

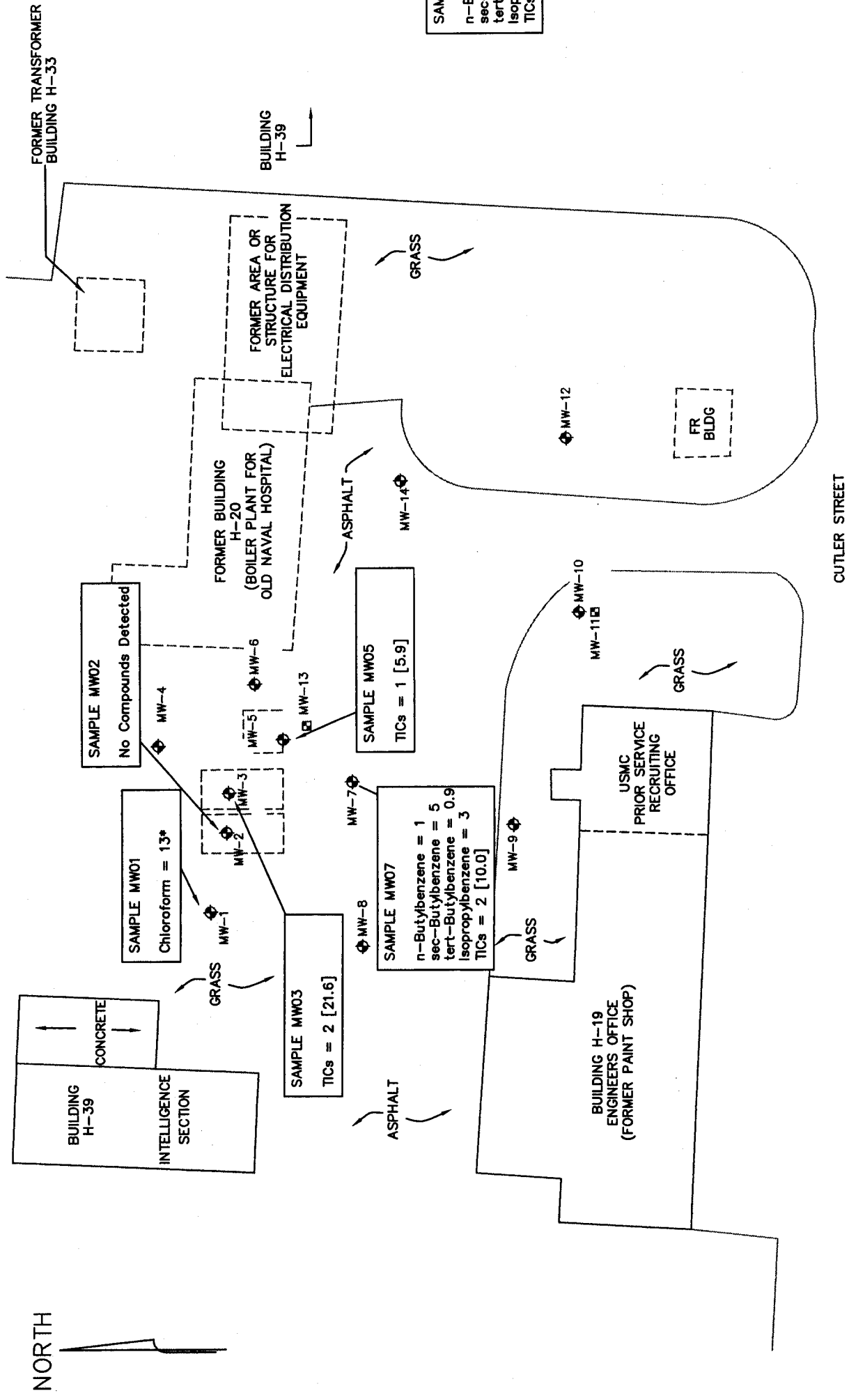
N/E = Not Established

Notes:

¹ MADEP C₉-C₁₈ aliphatic concentrations are determined by combining the analytical results for the VPH C₉-C₁₂ and EPH C₉-C₁₈ aliphatic hydrocarbon fractions.

² MADEP C₉-C₂₂ aromatic concentrations are determined by combining the analytical results for the VPH C₉-C₁₀ and EPH C₁₁-C₂₂ aromatic hydrocarbon fractions.

Prepared by: WBL Date: 12/18/03
 Checked by: BBY Date: 12/18/03



EXPLANATION

- TYPE II MONITORING WELL LOCATION
- TYPE III MONITORING WELL LOCATION
- MONITORING WELL LOCATION (R.E. WRIGHT)
- FORMER LOCATION OF USTs AND BUILDINGS (LOCATION OF H-20 FROM R.E. WRIGHT SITE CHECK REPORT)

Sample ID

Laboratory test results in micrograms per liter for groundwater samples collected 5/30/2002.

Concentration marked with an "*" indicates concentration in excess of the 2L Standards.

NOTES:

- H-19 IS THE PREFIX WHICH PROCEEDS ALL SAMPLE LOCATIONS (OMITTED FOR BREVITY)
- PERMANENT WELLS MW-1 THROUGH MW-7 INSTALLED BY R.E. WRIGHT ENVIRONMENTAL INC., MARCH 1995. RESAMPLED BY LAW IN FEBRUARY 1997.
- PERMANENT WELLS MW-8 THROUGH MW-14 INSTALLED BY LAW IN MARCH 1997. WELLS SAMPLED BY LAW IN MARCH AND EARLY APRIL 1997.
- CORNERS OF BLDG H-19, H-39, FENCE POST, AND SAMPLING POINTS LOCATED IN FIELD BY PROFESSIONAL LAND SURVEYOR. THE LOCATIONS OF UTILITIES AND OTHER FEATURES ARE APPROXIMATE.

MACTEC

MACTEC ENGINEERING AND CONSULTING
RALEIGH, NORTH CAROLINA

GROUNDWATER TEST RESULTS MAP FOR
MAY 2002 SAMPLING EVENT
FORMER USTs, BUILDING H-19
CAMP LEJEUNE, NORTH CAROLINA

DRAWN:	CWA	DATE:	NOVEMBER 2003
DFT CHECK:	WJG	SCALE:	1"=40'
ENG CHECK:	MAK	JOB:	30740-6-0000/0093
APPROVAL:	MAC	DRAWING:	4

REFERENCE: MCB CAD DRAWING F06.DWG, FIGURE 3 OF R.E. WRIGHT, 1995, AND MBC DRAWING 228551, 305171, 4052508

APPENDIX C

BORING LOGS FROM NOVEMBER 2004 SAMPLING EVENT

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
ENGLISH
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-055	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-19		LOGGED BY: Charles Ray	BORING ID: USTH19-SB01
LATITUDE: 341,421.9		LONGITUDE: 2,490,036.2	CREW:
SYSTEM: NCSP NAD 83 (ft)		BORING LOCATION: See Map	
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 6.0
START DATE: 11/29/04	FINISH DATE: 11/29/04	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
0.0							0.0	LAND SURFACE	
							0.0	Asphalt	
							0.3		
	H A H A	HA	▲0.....		SM			Brown, SILTY, v.f. to f. SAND with gravels. No HCO. Moist.	
1.0							1.0		
	H A H A	HA	▲0.1.....						
2.0									
	H A H A	HA	▲0.....						
3.0									
	H A H A	HA	▲0.9.....	USTH19-SB01 (3-4)	SM			Brown, tan, SILTY, v.f. to f. SAND with wood fragments. Organic odor. No HCO. Moist.	
4.0									
	H A H A	HA	▲0.....						
5.0									
	H A H A	HA	▲0.....						
6.0							6.0	Boring Terminated at Depth 6.0 ft	

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
ENGLISH
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-055	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building H-19		LOGGED BY: Charles Ray	BORING ID: USTH19-SB02
LATITUDE: 341,401.1		LONGITUDE: 2,490,037.8	CREW:
SYSTEM: NCSP NAD 83 (ft)		BORING LOCATION: See Map	
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 6.0
START DATE: 11/29/04	FINISH DATE: 11/29/04	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	SAMP. TYPE	OVA RESULTS (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
0.0			0 1000 2000 3000 4000				0.0	LAND SURFACE	
							0.0	Asphalt	
							0.3		
	H A H A	HA	▲0		SM			Brown, SILTY, v.f. to f. SAND with gravels. No HCO. Moist.	
1.0							1.0		
	H A H A	HA	▲0.1						
2.0									
	H A H A	HA	▲0						
3.0									
	H A H A	HA	▲1.0	USTH19-SB02 (3-4)	SM			Brown, tan, SILTY, v.f. to f. SAND with wood fragments. No HCO. Moist.	
4.0									
	H A H A	HA	▲0						
5.0									
	H A H A	HA	▲0						
6.0							6.0	Boring Terminated at Depth 6.0 ft	

CATLIN ENVIRO. LOG 204-055.GPJ CATLIN.GDT 11/30/04

APPENDIX D

RISK CLASSIFICATION AND LAND USE FORM

A. RISK CHARACTERIZATION

Submit the following questionnaire in its entirety. Answer all questions completely. Attach additional pages as needed to fully explain answers. Base answers/explanations on information known or required to be obtained during the Limited Site Assessment.

NOTE: *Source area means point of release from a UST system.*

Limited Site Assessment Risk Classification and Land Use Form

Part I - Groundwater/Surface Water/Vapor Impacts

High Risk

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

No, according to water supply well data provided by MCB Camp Lejeune, there are no water supply wells located within the 1,500 feet of the subject site.
2. *Is a water supply well used for drinking water located within 1,000 feet of the source area of the discharge or release?* YES NO

According to water supply well data provided by MCB Camp Lejeune, there are no water supply wells located within 1,000 feet of the subject site.
3. *Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release?* YES NO

No wells were located within 250 feet of the source area of the release.
4. *Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)?* YES NO

No, there are an adequate number of locations for additional water supply wells to be installed on other portions of the base, which are used for water supply.

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

There is no evidence to suggest an accumulation of vapors and no evidence of accumulation has been reported. The Building H-19 project area is currently a parking lot and/or grass area. Manholes were observed around the general vicinity of the project site, however no manholes were observed in the immediate area of the plume.

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

No. Data collected during this investigation does not provide evidence to suggest other factors that would cause an imminent danger to public health, public safety or the environment.

Intermediate Risk

7. *Is a surface water body located within 500 feet of the source area of the discharge or release?* YES NO
If YES, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B.0200 by a factor of 10? YES NO
No. No surface water bodies have been located within 500 feet of the subject site. The closest surface water body is the New River, located around the subject site (site is on a peninsula). The closest distance is approximately 625 feet north of the site.
8. *Is the source area of the discharge or release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)?* YES NO
If YES describe.

Wellhead protection areas defined by 42 USC 300h-7(e) have not, as of this report, been designed by NCDENR for MCB, Camp Lejeune. However, MCB Camp Lejeune has identified well protection areas on the base. Based on the most recent Wellhead Protection Plan Update (2002) performed for MCB Camp Lejeune, the site is not located within a potential wellhead protection area.

9. *Is the release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985?*

YES NO

If YES, is the source area of the release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water?

YES NO

If YES describe.

No, recharge to the lower portions of the aquifer does not appear to be significant in the area. The November 2004 groundwater samples collected from 40 feet deep Type III monitoring wells at the site were below the laboratory quantitation limits for all parameters analyzed.

10. *Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels established by the Department?*

YES NO

Contaminant levels from the November 2004 sampling event are below the currently established Gross Contaminant Levels (GCLs). However, a GCL for hydrocarbon fraction C₉-C₂₂ Aromatics has not been established, which was observed in groundwater samples obtained in November 2004 from monitoring wells USTH19-MW06 and USTH19-MW10.

Part II - Land Use

Property Containing Source Area of Release

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

1. *Does the property contain one or more primary or secondary residences (permanent or temporary)?*

YES NO

Describe.

No. The subject site does not contain any residences.

2. *Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?*

YES NO

Describe.

No. The property does not contain any of the above referenced public assembly places.

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

Yes, the property contains a warehouse and military support building.

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

Yes, the site is accessible to the public and is not restricted by fences or security personnel.

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

No, as mentioned above, the site is accessible to the public.

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

The areas of the release are covered with asphalt and localized grass areas. However, contaminated soil does not appear to remain on-site based on the November 2004 sampling event.

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

As necessary, appropriate land use restrictions will insure that any potentially impacted soils will remain capped in place. However, no evidence suggests the continued presence of petroleum impacted soils.

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

The MCB Camp Lejeune is not subject to local or county zoning requirements. The surrounding properties have been developed for military support purposes.

7. *Is the use of the property likely to change in the next 20 years?*
Explain.

YES NO

No, the designated use of military property is not likely to change within the foreseeable future.

Property Surrounding Source Area of Release

The questions below pertain to the area within 1500 feet of the source area of the release (excludes property containing source area of the release):

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

The closest residence is approximately 825 feet from the subject site.

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

The Fitness Center is located approximately 400 feet from the subject site.

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

As previously mentioned, the MCB Camp Lejeune is not subject to local or county zoning requirements.

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

The land surrounding the subject site is primarily used for military support and a residential area for officers.

B. RECEPTOR INFORMATION

1. **Water Supply Wells**
(See Figure 1)

Physical reconnaissance and review of the Wellhead Protection Plan – 2002 Update prepared by AH Environmental indicated that there is no water supply well located within 1,500 feet of the subject site.

2. Public Water Supplies

Are public water supplies available within 1,500 feet of the source area of the release?

YES NO

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

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 for Camp Lejeune is obtained from various water treatment facilities throughout the base. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for the treatment facilities.

3. Surface Water

Identify all surface water bodies (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map.

As previously noted, the subject site is located on a peninsula within the New River which is located, at the closest point, at a distance of approximately 625 feet North of the site.

4. Wellhead Protection Areas

Identify all planned or approved wellhead protection areas (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map. Wellhead protection areas are defined in 42 USC 300h-7(e).

According to the Wellhead Protection Plan – 2002 Update prepared by AH Environmental Consultants; the site is not located within a wellhead protection area.

5. Deep Aquifers in the Coastal Plain Physiographic Region

(refer to page 19 of the guidelines) NOTE: This requirement only pertains to releases in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985.

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.

To some degree seven of the ten aquifers identified to date in the North Carolina Coastal Plain are typically present beneath portions of the MCB. In order of

increasing depth, these aquifers include the Surficial, Castle Hayne, Beaufort, Peedee, Black Creek, and upper and lower Cape Fear aquifers.

Aquifers below the surficial aquifer in the area 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

Numerous underground utilities are present throughout the site. These utilities are believed to be located above the shallow groundwater table and are not considered potential receptors.

7. Property Owners and Occupants

The subject site is owned and operated by the Commanding General – Marine Corps Base, Camp Lejeune.

APPENDIX E

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION FROM NOVEMBER 2004 SAMPLING EVENT

PARADIGM ANALYTICAL LABORATORIES, INC.

5500 Business Drive
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Jeff Becken
Richard Catlin & Associates
P.O. Box 10280
Wilmington NC 28404-0280

Report Number: G128-1422

Client Project: H-19

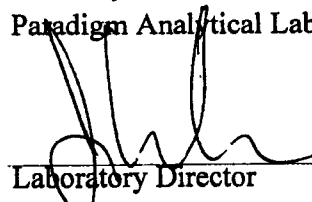
Dear Mr. Becken:

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

If there are any questions about the report or the services performed during this project, please call 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.


Laboratory Director
J. Patrick Weaver

12/15/04
Date

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-SB01(3-4)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	11/29/04
Date Received	11/29/04
Date Extracted	11/29/04
Date Analyzed	12/12/04
Dry Weight	91
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	100
Surrogate % Recovery - FID	97

* = 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: g128-1422-1d

Reviewed By: mm

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-SB02(3-4)
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	11/29/04
Date Received	11/29/04
Date Extracted	11/29/04
Date Analyzed	12/12/04
Dry Weight	91
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	73
Surrogate % Recovery - FID	74

* = 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: g128-1422-2d

Reviewed By: me

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-SB02(3-4)Dup
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	11/29/04
Date Received	11/29/04
Date Extracted	11/29/04
Date Analyzed	12/12/04
Dry Weight	93
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	93
Surrogate % Recovery - FID	92

* = 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: g128-1422-3b

Reviewed By: ml

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 12/09/04PID Initial Calibration Date: 12/09/04

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (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	4.0	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	14.8	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	7.4	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/12/04

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	1.9
C ₉ -C ₁₂ Aliphatics	500	50	21.3
C ₉ -C ₁₀ Aromatics	500	50	4.3

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 & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-SB01(3-4)
Sample Matrix	Soil
Date Collected	11/29/04
Date Received	11/29/04
Date Extracted	12/02/04
Date Analyzed	12/09/04
Dry Weight	90.9
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	18 (mg/Kg)
C ₁₉ -C ₃₈ Aliphatics*	22 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	58
Aromatic Surrogate % Recovery	56
Fractionation Surrogate 1 % Recovery	110

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1422-1H

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-SB02(3-4)
Sample Matrix	Soil
Date Collected	11/29/04
Date Received	11/29/04
Date Extracted	12/02/04
Date Analyzed	12/09/04
Dry Weight	90.7
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₈ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	63
Aromatic Surrogate % Recovery	58
Fractionation Surrogate 1 % Recovery	100

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1422-2H

Reviewed By: me

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/06/04

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	2.00	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.1	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	0.8	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/08/04

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	0.2
C ₁₉ -C ₃₆ Aliphatics	160	-7.2
C ₁₁ -C ₂₂ Aromatics	340	1.8

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.

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH19-SB01(3-4)
 Client Project ID: H-19
 Lab Sample ID: G128-1422-11
 Lab Project ID: G128-1422
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 11/29/2004 12:30
 Date Received: 11/29/2004
 Date Extracted: 12/10/2004
 Matrix: Soil
 % Solids: 90.93

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.335	1	12/13/2004
Acenaphthylene	BQL	0.335	1	12/13/2004
Anthracene	BQL	0.335	1	12/13/2004
Benzo[a]anthracene	BQL	0.335	1	12/13/2004
Benzo[a]pyrene	0.469	0.335	1	12/13/2004
Benzo[b]fluoranthene	0.539	0.335	1	12/13/2004
Benzo[g,h,i]perylene	BQL	0.335	1	12/13/2004
Benzo[k]fluoranthene	BQL	0.335	1	12/13/2004
Benzoic Acid	BQL	0.670	1	12/13/2004
Bis(2-chloroethoxy)methane	BQL	0.335	1	12/13/2004
Bis(2-chloroethyl)ether	BQL	0.335	1	12/13/2004
Bis(2-chloroisopropyl)ether	BQL	0.335	1	12/13/2004
Bis(2-ethylhexyl)phthalate	BQL	0.335	1	12/13/2004
4-bromophenyl phenyl ether	BQL	0.335	1	12/13/2004
Butylbenzylphthalate	BQL	0.335	1	12/13/2004
2-Chloronaphthalene	BQL	0.335	1	12/13/2004
2-Chlorophenol	BQL	0.335	1	12/13/2004
4-Chloro-3-methylphenol	BQL	0.335	1	12/13/2004
4-Chloroaniline	BQL	1.67	1	12/13/2004
4-Chlorophenyl phenyl ether	BQL	0.335	1	12/13/2004
Chrysene	BQL	0.335	1	12/13/2004
Dibenzo[a,h]anthracene	BQL	0.335	1	12/13/2004
Dibenzofuran	BQL	0.335	1	12/13/2004
Di-n-Butylphthalate	BQL	0.335	1	12/13/2004
1,2-Dichlorobenzene	BQL	0.335	1	12/13/2004
1,3-Dichlorobenzene	BQL	0.335	1	12/13/2004
1,4-Dichlorobenzene	BQL	0.335	1	12/13/2004
3,3'-Dichlorobenzidine	BQL	0.670	1	12/13/2004
2,4-Dichlorophenol	BQL	0.335	1	12/13/2004
Diethylphthalate	BQL	0.335	1	12/13/2004
Dimethylphthalate	BQL	0.335	1	12/13/2004
2,4-Dimethylphenol	BQL	0.335	1	12/13/2004
Di-n-octylphthalate	BQL	0.335	1	12/13/2004
4,6-Dinitro-2-methylphenol	BQL	1.67	1	12/13/2004
2,4-Dinitrophenol	BQL	1.67	1	12/13/2004
2,4-Dinitrotoluene	BQL	0.335	1	12/13/2004
2,6-Dinitrotoluene	BQL	0.335	1	12/13/2004
Fluoranthene	BQL	0.335	1	12/13/2004
Fluorene	BQL	0.335	1	12/13/2004
Hexachlorobenzene	BQL	0.335	1	12/13/2004
Hexachlorobutadiene	BQL	0.335	1	12/13/2004
Hexachlorocyclopentadiene	BQL	0.670	1	12/13/2004

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH19-SB01(3-4)
 Client Project ID: H-19
 Lab Sample ID: G128-1422-11
 Lab Project ID: G128-1422
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 11/29/2004 12:30
 Date Received: 11/29/2004
 Date Extracted: 12/10/2004
 Matrix: Soil
 % Solids: 90.93

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.335	1	12/13/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.335	1	12/13/2004
Isophorone	BQL	0.335	1	12/13/2004
2-Methylnaphthalene	BQL	0.335	1	12/13/2004
2-Methylphenol	BQL	0.335	1	12/13/2004
3- & 4-Methylphenol	BQL	0.335	1	12/13/2004
Naphthalene	BQL	0.335	1	12/13/2004
2-Nitroaniline	BQL	0.335	1	12/13/2004
3-Nitroaniline	BQL	1.67	1	12/13/2004
4-Nitroaniline	BQL	1.67	1	12/13/2004
Nitrobenzene	BQL	0.335	1	12/13/2004
2-Nitrophenol	BQL	0.335	1	12/13/2004
4-Nitrophenol	BQL	1.67	1	12/13/2004
N-Nitrosodi-n-propylamine	BQL	0.335	1	12/13/2004
N-Nitrosodiphenylamine	BQL	0.335	1	12/13/2004
Pentachlorophenol	BQL	1.67	1	12/13/2004
Phenanthrene	BQL	0.335	1	12/13/2004
Phenol	BQL	0.335	1	12/13/2004
Pyrene	BQL	0.335	1	12/13/2004
1,2,4-Trichlorobenzene	BQL	0.335	1	12/13/2004
2,4,5-Trichlorophenol	BQL	0.335	1	12/13/2004
2,4,6-Trichlorophenol	BQL	0.335	1	12/13/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	8.7	87
Phenol-d6	10	8.1	81
2,4,6-Tribromophenol	5	3.8	76
4-Terphenyl-d14	10	11.3	114

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles by GCMS 8270

Client Sample ID: USTH19-SB02(3-4)
Client Project ID: H-19
Lab Sample ID: G128-1422-21
Lab Project ID: G128-1422
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 11/29/2004 13:00
Date Received: 11/29/2004
Date Extracted: 12/10/2004
Matrix: Soil
% Solids: 90.72

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.342	1	12/13/2004
Acenaphthylene	BQL	0.342	1	12/13/2004
Anthracene	BQL	0.342	1	12/13/2004
Benzo[a]anthracene	BQL	0.342	1	12/13/2004
Benzo[a]pyrene	0.488	0.342	1	12/13/2004
Benzo[b]fluoranthene	0.588	0.342	1	12/13/2004
Benzo[g,h,i]perylene	BQL	0.342	1	12/13/2004
Benzo[k]fluoranthene	BQL	0.342	1	12/13/2004
Benzoic Acid	BQL	0.683	1	12/13/2004
Bis(2-chloroethoxy)methane	BQL	0.342	1	12/13/2004
Bis(2-chloroethyl)ether	BQL	0.342	1	12/13/2004
Bis(2-chloroisopropyl)ether	BQL	0.342	1	12/13/2004
Bis(2-ethylhexyl)phthalate	BQL	0.342	1	12/13/2004
4-bromophenyl phenyl ether	BQL	0.342	1	12/13/2004
Butylbenzylphthalate	BQL	0.342	1	12/13/2004
2-Chloronaphthalene	BQL	0.342	1	12/13/2004
2-Chlorophenol	BQL	0.342	1	12/13/2004
4-Chloro-3-methylphenol	BQL	0.342	1	12/13/2004
4-Chloroaniline	BQL	1.71	1	12/13/2004
4-Chlorophenyl phenyl ether	BQL	0.342	1	12/13/2004
Chrysene	BQL	0.342	1	12/13/2004
Dibenzo[a,h]anthracene	BQL	0.342	1	12/13/2004
Dibenzofuran	BQL	0.342	1	12/13/2004
Di-n-Butylphthalate	BQL	0.342	1	12/13/2004
1,2-Dichlorobenzene	BQL	0.342	1	12/13/2004
1,3-Dichlorobenzene	BQL	0.342	1	12/13/2004
1,4-Dichlorobenzene	BQL	0.342	1	12/13/2004
3,3'-Dichlorobenzidine	BQL	0.683	1	12/13/2004
2,4-Dichlorophenol	BQL	0.342	1	12/13/2004
Diethylphthalate	BQL	0.342	1	12/13/2004
Dimethylphthalate	BQL	0.342	1	12/13/2004
2,4-Dimethylphenol	BQL	0.342	1	12/13/2004
Di-n-octylphthalate	BQL	0.342	1	12/13/2004
4,6-Dinitro-2-methylphenol	BQL	1.71	1	12/13/2004
2,4-Dinitrophenol	BQL	1.71	1	12/13/2004
2,4-Dinitrotoluene	BQL	0.342	1	12/13/2004
2,6-Dinitrotoluene	BQL	0.342	1	12/13/2004
Fluoranthene	BQL	0.342	1	12/13/2004
Fluorene	BQL	0.342	1	12/13/2004
Hexachlorobenzene	BQL	0.342	1	12/13/2004
Hexachlorobutadiene	BQL	0.342	1	12/13/2004
Hexachlorocyclopentadiene	BQL	0.683	1	12/13/2004

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: USTH19-SB02(3-4)
Client Project ID: H-19
Lab Sample ID: G128-1422-2I
Lab Project ID: G128-1422
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 11/29/2004 13:00
Date Received: 11/29/2004
Date Extracted: 12/10/2004
Matrix: Soil
% Solids: 90.72

Compound	Result mg/Kg	Quantitation Limit mg/Kg	Dilution Factor	Date Analyzed
Hexachloroethane	BQL	0.342	1	12/13/2004
Indeno(1,2,3-c,d)pyrene	BQL	0.342	1	12/13/2004
Isophorone	BQL	0.342	1	12/13/2004
2-Methylnaphthalene	BQL	0.342	1	12/13/2004
2-Methylphenol	BQL	0.342	1	12/13/2004
3- & 4-Methylphenol	BQL	0.342	1	12/13/2004
Naphthalene	BQL	0.342	1	12/13/2004
2-Nitroaniline	BQL	0.342	1	12/13/2004
3-Nitroaniline	BQL	1.71	1	12/13/2004
4-Nitroaniline	BQL	1.71	1	12/13/2004
Nitrobenzene	BQL	0.342	1	12/13/2004
2-Nitrophenol	BQL	0.342	1	12/13/2004
4-Nitrophenol	BQL	1.71	1	12/13/2004
N-Nitrosodi-n-propylamine	BQL	0.342	1	12/13/2004
N-Nitrosodiphenylamine	BQL	0.342	1	12/13/2004
Pentachlorophenol	BQL	1.71	1	12/13/2004
Phenanthrene	BQL	0.342	1	12/13/2004
Phenol	BQL	0.342	1	12/13/2004
Pyrene	BQL	0.342	1	12/13/2004
1,2,4-Trichlorobenzene	BQL	0.342	1	12/13/2004
2,4,5-Trichlorophenol	BQL	0.342	1	12/13/2004
2,4,6-Trichlorophenol	BQL	0.342	1	12/13/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.5	105
2-Fluorophenol	10	10.2	102
Nitrobenzene-d5	10	10.1	101
Phenol-d6	10	9.4	94
2,4,6-Tribromophenol	5	4.1	83
4-Terphenyl-d14	10	13.2	132

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GCMS 8260-5035

Client Sample ID: USTH19-SB01(3-4)
Client Project ID: H-19
Lab Sample ID G128-1422-1A
Lab Project ID: G128-1422
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-29-2004 12:30
Date Received: 11/29/2004
Matrix: Soil
%Solids: 90.9

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0567	1	12/03/2004
Benzene	BQL	0.00567	1	12/03/2004
Bromobenzene	BQL	0.00567	1	12/03/2004
Bromochloromethane	BQL	0.00567	1	12/03/2004
Bromodichloromethane	BQL	0.00567	1	12/03/2004
Bromoform	BQL	0.00567	1	12/03/2004
Bromomethane	BQL	0.00567	1	12/03/2004
2-Butanone	BQL	0.0283	1	12/03/2004
n-Butylbenzene	BQL	0.00567	1	12/03/2004
sec-Butylbenzene	BQL	0.00567	1	12/03/2004
tert-Butylbenzene	BQL	0.00567	1	12/03/2004
Carbon disulfide	BQL	0.00567	1	12/03/2004
Carbon tetrachloride	BQL	0.00567	1	12/03/2004
Chlorobenzene	BQL	0.00567	1	12/03/2004
Chloroethane	BQL	0.00567	1	12/03/2004
Chloroform	BQL	0.00567	1	12/03/2004
Chloromethane	BQL	0.00567	1	12/03/2004
2-Chlorotoluene	BQL	0.00567	1	12/03/2004
4-Chlorotoluene	BQL	0.00567	1	12/03/2004
Dibromochloromethane	BQL	0.00567	1	12/03/2004
1,2-Dibromo-3-chloropropane	BQL	0.00567	1	12/03/2004
Dibromomethane	BQL	0.00567	1	12/03/2004
1,2-Dibromoethane (EDB)	BQL	0.00567	1	12/03/2004
1,2-Dichlorobenzene	BQL	0.00567	1	12/03/2004
1,3-Dichlorobenzene	BQL	0.00567	1	12/03/2004
1,4-Dichlorobenzene	BQL	0.00567	1	12/03/2004
trans-1,4-Dichloro-2-butene	BQL	0.00567	1	12/03/2004
1,1-Dichloroethane	BQL	0.00567	1	12/03/2004
1,1-Dichloroethene	BQL	0.00567	1	12/03/2004
1,2-Dichloroethane	BQL	0.00567	1	12/03/2004
cis-1,2-Dichloroethene	BQL	0.00567	1	12/03/2004
trans-1,2-dichloroethene	BQL	0.00567	1	12/03/2004
1,2-Dichloropropane	BQL	0.00567	1	12/03/2004
1,3-Dichloropropane	BQL	0.00567	1	12/03/2004
2,2-Dichloropropane	BQL	0.00567	1	12/03/2004
1,1-Dichloropropene	BQL	0.00567	1	12/03/2004
cis-1,3-Dichloropropene	BQL	0.00567	1	12/03/2004
trans-1,3-Dichloropropene	BQL	0.00567	1	12/03/2004
Dichlorodifluoromethane	BQL	0.00567	1	12/03/2004
Diisopropyl ether (DIPE)	BQL	0.00567	1	12/03/2004
Ethylbenzene	BQL	0.00567	1	12/03/2004
Hexachlorobutadiene	BQL	0.00567	1	12/03/2004
2-Hexanone	BQL	0.00567	1	12/03/2004
Iodomethane	BQL	0.00567	1	12/03/2004

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GCMS 8260-5035

Client Sample ID: USTH19-SB01(3-4)
Client Project ID: H-19
Lab Sample ID G128-1422-1A
Lab Project ID: G128-1422
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-29-2004 12:30
Date Received: 11/29/2004
Matrix: Soil
%Solids: 90.9

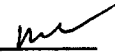
Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	0.00567	1	12/03/2004
4-Isopropyltoluene	BQL	0.00567	1	12/03/2004
Methylene chloride	BQL	0.0227	1	12/03/2004
4-Methyl-2-pentanone	BQL	0.00567	1	12/03/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00567	1	12/03/2004
Naphthalene	BQL	0.00567	1	12/03/2004
n-Propyl benzene	BQL	0.00567	1	12/03/2004
Styrene	BQL	0.00567	1	12/03/2004
1,1,1,2-Tetrachloroethane	BQL	0.00567	1	12/03/2004
1,1,2,2-Tetrachloroethane	BQL	0.00567	1	12/03/2004
Tetrachloroethene	BQL	0.00567	1	12/03/2004
Toluene	BQL	0.00567	1	12/03/2004
1,2,3-Trichlorobenzene	BQL	0.00567	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	0.00567	1	12/03/2004
Trichloroethene	BQL	0.00567	1	12/03/2004
1,1,1-Trichloroethane	BQL	0.00567	1	12/03/2004
1,1,2-Trichloroethane	BQL	0.00567	1	12/03/2004
Trichlorofluoromethane	BQL	0.00567	1	12/03/2004
1,2,3-Trichloropropane	BQL	0.00567	1	12/03/2004
1,2,4-Trimethylbenzene	BQL	0.00567	1	12/03/2004
1,3,5-Trimethylbenzene	BQL	0.00567	1	12/03/2004
Vinyl chloride	BQL	0.00567	1	12/03/2004
m-,p-Xylene	BQL	0.0113	1	12/03/2004
o-Xylene	BQL	0.00567	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.048	96
1,2-Dichloroethane-d4	0.05	0.0554	111
Toluene-d8	0.05	0.0498	100

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

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

Client Sample ID: USTH19-SB02(3-4)
Client Project ID: H-19
Lab Sample ID G128-1422-2A
Lab Project ID: G128-1422
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-29-2004 13:00
Date Received: 11/29/2004
Matrix: Soil
%Solids: 90.7

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	0.0573	1	12/03/2004
Benzene	BQL	0.00573	1	12/03/2004
Bromobenzene	BQL	0.00573	1	12/03/2004
Bromochloromethane	BQL	0.00573	1	12/03/2004
Bromodichloromethane	BQL	0.00573	1	12/03/2004
Bromoform	BQL	0.00573	1	12/03/2004
Bromomethane	BQL	0.00573	1	12/03/2004
2-Butanone	BQL	0.0286	1	12/03/2004
n-Butylbenzene	BQL	0.00573	1	12/03/2004
sec-Butylbenzene	BQL	0.00573	1	12/03/2004
tert-Butylbenzene	BQL	0.00573	1	12/03/2004
Carbon disulfide	BQL	0.00573	1	12/03/2004
Carbon tetrachloride	BQL	0.00573	1	12/03/2004
Chlorobenzene	BQL	0.00573	1	12/03/2004
Chloroethane	BQL	0.00573	1	12/03/2004
Chloroform	BQL	0.00573	1	12/03/2004
Chloromethane	BQL	0.00573	1	12/03/2004
2-Chlorotoluene	BQL	0.00573	1	12/03/2004
4-Chlorotoluene	BQL	0.00573	1	12/03/2004
Dibromochloromethane	BQL	0.00573	1	12/03/2004
1,2-Dibromo-3-chloropropane	BQL	0.00573	1	12/03/2004
Dibromomethane	BQL	0.00573	1	12/03/2004
1,2-Dibromoethane (EDB)	BQL	0.00573	1	12/03/2004
1,2-Dichlorobenzene	BQL	0.00573	1	12/03/2004
1,3-Dichlorobenzene	BQL	0.00573	1	12/03/2004
1,4-Dichlorobenzene	BQL	0.00573	1	12/03/2004
trans-1,4-Dichloro-2-butene	BQL	0.00573	1	12/03/2004
1,1-Dichloroethane	BQL	0.00573	1	12/03/2004
1,1-Dichloroethene	BQL	0.00573	1	12/03/2004
1,2-Dichloroethane	BQL	0.00573	1	12/03/2004
cis-1,2-Dichloroethene	BQL	0.00573	1	12/03/2004
trans-1,2-dichloroethene	BQL	0.00573	1	12/03/2004
1,2-Dichloropropane	BQL	0.00573	1	12/03/2004
1,3-Dichloropropane	BQL	0.00573	1	12/03/2004
2,2-Dichloropropane	BQL	0.00573	1	12/03/2004
1,1-Dichloropropene	BQL	0.00573	1	12/03/2004
cis-1,3-Dichloropropene	BQL	0.00573	1	12/03/2004
trans-1,3-Dichloropropene	BQL	0.00573	1	12/03/2004
Dichlorodifluoromethane	BQL	0.00573	1	12/03/2004
Diisopropyl ether (DIPE)	BQL	0.00573	1	12/03/2004
Ethylbenzene	BQL	0.00573	1	12/03/2004
Hexachlorobutadiene	BQL	0.00573	1	12/03/2004
2-Hexanone	BQL	0.00573	1	12/03/2004
Iodomethane	BQL	0.00573	1	12/03/2004

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GCMS 8260-5035

Client Sample ID: USTH19-SB02(3-4)
Client Project ID: H-19
Lab Sample ID G128-1422-2A
Lab Project ID: G128-1422
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-29-2004 13:00
Date Received: 11/29/2004
Matrix: Soil
%Solids: 90.7

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	0.00573	1	12/03/2004
4-Isopropyltoluene	BQL	0.00573	1	12/03/2004
Methylene chloride	BQL	0.0229	1	12/03/2004
4-Methyl-2-pentanone	BQL	0.00573	1	12/03/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.00573	1	12/03/2004
Naphthalene	BQL	0.00573	1	12/03/2004
n-Propyl benzene	BQL	0.00573	1	12/03/2004
Styrene	BQL	0.00573	1	12/03/2004
1,1,1,2-Tetrachloroethane	BQL	0.00573	1	12/03/2004
1,1,2,2-Tetrachloroethane	BQL	0.00573	1	12/03/2004
Tetrachloroethene	BQL	0.00573	1	12/03/2004
Toluene	BQL	0.00573	1	12/03/2004
1,2,3-Trichlorobenzene	BQL	0.00573	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	0.00573	1	12/03/2004
Trichloroethene	BQL	0.00573	1	12/03/2004
1,1,1-Trichloroethane	BQL	0.00573	1	12/03/2004
1,1,2-Trichloroethane	BQL	0.00573	1	12/03/2004
Trichlorofluoromethane	BQL	0.00573	1	12/03/2004
1,2,3-Trichloropropane	BQL	0.00573	1	12/03/2004
1,2,4-Trimethylbenzene	BQL	0.00573	1	12/03/2004
1,3,5-Trimethylbenzene	BQL	0.00573	1	12/03/2004
Vinyl chloride	BQL	0.00573	1	12/03/2004
m-,p-Xylene	BQL	0.0115	1	12/03/2004
o-Xylene	BQL	0.00573	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0492	98
1,2-Dichloroethane-d4	0.05	0.0525	105
Toluene-d8	0.05	0.0494	99

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

List of Reporting Abbreviations
and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.011404.1

Chain-of-Custody Record & Analytical Request

Phone: (910)-350-1903 FAX: (910)-350-1557

COC# 42376

Page of

Client: Catlin Eng. & Sci.

Project ID: H-19

Date: 11-28-04

Report To:

Address: 220 Old Dairy Rd

Contact: Jill Becker

Turnaround: 54h

Address: Wilmington NC 28405

Phone: 452-5181

Job Number: 204-055

Quote #: 20D/01

Fax: 452-7583

P.O. Number: 240820-4

PARADIGM ANALYTICAL LABORATORIES, INC.

[illegible]**ORIGINAL**

Mr. Jeff Becken
Richard Catlin & Associates
P.O. Box 10280
Wilmington NC 28404-0280

Report Number: G128-1421

Client Project: H-19

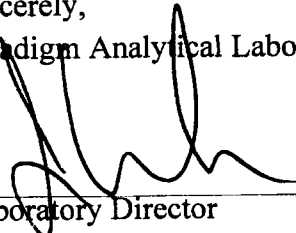
Dear Mr. Becken:

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

If there are any questions about the report or the services performed during this project, please call 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.



Laboratory Director
J. Patrick Weaver

12/16/04

Date

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW01
Client Project ID: H-19
Lab Sample ID: G128-1421-1A
Lab Project ID: G128-1421

Analized By: JTF
Date Collected: 11/24/2004 11:00
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/04/2004
Bromobenzene	BQL	0.500	1	12/04/2004
Bromochloromethane	BQL	0.500	1	12/04/2004
Bromodichloromethane	BQL	0.500	1	12/04/2004
Bromoform	BQL	0.500	1	12/04/2004
Bromomethane	BQL	0.500	1	12/04/2004
n-Butylbenzene	BQL	0.500	1	12/04/2004
sec-Butylbenzene	BQL	0.500	1	12/04/2004
tert-Butylbenzene	BQL	0.500	1	12/04/2004
Carbon tetrachloride	BQL	0.500	1	12/04/2004
Chlorobenzene	BQL	0.500	1	12/04/2004
Chloroethane	BQL	0.500	1	12/04/2004
Chloroform	BQL	0.500	1	12/04/2004
Chloromethane	BQL	0.500	1	12/04/2004
2-Chlorotoluene	BQL	0.500	1	12/04/2004
4-Chlorotoluene	BQL	0.500	1	12/04/2004
Dibromochloromethane	BQL	0.500	1	12/04/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/04/2004
Dibromomethane	BQL	0.500	1	12/04/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/04/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,1-Dichloroethane	BQL	0.500	1	12/04/2004
1,1-Dichloroethene	BQL	0.500	1	12/04/2004
1,2-Dichloroethane	BQL	0.500	1	12/04/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/04/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/04/2004
1,2-Dichloropropane	BQL	0.500	1	12/04/2004
1,3-Dichloropropane	BQL	0.500	1	12/04/2004
2,2-Dichloropropane	BQL	0.500	1	12/04/2004
1,1-Dichloropropene	BQL	0.500	1	12/04/2004
Dichlorodifluoromethane	5.25	5.00	1	12/04/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/04/2004
Ethylbenzene	BQL	0.500	1	12/04/2004
Hexachlorobutadiene	BQL	0.500	1	12/04/2004
Isopropylbenzene	BQL	0.500	1	12/04/2004
4-Isopropyltoluene	BQL	0.500	1	12/04/2004
Methylene chloride	BQL	5.00	1	12/04/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/04/2004
Naphthalene	BQL	0.500	1	12/04/2004
n-Propyl benzene	BQL	0.500	1	12/04/2004
Styrene	BQL	0.500	1	12/04/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/04/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/04/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW01
 Client Project ID: H-19
 Lab Sample ID: G128-1421-1A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 11:00
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/04/2004
Toluene	BQL	0.500	1	12/04/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/04/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/04/2004
Trichloroethene	BQL	0.500	1	12/04/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/04/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/04/2004
Trichlorofluoromethane	10.6	0.500	1	12/04/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/04/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/04/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/04/2004
Vinyl chloride	BQL	0.500	1	12/04/2004
m-,p-Xylene	BQL	1.00	1	12/04/2004
o-Xylene	BQL	0.500	1	12/04/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.22	92
1,2-Dichloroethane-d4	10	10.1	101
Toluene-d8	10	9.4	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By:

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW02
Client Project ID: H-19
Lab Sample ID: G128-1421-2A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 11:15
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/04/2004
Bromobenzene	BQL	0.500	1	12/04/2004
Bromochloromethane	BQL	0.500	1	12/04/2004
Bromodichloromethane	BQL	0.500	1	12/04/2004
Bromoform	BQL	0.500	1	12/04/2004
Bromomethane	BQL	0.500	1	12/04/2004
n-Butylbenzene	BQL	0.500	1	12/04/2004
sec-Butylbenzene	BQL	0.500	1	12/04/2004
tert-Butylbenzene	BQL	0.500	1	12/04/2004
Carbon tetrachloride	BQL	0.500	1	12/04/2004
Chlorobenzene	BQL	0.500	1	12/04/2004
Chloroethane	BQL	0.500	1	12/04/2004
Chloroform	BQL	0.500	1	12/04/2004
Chloromethane	BQL	0.500	1	12/04/2004
2-Chlorotoluene	BQL	0.500	1	12/04/2004
4-Chlorotoluene	BQL	0.500	1	12/04/2004
Dibromochloromethane	BQL	0.500	1	12/04/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/04/2004
Dibromomethane	BQL	0.500	1	12/04/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/04/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/04/2004
1,1-Dichloroethane	BQL	0.500	1	12/04/2004
1,1-Dichloroethene	BQL	0.500	1	12/04/2004
1,2-Dichloroethane	BQL	0.500	1	12/04/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/04/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/04/2004
1,2-Dichloropropane	BQL	0.500	1	12/04/2004
1,3-Dichloropropane	BQL	0.500	1	12/04/2004
2,2-Dichloropropane	BQL	0.500	1	12/04/2004
1,1-Dichloropropene	BQL	0.500	1	12/04/2004
Dichlorodifluoromethane	BQL	5.00	1	12/04/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/04/2004
Ethylbenzene	BQL	0.500	1	12/04/2004
Hexachlorobutadiene	BQL	0.500	1	12/04/2004
Isopropylbenzene	BQL	0.500	1	12/04/2004
4-Isopropyltoluene	BQL	0.500	1	12/04/2004
Methylene chloride	BQL	5.00	1	12/04/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/04/2004
Naphthalene	BQL	0.500	1	12/04/2004
n-Propyl benzene	BQL	0.500	1	12/04/2004
Styrene	BQL	0.500	1	12/04/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/04/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/04/2004

Results for Volatiles by GCMS 6210D

Client Sample ID: USTH19-MW02
Client Project ID: H-19
Lab Sample ID: G128-1421-2A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 11:15
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/04/2004
Toluene	BQL	0.500	1	12/04/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/04/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/04/2004
Trichloroethene	BQL	0.500	1	12/04/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/04/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/04/2004
Trichlorofluoromethane	BQL	0.500	1	12/04/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/04/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/04/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/04/2004
Vinyl chloride	BQL	0.500	1	12/04/2004
m-,p-Xylene	BQL	1.00	1	12/04/2004
o-Xylene	BQL	0.500	1	12/04/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.4	94
1,2-Dichloroethane-d4	10	9.98	100
Toluene-d8	10	9.35	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

Results for Volatiles by GCMS 6210D

Client Sample ID: USTH19-MW03
Client Project ID: H-19
Lab Sample ID: G128-1421-3A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 11:30
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/05/2004
Bromobenzene	BQL	0.500	1	12/05/2004
Bromochloromethane	BQL	0.500	1	12/05/2004
Bromodichloromethane	BQL	0.500	1	12/05/2004
Bromoform	BQL	0.500	1	12/05/2004
Bromomethane	BQL	0.500	1	12/05/2004
n-Butylbenzene	BQL	0.500	1	12/05/2004
sec-Butylbenzene	BQL	0.500	1	12/05/2004
tert-Butylbenzene	BQL	0.500	1	12/05/2004
Carbon tetrachloride	BQL	0.500	1	12/05/2004
Chlorobenzene	BQL	0.500	1	12/05/2004
Chloroethane	BQL	0.500	1	12/05/2004
Chloroform	BQL	0.500	1	12/05/2004
Chloromethane	BQL	0.500	1	12/05/2004
2-Chlorotoluene	BQL	0.500	1	12/05/2004
4-Chlorotoluene	BQL	0.500	1	12/05/2004
Dibromochloromethane	BQL	0.500	1	12/05/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/05/2004
Dibromomethane	BQL	0.500	1	12/05/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/05/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,1-Dichloroethane	BQL	0.500	1	12/05/2004
1,1-Dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloroethane	BQL	0.500	1	12/05/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/05/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,3-Dichloropropane	BQL	0.500	1	12/05/2004
2,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,1-Dichloropropene	BQL	0.500	1	12/05/2004
Dichlorodifluoromethane	BQL	5.00	1	12/05/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/05/2004
Ethylbenzene	BQL	0.500	1	12/05/2004
Hexachlorobutadiene	BQL	0.500	1	12/05/2004
Isopropylbenzene	BQL	0.500	1	12/05/2004
4-Isopropyltoluene	BQL	0.500	1	12/05/2004
Methylene chloride	BQL	5.00	1	12/05/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/05/2004
Naphthalene	BQL	0.500	1	12/05/2004
n-Propyl benzene	BQL	0.500	1	12/05/2004
Styrene	BQL	0.500	1	12/05/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/05/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/05/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW03
 Client Project ID: H-19
 Lab Sample ID: G128-1421-3A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 11:30
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/05/2004
Toluene	BQL	0.500	1	12/05/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/05/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/05/2004
Trichloroethene	BQL	0.500	1	12/05/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/05/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/05/2004
Trichlorofluoromethane	BQL	0.500	1	12/05/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/05/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/05/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/05/2004
Vinyl chloride	BQL	0.500	1	12/05/2004
m-,p-Xylene	BQL	1.00	1	12/05/2004
o-Xylene	BQL	0.500	1	12/05/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.49	95
1,2-Dichloroethane-d4	10	10.1	101
Toluene-d8	10	9.37	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW04
Client Project ID: H-19
Lab Sample ID: G128-1421-4A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 11:45
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/05/2004
Bromobenzene	BQL	0.500	1	12/05/2004
Bromochloromethane	BQL	0.500	1	12/05/2004
Bromodichloromethane	BQL	0.500	1	12/05/2004
Bromoform	BQL	0.500	1	12/05/2004
Bromomethane	BQL	0.500	1	12/05/2004
n-Butylbenzene	BQL	0.500	1	12/05/2004
sec-Butylbenzene	BQL	0.500	1	12/05/2004
tert-Butylbenzene	BQL	0.500	1	12/05/2004
Carbon tetrachloride	BQL	0.500	1	12/05/2004
Chlorobenzene	BQL	0.500	1	12/05/2004
Chloroethane	BQL	0.500	1	12/05/2004
Chloroform	BQL	0.500	1	12/05/2004
Chloromethane	BQL	0.500	1	12/05/2004
2-Chlorotoluene	BQL	0.500	1	12/05/2004
4-Chlorotoluene	BQL	0.500	1	12/05/2004
Dibromochloromethane	BQL	0.500	1	12/05/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/05/2004
Dibromomethane	BQL	0.500	1	12/05/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/05/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,1-Dichloroethane	BQL	0.500	1	12/05/2004
1,1-Dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloroethane	BQL	0.500	1	12/05/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/05/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,3-Dichloropropane	BQL	0.500	1	12/05/2004
2,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,1-Dichloropropene	BQL	0.500	1	12/05/2004
Dichlorodifluoromethane	BQL	5.00	1	12/05/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/05/2004
Ethylbenzene	BQL	0.500	1	12/05/2004
Hexachlorobutadiene	BQL	0.500	1	12/05/2004
Isopropylbenzene	BQL	0.500	1	12/05/2004
4-Isopropyltoluene	BQL	0.500	1	12/05/2004
Methylene chloride	BQL	5.00	1	12/05/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/05/2004
Naphthalene	BQL	0.500	1	12/05/2004
n-Propyl benzene	BQL	0.500	1	12/05/2004
Styrene	BQL	0.500	1	12/05/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/05/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/05/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW04
 Client Project ID: H-19
 Lab Sample ID: G128-1421-4A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 11:45
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/05/2004
Toluene	BQL	0.500	1	12/05/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/05/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/05/2004
Trichloroethene	BQL	0.500	1	12/05/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/05/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/05/2004
Trichlorofluoromethane	BQL	0.500	1	12/05/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/05/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/05/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/05/2004
Vinyl chloride	BQL	0.500	1	12/05/2004
m-,p-Xylene	BQL	1.00	1	12/05/2004
o-Xylene	BQL	0.500	1	12/05/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.36	94
1,2-Dichloroethane-d4	10	10	100
Toluene-d8	10	9.44	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: JMC

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW05
Client Project ID: H-19
Lab Sample ID: G128-1421-5A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 12:15
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/05/2004
Bromobenzene	BQL	0.500	1	12/05/2004
Bromochloromethane	BQL	0.500	1	12/05/2004
Bromodichloromethane	BQL	0.500	1	12/05/2004
Bromoform	BQL	0.500	1	12/05/2004
Bromomethane	BQL	0.500	1	12/05/2004
n-Butylbenzene	BQL	0.500	1	12/05/2004
sec-Butylbenzene	BQL	0.500	1	12/05/2004
tert-Butylbenzene	BQL	0.500	1	12/05/2004
Carbon tetrachloride	BQL	0.500	1	12/05/2004
Chlorobenzene	BQL	0.500	1	12/05/2004
Chloroethane	BQL	0.500	1	12/05/2004
Chloroform	BQL	0.500	1	12/05/2004
Chloromethane	BQL	0.500	1	12/05/2004
2-Chlorotoluene	BQL	0.500	1	12/05/2004
4-Chlorotoluene	BQL	0.500	1	12/05/2004
Dibromochloromethane	BQL	0.500	1	12/05/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/05/2004
Dibromomethane	BQL	0.500	1	12/05/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/05/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,1-Dichloroethane	BQL	0.500	1	12/05/2004
1,1-Dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloroethane	BQL	0.500	1	12/05/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/05/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,3-Dichloropropane	BQL	0.500	1	12/05/2004
2,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,1-Dichloropropene	BQL	0.500	1	12/05/2004
Dichlorodifluoromethane	BQL	5.00	1	12/05/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/05/2004
Ethylbenzene	BQL	0.500	1	12/05/2004
Hexachlorobutadiene	BQL	0.500	1	12/05/2004
Isopropylbenzene	BQL	0.500	1	12/05/2004
4-Isopropyltoluene	BQL	0.500	1	12/05/2004
Methylene chloride	BQL	5.00	1	12/05/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/05/2004
Naphthalene	BQL	0.500	1	12/05/2004
n-Propyl benzene	BQL	0.500	1	12/05/2004
Styrene	BQL	0.500	1	12/05/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/05/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/05/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW05
 Client Project ID: H-19
 Lab Sample ID: G128-1421-5A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 12:15
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/05/2004
Toluene	BQL	0.500	1	12/05/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/05/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/05/2004
Trichloroethene	BQL	0.500	1	12/05/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/05/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/05/2004
Trichlorofluoromethane	BQL	0.500	1	12/05/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/05/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/05/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/05/2004
Vinyl chloride	BQL	0.500	1	12/05/2004
m-,p-Xylene	BQL	1.00	1	12/05/2004
o-Xylene	BQL	0.500	1	12/05/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.3	93
1,2-Dichloroethane-d4	10	10.1	101
Toluene-d8	10	9.33	93

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: mc

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW06
Client Project ID: H-19
Lab Sample ID: G128-1421-6A
Lab Project ID: G128-1421

Analized By: JTF
Date Collected: 11/24/2004 12:30
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/05/2004
Bromobenzene	BQL	0.500	1	12/05/2004
Bromochloromethane	BQL	0.500	1	12/05/2004
Bromodichloromethane	BQL	0.500	1	12/05/2004
Bromoform	BQL	0.500	1	12/05/2004
Bromomethane	BQL	0.500	1	12/05/2004
n-Butylbenzene	BQL	0.500	1	12/05/2004
sec-Butylbenzene	BQL	0.500	1	12/05/2004
tert-Butylbenzene	BQL	0.500	1	12/05/2004
Carbon tetrachloride	BQL	0.500	1	12/05/2004
Chlorobenzene	BQL	0.500	1	12/05/2004
Chloroethane	BQL	0.500	1	12/05/2004
Chloroform	BQL	0.500	1	12/05/2004
Chloromethane	BQL	0.500	1	12/05/2004
2-Chlorotoluene	BQL	0.500	1	12/05/2004
4-Chlorotoluene	BQL	0.500	1	12/05/2004
Dibromochloromethane	BQL	0.500	1	12/05/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/05/2004
Dibromomethane	BQL	0.500	1	12/05/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/05/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,1-Dichloroethane	BQL	0.500	1	12/05/2004
1,1-Dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloroethane	BQL	0.500	1	12/05/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/05/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,3-Dichloropropane	BQL	0.500	1	12/05/2004
2,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,1-Dichloropropene	BQL	0.500	1	12/05/2004
Dichlorodifluoromethane	BQL	5.00	1	12/05/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/05/2004
Ethylbenzene	BQL	0.500	1	12/05/2004
Hexachlorobutadiene	BQL	0.500	1	12/05/2004
Isopropylbenzene	BQL	0.500	1	12/05/2004
4-Isopropyltoluene	BQL	0.500	1	12/05/2004
Methylene chloride	BQL	5.00	1	12/05/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/05/2004
Naphthalene	BQL	0.500	1	12/05/2004
n-Propyl benzene	BQL	0.500	1	12/05/2004
Styrene	BQL	0.500	1	12/05/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/05/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/05/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW06
Client Project ID: H-19
Lab Sample ID: G128-1421-6A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 12:30
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/05/2004
Toluene	BQL	0.500	1	12/05/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/05/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/05/2004
Trichloroethene	BQL	0.500	1	12/05/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/05/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/05/2004
Trichlorofluoromethane	BQL	0.500	1	12/05/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/05/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/05/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/05/2004
Vinyl chloride	BQL	0.500	1	12/05/2004
m-,p-Xylene	BQL	1.00	1	12/05/2004
o-Xylene	BQL	0.500	1	12/05/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.42	94
1,2-Dichloroethane-d4	10	10.1	101
Toluene-d8	10	9.37	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW07
Client Project ID: H-19
Lab Sample ID: G128-1421-7A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 12:45
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/05/2004
Bromobenzene	BQL	0.500	1	12/05/2004
Bromochloromethane	BQL	0.500	1	12/05/2004
Bromodichloromethane	BQL	0.500	1	12/05/2004
Bromoform	BQL	0.500	1	12/05/2004
Bromomethane	BQL	0.500	1	12/05/2004
n-Butylbenzene	0.580	0.500	1	12/05/2004
sec-Butylbenzene	1.69	0.500	1	12/05/2004
tert-Butylbenzene	BQL	0.500	1	12/05/2004
Carbon tetrachloride	BQL	0.500	1	12/05/2004
Chlorobenzene	BQL	0.500	1	12/05/2004
Chloroethane	BQL	0.500	1	12/05/2004
Chloroform	BQL	0.500	1	12/05/2004
Chloromethane	BQL	0.500	1	12/05/2004
2-Chlorotoluene	BQL	0.500	1	12/05/2004
4-Chlorotoluene	BQL	0.500	1	12/05/2004
Dibromochloromethane	BQL	0.500	1	12/05/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/05/2004
Dibromomethane	BQL	0.500	1	12/05/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/05/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/05/2004
1,1-Dichloroethane	BQL	0.500	1	12/05/2004
1,1-Dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloroethane	BQL	0.500	1	12/05/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/05/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/05/2004
1,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,3-Dichloropropane	BQL	0.500	1	12/05/2004
2,2-Dichloropropane	BQL	0.500	1	12/05/2004
1,1-Dichloropropene	BQL	0.500	1	12/05/2004
Dichlorodifluoromethane	BQL	5.00	1	12/05/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/05/2004
Ethylbenzene	BQL	0.500	1	12/05/2004
Hexachlorobutadiene	BQL	0.500	1	12/05/2004
Isopropylbenzene	1.04	0.500	1	12/05/2004
4-Isopropyltoluene	BQL	0.500	1	12/05/2004
Methylene chloride	BQL	5.00	1	12/05/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/05/2004
Naphthalene	BQL	0.500	1	12/05/2004
n-Propyl benzene	BQL	0.500	1	12/05/2004
Styrene	BQL	0.500	1	12/05/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/05/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/05/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW07
 Client Project ID: H-19
 Lab Sample ID: G128-1421-7A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 12:45
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/05/2004
Toluene	BQL	0.500	1	12/05/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/05/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/05/2004
Trichloroethene	BQL	0.500	1	12/05/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/05/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/05/2004
Trichlorofluoromethane	BQL	0.500	1	12/05/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/05/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/05/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/05/2004
Vinyl chloride	BQL	0.500	1	12/05/2004
m-,p-Xylene	BQL	1.00	1	12/05/2004
o-Xylene	BQL	0.500	1	12/05/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.68	97
1,2-Dichloroethane-d4	10	9.76	98
Toluene-d8	10	9.43	94

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: mc

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW09
Client Project ID: H-19
Lab Sample ID: G128-1421-8A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 13:00
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	BQL	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	BQL	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW09
 Client Project ID: H-19
 Lab Sample ID: G128-1421-8A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 13:00
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	BQL	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	BQL	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.6	106
1,2-Dichloroethane-d4	10	10.7	107
Toluene-d8	10	10	100

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: mc

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW10
Client Project ID: H-19
Lab Sample ID: G128-1421-9A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 13:45
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	0.940	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	4.98	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW10
 Client Project ID: H-19
 Lab Sample ID: G128-1421-9A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 13:45
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	BQL	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	0.770	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	0.670	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	0.650	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.3	103
1,2-Dichloroethane-d4	10	10.4	104
Toluene-d8	10	10.1	101

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By:

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW11
Client Project ID: H-19
Lab Sample ID: G128-1421-10A
Lab Project ID: G128-1421

Analized By: JTF
Date Collected: 11/24/2004 14:00
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	BQL	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	BQL	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW11
 Client Project ID: H-19
 Lab Sample ID: G128-1421-10A
 Lab Project ID: G128-1421

Analyzed By: JTF
 Date Collected: 11/24/2004 14:00
 Date Received: 11/24/2004
 Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	BQL	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	BQL	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.3	103
1,2-Dichloroethane-d4	10	10.2	102
Toluene-d8	10	9.95	99

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW12
Client Project ID: H-19
Lab Sample ID: G128-1421-11B
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 14:30
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	BQL	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	BQL	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW12
Client Project ID: H-19
Lab Sample ID: G128-1421-11B
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 14:30
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	2.53	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	BQL	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.6	106
1,2-Dichloroethane-d4	10	10.4	104
Toluene-d8	10	10.1	101

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: mc

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 14:45
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	BQL	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	BQL	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12A
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 14:45
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	BQL	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	BQL	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.4	104
1,2-Dichloroethane-d4	10	10.5	105
Toluene-d8	10	10.2	102

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW14
Client Project ID: H-19
Lab Sample ID: G128-1421-13B
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 15:00
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Benzene	BQL	0.500	1	12/08/2004
Bromobenzene	BQL	0.500	1	12/08/2004
Bromochloromethane	BQL	0.500	1	12/08/2004
Bromodichloromethane	BQL	0.500	1	12/08/2004
Bromoform	BQL	0.500	1	12/08/2004
Bromomethane	BQL	0.500	1	12/08/2004
n-Butylbenzene	BQL	0.500	1	12/08/2004
sec-Butylbenzene	BQL	0.500	1	12/08/2004
tert-Butylbenzene	BQL	0.500	1	12/08/2004
Carbon tetrachloride	BQL	0.500	1	12/08/2004
Chlorobenzene	BQL	0.500	1	12/08/2004
Chloroethane	BQL	0.500	1	12/08/2004
Chloroform	BQL	0.500	1	12/08/2004
Chloromethane	BQL	0.500	1	12/08/2004
2-Chlorotoluene	BQL	0.500	1	12/08/2004
4-Chlorotoluene	BQL	0.500	1	12/08/2004
Dibromochloromethane	BQL	0.500	1	12/08/2004
1,2-Dibromo-3-chloropropane	BQL	5.00	1	12/08/2004
Dibromomethane	BQL	0.500	1	12/08/2004
1,2-Dibromoethane (EDB)	BQL	0.500	1	12/08/2004
1,2-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,3-Dichlorobenzene	BQL	0.500	1	12/08/2004
1,4-Dichlorobenzene	0.710	0.500	1	12/08/2004
1,1-Dichloroethane	BQL	0.500	1	12/08/2004
1,1-Dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloroethane	BQL	0.500	1	12/08/2004
cis-1,2-Dichloroethene	BQL	0.500	1	12/08/2004
trans-1,2-dichloroethene	BQL	0.500	1	12/08/2004
1,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,3-Dichloropropane	BQL	0.500	1	12/08/2004
2,2-Dichloropropane	BQL	0.500	1	12/08/2004
1,1-Dichloropropene	BQL	0.500	1	12/08/2004
Dichlorodifluoromethane	BQL	5.00	1	12/08/2004
Diisopropyl ether (DIPE)	BQL	0.500	1	12/08/2004
Ethylbenzene	BQL	0.500	1	12/08/2004
Hexachlorobutadiene	BQL	0.500	1	12/08/2004
Isopropylbenzene	BQL	0.500	1	12/08/2004
4-Isopropyltoluene	BQL	0.500	1	12/08/2004
Methylene chloride	BQL	5.00	1	12/08/2004
Methyl-tert-butyl ether (MTBE)	BQL	0.500	1	12/08/2004
Naphthalene	BQL	0.500	1	12/08/2004
n-Propyl benzene	BQL	0.500	1	12/08/2004
Styrene	BQL	0.500	1	12/08/2004
1,1,1,2-Tetrachloroethane	BQL	0.500	1	12/08/2004
1,1,2,2-Tetrachloroethane	BQL	0.500	1	12/08/2004

**Results for Volatiles
by GCMS 6210D**

Client Sample ID: USTH19-MW14
Client Project ID: H-19
Lab Sample ID: G128-1421-13B
Lab Project ID: G128-1421

Analyzed By: JTF
Date Collected: 11/24/2004 15:00
Date Received: 11/24/2004
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	Dilution Factor	Date Analyzed
Tetrachloroethene	BQL	0.500	1	12/08/2004
Toluene	BQL	0.500	1	12/08/2004
1,2,3-Trichlorobenzene	BQL	0.500	1	12/08/2004
1,2,4-Trichlorobenzene	BQL	0.500	1	12/08/2004
Trichloroethene	BQL	0.500	1	12/08/2004
1,1,1-Trichloroethane	BQL	0.500	1	12/08/2004
1,1,2-Trichloroethane	BQL	0.500	1	12/08/2004
Trichlorofluoromethane	3.79	0.500	1	12/08/2004
1,2,3-Trichloropropane	BQL	2.00	1	12/08/2004
1,2,4-Trimethylbenzene	BQL	0.500	1	12/08/2004
1,3,5-Trimethylbenzene	BQL	0.500	1	12/08/2004
Vinyl chloride	BQL	0.500	1	12/08/2004
m-,p-Xylene	BQL	1.00	1	12/08/2004
o-Xylene	BQL	0.500	1	12/08/2004

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.7	106
1,2-Dichloroethane-d4	10	10.2	102
Toluene-d8	10	10.1	101

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: MC

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW01
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-1e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW02
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-2e

Reviewed By: WZ

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW03
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
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: g128-1421-3e

Reviewed By: pmc

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW04
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	110
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: g128-1421-4e

Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW05
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-5e

Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW06
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
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: g128-1421-6d

Reviewed By: re

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW07
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	130
Surrogate % Recovery - FID	130

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

** = Excludes any surrogates or internal standards.

Lab Info: g128-1421-7e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW09
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-8e

Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

 Client Name: Richard Catlin & Associates

 Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW10
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-9e

 Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

 Client Name: Richard Catlin & Associates

 Project Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW11
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	120
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: g128-1421-10e

 Reviewed By: mc

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW12
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

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

** = Excludes any surrogates or internal standards.

Lab Info: g128-1421-11e

Reviewed By: hmc

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW13
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
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: g128-1421-12e

Reviewed By: me

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW14
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	110
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: g128-1421-13e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW14 DUP
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/02/04
Date Analyzed	12/02/04
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
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: g128-1421-14b

Reviewed By: mc

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 11/16/04PID Initial Calibration Date: 11/16/04

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (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	3.3	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	21.7	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	10.6	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/02/04

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	3.8
C ₉ -C ₁₂ Aliphatics	500	50	3.7
C ₉ -C ₁₀ Aromatics	500	50	-3.5

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Results

by MOEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW01
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	56
Aromatic Surrogate % Recovery	62

Comments:

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

Lab info: G128-1421-1M

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW02
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	50
Aromatic Surrogate % Recovery	59

Comments:

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

Lab info: G128-1421-2K

Reviewed By: mc

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW03
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	46
Aromatic Surrogate % Recovery	57

Comments:

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

Lab info: G128-1421-3K

Reviewed By: mc

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW04
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	50
Aromatic Surrogate % Recovery	75

Comments:

* = Excludes any surrogates or internal standards.

Sample did not require fractionation.

Lab info: G128-1421-4K

Reviewed By: WV

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW05
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	45
Aromatic Surrogate % Recovery	67

Comments:

* = Excludes any surrogates or internal standards.

Sample did not require fractionation.

Lab info: G128-1421-5K

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW06
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/10/04
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	920 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	110 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	240 (ug/L)
Aliphatic Surrogate % Recovery	32
Aromatic Surrogate % Recovery	36
Fractionation Surrogate 1 % Recovery	80

Comments:

* = Excludes any surrogates or internal standards.

Note: Low surrogates confirmed by duplicate analysis.

Lab info: G128-1421-6K

Reviewed By: ml

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW07
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/16/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	41
Aromatic Surrogate % Recovery	70

Comments:

* = Excludes any surrogates or internal standards.

Sample did not require fractionation.

Lab info: G128-1421-7K

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW09
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/16/04
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	30
Aromatic Surrogate % Recovery	39
Fractionation Surrogate 1 % Recovery	57

Comments:

* = Excludes any surrogates or internal standards.

Low surrogates confirmed by duplicate analysis.

Lab info: G128-1421-8K

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW10
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/16/04
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	170 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	120 (ug/L)
Aliphatic Surrogate % Recovery	36
Aromatic Surrogate % Recovery	73
Fractionation Surrogate 1 % Recovery	51

Comments:

- * = Excludes any surrogates or internal standards.
 Low surrogate confirmed by duplicate analysis.

Lab info: G128-1421-9K

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW11
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	90
Aromatic Surrogate % Recovery	87

Comments:

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

Lab info: G128-1421-10K

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW12
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	50
Aromatic Surrogate % Recovery	80

Comments:

* = Excludes any surrogates or internal standards.

Sample did not require fractionation.

Lab info: G128-1421-11K

Reviewed By: me

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW13
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	97
Aromatic Surrogate % Recovery	94

Comments:

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

Lab info: G128-1421-12M

Reviewed By: mmc

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: H-19

Sample Information and Analytical Results	
Sample Identification	USTH19-MW14
Sample Matrix	Water
Date Collected	11/24/04
Date Received	11/24/04
Date Extracted	12/07/04
Date Analyzed	12/09/04
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	33
Aromatic Surrogate % Recovery	62

Comments:

* = Excludes any surrogates or internal standards.

Sample did not require fractionation.

Confirmed by duplicate analysis

Lab info: G128-1421-13L

Reviewed By: me

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/06/04F

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	19.70	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	15.3	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	11.6	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/09/04

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	23.8
C ₁₉ -C ₃₆ Aliphatics	160	18.9
C ₁₁ -C ₂₂ Aromatics	340	10.4

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

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

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/06/04

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	2.00	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.1	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	0.8	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/10/04

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	1.3
C ₁₉ -C ₃₆ Aliphatics	160	-3.0
C ₁₁ -C ₂₂ Aromatics	340	-1.6

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/15/04

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	4.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	8.3	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	5.4	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/16/04

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-1.4
C ₁₉ -C ₃₆ Aliphatics	160	-6.8
C ₁₁ -C ₂₂ Aromatics	680	-3.9

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW01
Client Project ID: H-19
Lab Sample ID: G128-1421-1L
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 11:00
Date Received: 11/24/2004
Date Extracted: 11/30/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/03/2004
Acenaphthylene	BQL	10.0	1	12/03/2004
Anthracene	BQL	10.0	1	12/03/2004
Benzo[a]anthracene	BQL	10.0	1	12/03/2004
Benzo[a]pyrene	BQL	10.0	1	12/03/2004
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/03/2004
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004
Butylbenzylphthalate	BQL	10.0	1	12/03/2004
2-Chloronaphthalene	BQL	10.0	1	12/03/2004
2-Chlorophenol	BQL	10.0	1	12/03/2004
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004
Chrysene	BQL	10.0	1	12/03/2004
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004
Diethylphthalate	BQL	10.0	1	12/03/2004
Dimethylphthalate	BQL	10.0	1	12/03/2004
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004
Di-n-octylphthalate	BQL	10.0	1	12/03/2004
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004
Fluoranthene	BQL	10.0	1	12/03/2004
Fluorene	BQL	10.0	1	12/03/2004
Hexachlorobenzene	BQL	10.0	1	12/03/2004
Hexachlorobutadiene	BQL	10.0	1	12/03/2004
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004
Hexachloroethane	BQL	10.0	1	12/03/2004
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004
Isophorone	BQL	10.0	1	12/03/2004

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW01
 Client Project ID: H-19
 Lab Sample ID: G128-1421-1L
 Lab Project ID: G128-1421

Analized By: MRC
 Date Collected: 11/24/2004 11:00
 Date Received: 11/24/2004
 Date Extracted: 11/30/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Naphthalene	BQL	10.0	1	12/03/2004
Nitrobenzene	BQL	10.0	1	12/03/2004
2-Nitrophenol	BQL	10.0	1	12/03/2004
4-Nitrophenol	BQL	50.0	1	12/03/2004
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004
Pentachlorophenol	BQL	50.0	1	12/03/2004
Phenanthrene	BQL	10.0	1	12/03/2004
Phenol	BQL	10.0	1	12/03/2004
Pyrene	BQL	10.0	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	8.3	83
Nitrobenzene-d5	10	9	90
Phenol-d6	10	8.6	86
2,4,6-Tribromophenol	5	2.8	55
4-Terphenyl-d14	10	10.8	108

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: MC

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW01
Client Project ID: H-19
Lab Sample ID: G128-1421-1L
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 11:00
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 11/30/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: *ml*

Results for Semivolatiles by GCMS 625

Client Sample ID: USTH19-MW02
Client Project ID: H-19
Lab Sample ID: G128-1421-2J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 11:15
Date Received: 11/24/2004
Date Extracted: 11/30/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/03/2004
Acenaphthylene	BQL	10.0	1	12/03/2004
Anthracene	BQL	10.0	1	12/03/2004
Benzo[a]anthracene	BQL	10.0	1	12/03/2004
Benzo[a]pyrene	BQL	10.0	1	12/03/2004
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/03/2004
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004
Butylbenzylphthalate	BQL	10.0	1	12/03/2004
2-Chloronaphthalene	BQL	10.0	1	12/03/2004
2-Chlorophenol	BQL	10.0	1	12/03/2004
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004
Chrysene	BQL	10.0	1	12/03/2004
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004
Diethylphthalate	BQL	10.0	1	12/03/2004
Dimethylphthalate	BQL	10.0	1	12/03/2004
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004
Di-n-octylphthalate	BQL	10.0	1	12/03/2004
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004
Fluoranthene	BQL	10.0	1	12/03/2004
Fluorene	BQL	10.0	1	12/03/2004
Hexachlorobenzene	BQL	10.0	1	12/03/2004
Hexachlorobutadiene	BQL	10.0	1	12/03/2004
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004
Hexachloroethane	BQL	10.0	1	12/03/2004
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004
Isophorone	BQL	10.0	1	12/03/2004

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW02
 Client Project ID: H-19
 Lab Sample ID: G128-1421-2J
 Lab Project ID: G128-1421

Analyzed By: MRC
 Date Collected: 11/24/2004 11:15
 Date Received: 11/24/2004
 Date Extracted: 11/30/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Naphthalene	BQL	10.0	1	12/03/2004
Nitrobenzene	BQL	10.0	1	12/03/2004
2-Nitrophenol	BQL	10.0	1	12/03/2004
4-Nitrophenol	BQL	50.0	1	12/03/2004
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004
Pentachlorophenol	BQL	50.0	1	12/03/2004
Phenanthrene	BQL	10.0	1	12/03/2004
Phenol	BQL	10.0	1	12/03/2004
Pyrene	BQL	10.0	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.5	95
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	9.2	92
Phenol-d6	10	9	90
2,4,6-Tribromophenol	5	3.1	62
4-Terphenyl-d14	10	7.2	72

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: mc

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW02
Client Project ID: H-19
Lab Sample ID: G128-1421-2J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 11:15
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 11/30/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: me

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW03
Client Project ID: H-19
Lab Sample ID: G128-1421-3J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 11:30
Date Received: 11/24/2004
Date Extracted: 11/30/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/03/2004
Acenaphthylene	BQL	10.0	1	12/03/2004
Anthracene	BQL	10.0	1	12/03/2004
Benzo[a]anthracene	BQL	10.0	1	12/03/2004
Benzo[a]pyrene	BQL	10.0	1	12/03/2004
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/03/2004
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004
Butylbenzylphthalate	BQL	10.0	1	12/03/2004
2-Chloronaphthalene	BQL	10.0	1	12/03/2004
2-Chlorophenol	BQL	10.0	1	12/03/2004
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004
Chrysene	BQL	10.0	1	12/03/2004
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004
Diethylphthalate	BQL	10.0	1	12/03/2004
Dimethylphthalate	BQL	10.0	1	12/03/2004
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004
Di-n-octylphthalate	BQL	10.0	1	12/03/2004
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004
Fluoranthene	BQL	10.0	1	12/03/2004
Fluorene	BQL	10.0	1	12/03/2004
Hexachlorobenzene	BQL	10.0	1	12/03/2004
Hexachlorobutadiene	BQL	10.0	1	12/03/2004
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004
Hexachloroethane	BQL	10.0	1	12/03/2004
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004
Isophorone	BQL	10.0	1	12/03/2004

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW03
Client Project ID: H-19
Lab Sample ID: G128-1421-3J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 11:30
Date Received: 11/24/2004
Date Extracted: 11/30/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Naphthalene	BQL	10.0	1	12/03/2004
Nitrobenzene	BQL	10.0	1	12/03/2004
2-Nitrophenol	BQL	10.0	1	12/03/2004
4-Nitrophenol	BQL	50.0	1	12/03/2004
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004
Pentachlorophenol	BQL	50.0	1	12/03/2004
Phenanthrene	BQL	10.0	1	12/03/2004
Phenol	BQL	10.0	1	12/03/2004
Pyrene	BQL	10.0	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	8.3	83
Nitrobenzene-d5	10	8.6	86
Phenol-d6	10	8.4	84
2,4,6-Tribromophenol	5	3.1	61
4-Terphenyl-d14	10	9.2	92

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: mc

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW03
Client Project ID: H-19
Lab Sample ID: G128-1421-3J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 11:30
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 11/30/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: mc

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW04
Client Project ID: H-19
Lab Sample ID: G128-1421-4J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 11:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/03/2004
Acenaphthylene	BQL	10.0	1	12/03/2004
Anthracene	BQL	10.0	1	12/03/2004
Benzo[a]anthracene	BQL	10.0	1	12/03/2004
Benzo[a]pyrene	BQL	10.0	1	12/03/2004
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/03/2004
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004
Butylbenzylphthalate	BQL	10.0	1	12/03/2004
2-Chloronaphthalene	BQL	10.0	1	12/03/2004
2-Chlorophenol	BQL	10.0	1	12/03/2004
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004
Chrysene	BQL	10.0	1	12/03/2004
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004
Diethylphthalate	BQL	10.0	1	12/03/2004
Dimethylphthalate	BQL	10.0	1	12/03/2004
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004
Di-n-octylphthalate	BQL	10.0	1	12/03/2004
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004
Fluoranthene	BQL	10.0	1	12/03/2004
Fluorene	BQL	10.0	1	12/03/2004
Hexachlorobenzene	BQL	10.0	1	12/03/2004
Hexachlorobutadiene	BQL	10.0	1	12/03/2004
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004
Hexachloroethane	BQL	10.0	1	12/03/2004
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004
Isophorone	BQL	10.0	1	12/03/2004

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW04
 Client Project ID: H-19
 Lab Sample ID: G128-1421-4J
 Lab Project ID: G128-1421

Analyzed By: MRC
 Date Collected: 11/24/2004 11:45
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Naphthalene	BQL	10.0	1	12/03/2004
Nitrobenzene	BQL	10.0	1	12/03/2004
2-Nitrophenol	BQL	10.0	1	12/03/2004
4-Nitrophenol	BQL	50.0	1	12/03/2004
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004
Pentachlorophenol	BQL	50.0	1	12/03/2004
Phenanthrene	BQL	10.0	1	12/03/2004
Phenol	BQL	10.0	1	12/03/2004
Pyrene	BQL	10.0	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.5	95
2-Fluorophenol	10	8.9	89
Nitrobenzene-d5	10	9	90
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	5	2.9	58
4-Terphenyl-d14	10	8.4	84

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: me

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW04
Client Project ID: H-19
Lab Sample ID: G128-1421-4J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 11:45
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probabillity	Result (ug/L)
1	Unknown	5.47			25.5
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: mc

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW05
Client Project ID: H-19
Lab Sample ID: G128-1421-5J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 12:15
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	4.40	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW05
 Client Project ID: H-19
 Lab Sample ID: G128-1421-5J
 Lab Project ID: G128-1421

Analyzed By: MRC
 Date Collected: 11/24/2004 12:15
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.2	102
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	9.3	93
Phenol-d6	10	9.1	91
2,4,6-Tribromophenol	5	3.2	63
4-Terphenyl-d14	10	9.7	97

Comments:**Flags:**

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

Reviewed By:

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW05
Client Project ID: H-19
Lab Sample ID: G128-1421-5J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 12:15
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	5.48			20.4
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW06

Client Project ID: H-19

Lab Sample ID: G128-1421-6J

Lab Project ID: G128-1421

Analyzed By: MRC

Date Collected: 11/24/2004 12:30

Date Received: 11/24/2004

Date Extracted: 12/01/2004

Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	1.40	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW06
 Client Project ID: H-19
 Lab Sample ID: G128-1421-6J
 Lab Project ID: G128-1421

Analyzed By: MRC
 Date Collected: 11/24/2004 12:30
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.1	101
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	9.3	93
Phenol-d6	10	9.1	91
2,4,6-Tribromophenol	5	3.1	62
4-Terphenyl-d14	10	12	120

Comments:

Flags:

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

Reviewed By: MC

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW06
Client Project ID: H-19
Lab Sample ID: G128-1421-6J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 12:30
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Alkane, Unknown	13.49			67.5
2	Alkane, Unknown	12.72			32.4
3	Alkane, Unknown	14.22			32
4	Alkane, Unknown	11.05			31
5	Alkane, Unknown	14.26			26.4
6	Alkane, Unknown	14.91			21.8
7	Unknown	5.47			21.4
8	Alkane, Unknown	10.13			20.8
9	Alkane, Unknown	13.08			18.9
10	Alkane, Unknown	11.57			16.2

Comment:

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

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

Reviewed by: MC

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW07
Client Project ID: H-19
Lab Sample ID: G128-1421-7J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 12:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/03/2004
Acenaphthylene	BQL	10.0	1	12/03/2004
Anthracene	BQL	10.0	1	12/03/2004
Benzo[a]anthracene	BQL	10.0	1	12/03/2004
Benzo[a]pyrene	BQL	10.0	1	12/03/2004
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/03/2004
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004
Butylbenzylphthalate	BQL	10.0	1	12/03/2004
2-Chloronaphthalene	BQL	10.0	1	12/03/2004
2-Chlorophenol	BQL	10.0	1	12/03/2004
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004
Chrysene	BQL	10.0	1	12/03/2004
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004
Diethylphthalate	BQL	10.0	1	12/03/2004
Dimethylphthalate	BQL	10.0	1	12/03/2004
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004
Di-n-octylphthalate	BQL	10.0	1	12/03/2004
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004
Fluoranthene	BQL	10.0	1	12/03/2004
Fluorene	BQL	10.0	1	12/03/2004
Hexachlorobenzene	BQL	10.0	1	12/03/2004
Hexachlorobutadiene	BQL	10.0	1	12/03/2004
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004
Hexachloroethane	BQL	10.0	1	12/03/2004
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004
Isophorone	BQL	10.0	1	12/03/2004

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW07
 Client Project ID: H-19
 Lab Sample ID: G128-1421-7J
 Lab Project ID: G128-1421

Analized By: MRC
 Date Collected: 11/24/2004 12:45
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Naphthalene	BQL	10.0	1	12/03/2004
Nitrobenzene	BQL	10.0	1	12/03/2004
2-Nitrophenol	BQL	10.0	1	12/03/2004
4-Nitrophenol	BQL	50.0	1	12/03/2004
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004
Pentachlorophenol	BQL	50.0	1	12/03/2004
Phenanthrene	BQL	10.0	1	12/03/2004
Phenol	BQL	10.0	1	12/03/2004
Pyrene	BQL	10.0	1	12/03/2004
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.7	97
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	9	90
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	5	3	59
4-Terphenyl-d14	10	11.5	115

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: MC

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW07
Client Project ID: H-19
Lab Sample ID: G128-1421-7J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 12:45
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: mm

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW09
Client Project ID: H-19
Lab Sample ID: G128-1421-8J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 13:00
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	24.8	10.0	1	12/03/2004	
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	1.60	10.0	1	12/03/2004	J
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW09
Client Project ID: H-19
Lab Sample ID: G128-1421-8J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 13:00
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.7	97
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	8.9	88
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	5	2.8	56
4-Terphenyl-d14	10	9.8	98

Comments:

Flags:

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

Reviewed By: mc

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW09
Client Project ID: H-19
Lab Sample ID: G128-1421-8J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 13:00
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	5.47			10.2
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: *ml*

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW10
Client Project ID: H-19
Lab Sample ID: G128-1421-9J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 13:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	2.40	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	1.90	10.0	1	12/03/2004	J
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW10
Client Project ID: H-19
Lab Sample ID: G128-1421-9J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 13:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	3.20	10.0	1	12/03/2004	J
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9	90
2-Fluorophenol	10	8.1	81
Nitrobenzene-d5	10	8.4	84
Phenol-d6	10	8.1	81
2,4,6-Tribromophenol	5	2.6	52
4-Terphenyl-d14	10	12	120

Comments:

Flags:

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

Reviewed By: mc

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW10
Client Project ID: H-19
Lab Sample ID: G128-1421-9J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 13:45
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	2-Methylnaphthalene	10.28	000091-57-6	98	7.5
2	1-Methylnaphthalene	10.43	000090-12-0	99	5
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: me

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW11
Client Project ID: H-19
Lab Sample ID: G128-1421-10J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 14:00
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	2.10	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW11
 Client Project ID: H-19
 Lab Sample ID: G128-1421-10J
 Lab Project ID: G128-1421

Analyzed By: MRC
 Date Collected: 11/24/2004 14:00
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.2	92
2-Fluorophenol	10	8	80
Nitrobenzene-d5	10	8	80
Phenol-d6	10	7.9	79
2,4,6-Tribromophenol	5	2.4	48
4-Terphenyl-d14	10	11.9	119

Comments:

Flags:

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

Reviewed By: MC

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW11
Client Project ID: H-19
Lab Sample ID: G128-1421-10J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 14:00
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: *vr*

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW12

Client Project ID: H-19

Lab Sample ID: G128-1421-11J

Lab Project ID: G128-1421

Analyzed By: MRC

Date Collected: 11/24/2004 14:30

Date Received: 11/24/2004

Date Extracted: 12/01/2004

Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	2.00	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW12
 Client Project ID: H-19
 Lab Sample ID: G128-1421-11J
 Lab Project ID: G128-1421

Analized By: MRC
 Date Collected: 11/24/2004 14:30
 Date Received: 11/24/2004
 Date Extracted: 12/01/2004
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9	90
2-Fluorophenol	10	8.1	81
Nitrobenzene-d5	10	8.3	83
Phenol-d6	10	8.4	84
2,4,6-Tribromophenol	5	2.7	55
4-Terphenyl-d14	10	13.7	137

Comments:**Flags:**

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

Reviewed By: me

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW12
Client Project ID: H-19
Lab Sample ID: G128-1421-11J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 14:30
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 14:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	7.10	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12J
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 14:45
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.4	94
2-Fluorophenol	10	8.6	86
Nitrobenzene-d5	10	9	90
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	5	2.7	53
4-Terphenyl-d14	10	13.6	136

Comments:

Flags:

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

Reviewed By: *mc*

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12J
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 14:45
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	9.42			18.8
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: *pm*

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW14

Client Project ID: H-19

Lab Sample ID: G128-1421-13K

Lab Project ID: G128-1421

Analyzed By: MRC

Date Collected: 11/24/2004 15:00

Date Received: 11/24/2004

Date Extracted: 12/01/2004

Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1	12/03/2004	
Acenaphthylene	BQL	10.0	1	12/03/2004	
Anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]anthracene	BQL	10.0	1	12/03/2004	
Benzo[a]pyrene	BQL	10.0	1	12/03/2004	
Benzo[b]fluoranthene	BQL	10.0	1	12/03/2004	
Benzo[g,h,i]perylene	BQL	10.0	1	12/03/2004	
Benzo[k]fluoranthene	BQL	10.0	1	12/03/2004	
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/03/2004	
Bis(2-chloroethyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/03/2004	
Bis(2-ethylhexyl)phthalate	2.20	10.0	1	12/03/2004	J
4-bromophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Butylbenzylphthalate	BQL	10.0	1	12/03/2004	
2-Chloronaphthalene	BQL	10.0	1	12/03/2004	
2-Chlorophenol	BQL	10.0	1	12/03/2004	
4-Chloro-3-methylphenol	BQL	10.0	1	12/03/2004	
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/03/2004	
Chrysene	BQL	10.0	1	12/03/2004	
Dibenzo[a,h]anthracene	BQL	10.0	1	12/03/2004	
Di-n-Butylphthalate	BQL	10.0	1	12/03/2004	
1,2-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,3-Dichlorobenzene	BQL	10.0	1	12/03/2004	
1,4-Dichlorobenzene	BQL	10.0	1	12/03/2004	
3,3'-Dichlorobenzidine	BQL	20.0	1	12/03/2004	
2,4-Dichlorophenol	BQL	10.0	1	12/03/2004	
Diethylphthalate	BQL	10.0	1	12/03/2004	
Dimethylphthalate	BQL	10.0	1	12/03/2004	
2,4-Dimethylphenol	BQL	10.0	1	12/03/2004	
Di-n-octylphthalate	BQL	10.0	1	12/03/2004	
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrophenol	BQL	50.0	1	12/03/2004	
2,4-Dinitrotoluene	BQL	10.0	1	12/03/2004	
2,6-Dinitrotoluene	BQL	10.0	1	12/03/2004	
Fluoranthene	BQL	10.0	1	12/03/2004	
Fluorene	BQL	10.0	1	12/03/2004	
Hexachlorobenzene	BQL	10.0	1	12/03/2004	
Hexachlorobutadiene	BQL	10.0	1	12/03/2004	
Hexachlorocyclopentadiene	BQL	20.0	1	12/03/2004	
Hexachloroethane	BQL	10.0	1	12/03/2004	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/03/2004	
Isophorone	BQL	10.0	1	12/03/2004	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTH19-MW14
Client Project ID: H-19
Lab Sample ID: G128-1421-13K
Lab Project ID: G128-1421

Analyzed By: MRC
Date Collected: 11/24/2004 15:00
Date Received: 11/24/2004
Date Extracted: 12/01/2004
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed	Flag
Naphthalene	BQL	10.0	1	12/03/2004	
Nitrobenzene	BQL	10.0	1	12/03/2004	
2-Nitrophenol	BQL	10.0	1	12/03/2004	
4-Nitrophenol	BQL	50.0	1	12/03/2004	
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/03/2004	
N-Nitrosodiphenylamine	BQL	10.0	1	12/03/2004	
Pentachlorophenol	BQL	50.0	1	12/03/2004	
Phenanthrene	BQL	10.0	1	12/03/2004	
Phenol	BQL	10.0	1	12/03/2004	
Pyrene	BQL	10.0	1	12/03/2004	
1,2,4-Trichlorobenzene	BQL	10.0	1	12/03/2004	
2,4,6-Trichlorophenol	BQL	10.0	1	12/03/2004	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
2-Fluorophenol	10	6.8	68
Nitrobenzene-d5	10	6.9	69
Phenol-d6	10	7.1	71
2,4,6-Tribromophenol	5	2.4	47
4-Terphenyl-d14	10	12.5	125

Comments:

Flags:

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

Reviewed By: 

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH19-MW14
Client Project ID: H-19
Lab Sample ID: G128-1421-13K
Lab Project ID: G128-1421
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 11/24/2004 15:00
Date Received: 11/24/2004
Date Analyzed: 12/03/2004
Date Extracted: 12/01/2004
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: 

Results for Metals

Client Sample ID: USTH19-MW01
Client Project ID: H-19
Lab Sample ID: G128-1421-1
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 11:00
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	BQL	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: 

Results for Metals

Client Sample ID: USTH19-MW02
Client Project ID: H-19
Lab Sample ID: G128-1421-2
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 11:15
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0191	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0644	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: me

Results for Metals

Client Sample ID: USTH19-MW03
Client Project ID: H-19
Lab Sample ID: G128-1421-3
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 11:30
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0326	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: 

Results for Metals

Client Sample ID: USTH19-MW04
Client Project ID: H-19
Lab Sample ID: G128-1421-4
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 11:45
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0228	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: me

Results for Metals

Client Sample ID: USTH19-MW05
Client Project ID: H-19
Lab Sample ID: G128-1421-5
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 12:15
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0144	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0312	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: mw

Results for Metals

Client Sample ID: USTH19-MW06
Client Project ID: H-19
Lab Sample ID: G128-1421-6
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 12:30
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	BQL	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: me

Results for Metals

Client Sample ID: USTH19-MW07
Client Project ID: H-19
Lab Sample ID: G128-1421-7
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 12:45
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0234	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0221	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: 

Results for Metals

Client Sample ID: USTH19-MW09
Client Project ID: H-19
Lab Sample ID: G128-1421-8
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 13:00
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0141	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0530	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
Sample prepared by SM 3030C.

Reviewed By: me

Results for Metals

Client Sample ID: USTH19-MW10
Client Project ID: H-19
Lab Sample ID: G128-1421-9
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 13:45
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	BQL	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: me

Results for Metals

Client Sample ID: USTH19-MW11
Client Project ID: H-19
Lab Sample ID: G128-1421-10
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 14:00
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	BQL	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: AY

Results for Metals

Client Sample ID: USTH19-MW12
Client Project ID: H-19
Lab Sample ID: G128-1421-11
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 14:30
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	BQL	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0101	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: MC

Results for Metals

Client Sample ID: USTH19-MW13
Client Project ID: H-19
Lab Sample ID: G128-1421-12
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 14:45
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0344	0.0100	1	MG/L	6010B	11/29/04
Lead	BQL	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: 

Results for Metals

Client Sample ID: USTH19-MW14
Client Project ID: H-19
Lab Sample ID: G128-1421-13
Lab Project ID: G128-1421
Batch ID: 2049

Analyzed By: PSW
Date Collected: 11/24/2004 15:00
Date Received: 11/24/04
Matrix: WATER

Metals	Result	RL	DF	Units	Method	Date Analyzed
Chromium	0.0237	0.0100	1	MG/L	6010B	11/29/04
Lead	0.0213	0.0100	1	MG/L	6010B	11/29/04

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

Sample prepared by SM 3030C.

Reviewed By: 

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

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

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

