

**BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT**

**MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA**

NCDENR UST INCIDENT NO. PENDING

APRIL 26 , 2007

**CONTRACT NO. N62470-05-D-6200
DELIVERY ORDER NO. 0016
CATLIN PROJECT NO. 205-077**



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
PURPOSE OF INVESTIGATION	vi
A. SITE IDENTIFICATION	1
B. RISK CHARACTERIZATION	2
C. RECEPTOR INFORMATION	6
D. SITE GEOLOGY AND HYDROGEOLOGY	7
E. SAMPLING RESULTS	8
F. CONCLUSIONS AND RECOMMENDATIONS	12
G. REFERENCES	14

TABLES

TABLE 1	UST SYSTEM INFORMATION
TABLE 2	UST OWNER/OPERATOR INFORMATION
TABLE 3	WELL CONSTRUCTION INFORMATION
TABLE 4A	SUMMARY OF SOIL LABORATORY RESULTS - EPA 8260
TABLE 4B	SUMMARY OF SOIL LABORATORY RESULTS - EPA 8270
TABLE 4C	SUMMARY OF SOIL LABORATORY RESULTS - MADEP VPH/EPH
TABLE 5A	SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA 602
TABLE 5B	SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA 625
TABLE 5C	SUMMARY OF GROUNDWATER LABORATORY RESULTS - MADEP VPH/EPH

FIGURES

FIGURE 1	SITE VICINITY MAP
FIGURE 2	SITE PLAN WITH TYPE II MONITORING WELLS AND SOIL SAMPLE LOCATIONS

APPENDICES

APPENDIX A	BORING LOGS, MONITORING WELL AS-BUILTS, AND NORTH CAROLINA WELL CONSTRUCTION RECORDS
APPENDIX B	CATLIN STANDARD METHODS OF INVESTIGATION
APPENDIX C	LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

LIST OF ACRONYMS

2000 Guidelines	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater
2001 Guidelines	Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)
2L GWQS	NCAC T15A:02L Groundwater Quality Standards
ARO	Asheville Regional Office
AS	Air Sparge
AST	Aboveground Storage Tank
BDL	Below Detection Limit
BN	Base/Neutral (extractables)
BNA	Base/Neutral/Acid (extractables)
BQL	Below Quantitation Limit
BLS	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAP	Corrective Action Plan
CATLIN	CATLIN Engineers and Scientists (Formerly RC&A)
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
CNP	Carbon Nitrogen Phosphorous
CPT	Cone Penetrometer Test
DEM	Division of Environmental Management
DIPE	Diisopropyl Ether
DO	Dissolved Oxygen
DOD	Department of Defense
DPT	Direct Push Technology
DWQ	Division of Water Quality
DWM	Division of Waste Management
DTW	Depth to Water
EAD	Environmental Affairs Department
EDB	Ethylene di-bromide
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
EQB	Environmental Quality Branch
Fe	Iron
FID	Flame Ionization Detector
FOD	Foreign Object Debris
FRO	Fayetteville Regional Office
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System
Guidelines Vol. I	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks (May 1998)

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

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

**BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT**

**MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA**

April 26, 2007

PURPOSE OF INVESTIGATION

The purpose of this Phase I Limited Site Assessment (LSA) report is to provide information to assist North Carolina Department of Environment and Natural Resources (NCDENR) to accurately classify the level of risk resulting from a suspected diesel dispenser release at the Building AS-3504 (AS-3504) project site. CATLIN Engineers and Scientists (CATLIN) were authorized to perform this Phase I LSA report by the NAVFAC Mid-Atlantic in accordance with the Order of Supplies Contract Number N62470-05-D-6200, Delivery Order Number 0016. AS-3504 is located on Perimeter Street, aboard MCAS, New River, North Carolina. AS-3504 is within the Modular Weapon System 272 utilities complex, located directly south of the New River Air Station's runway. Figure 1 illustrates the general site location within the local USGS topographic quadrangle map.

This investigation was conducted following the removal/excavation of a concrete fuel dispenser island (pump island) and surrounding soils at the AS-3504 project site in September 2006. As part of the removal action, soil samples were collected from the pump island excavation floor and revealed total petroleum hydrocarbon diesel and gasoline range organics (TPH DRO and GRO) concentrations above the NCDENR Action Levels of 40ppm (DRO) and 10 ppm (GRO). Therefore, CATLIN installed one monitoring well in the pump island excavation area and groundwater samples were collected for laboratory analysis per EPA Methods 602, 625 + TICs and MADEP VPH/EPH. Additionally, soil samples were collected during monitoring well installation and analyzed per EPA Methods 8260, 8270 and MADEP VPH/EPH.

In December 2006, Shaw Environmental and Infrastructure, Inc. (Shaw) issued the *AS-3504 Pump Island Soil Removal Report (Removal Report)* documenting the removal of the pump island equipment, underground fuel supply piping and contaminated soil from the project site. The *Removal Report* noted that additional excavation was performed northwest of the pump island (fuel transfer area) in November 2006. Soil samples collected from the fuel transfer excavation area revealed TPH levels in excess of the State Action Levels. Therefore, additional assessment activities were necessary to complete the Phase I LSA for the project site.

The additional assessment activities included the collection of four soil samples within the fuel transfer excavation area and four soil samples within the pump island excavation area. The soil samples were submitted for laboratory analysis per EPA Methods 8260, 8270 and MADEP VPH/EPH. Additionally, another groundwater monitoring well was installed within the fuel transfer excavation area and groundwater samples were collected for laboratory analysis per EPA Methods 602, 625 + TICs and MADEP VPH/EPH.

This document provides data to fulfill the site assessment and risk characterization requirements in accordance with 15A NCAC 2L .0405. Accordingly, this LSA document has been formatted to conform with the Guidelines for Assessment and Corrective Action effective July 1, 2001 (*2001 Guidelines*).

PHASE I LIMITED SITE ASSESSMENT REPORT

A. SITE IDENTIFICATION

DATE OF REPORT: April 26, 2007
Facility ID: N/A **UST Incident Number (if known):** Pending
Site Name: Building AS-3504
Site Location: Marine Corps Air Station, New River
Nearest City/Town: Jacksonville **County:** Onslow
UST Owner: Commanding Officer – MCB Camp Lejeune
I&E/EMD/EQB
Address: McHugh Blvd, Bldg 12, Room 235 **Phone:** (910) 451-5068
MCB Camp Lejeune, NC 28542
UST Operator: Same as above (see Table 2)
Address: Same as above **Phone:** Same as above
Property Owner: Same as above (see Table 2)
Address: Same as above **Phone:** Same as above
Property Occupant: Unknown
Address: Building AS-3504, Perimeter Street **Phone:** _____
Consultant/Contractor: CATLIN Engineers and Scientists
220 Old Dairy Road,
Address: Wilmington, North Carolina 28405 **Phone:** (910) 452-5861

Release Information

Date Discovered: September 2006
Northing: 12607697.52 **Easting:** 907240.40
Estimated Quantity of Release: Unknown
Cause of Release: Unknown
Source of Release (e.g. Piping/UST): The source of the release is unknown; however, the removal USTs (UST ID No. 93162 and 93193), dispenser, and associated piping are suspected.

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

Two, 550-gallon diesel USTs (UST ID No. 93162 and 93193).

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



(Please Affix Seal and Signature)

B. RISK CHARACTERIZATION

Limited Site Assessment Risk Classification and Land Use Form

Part I - Groundwater/Surface Water/Vapor Impacts

High Risk

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

No information provided indicates a water supply well has been contaminated as a result of the release from the AS-3504 potential source area.

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**

No potable wells were identified within 1,000 feet of the potential source. See Figure 1.

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

There are no water supply wells 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**

Currently MCAS New River has several locations for potential water supply well locations that are greater than 500 feet from the potential source area.

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.

Buildings within 500 feet of the potential source area are slab on grade. No evidence of vapor accumulations has been reported.

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

A review of data collected during this investigation does not provide evidence to suggest other factors that would cause the discharge or release to pose an imminent danger to public health, public safety, or the environment.

Intermediate Risk

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

The nearest mapped surface water body is a tributary to Southwest Creek located less than 200 feet east of the potential source area (see Figure 1).

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

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

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

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

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

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

The potential source area is located just above an apparent unconfined surficial groundwater aquifer. While there is the potential for recharge by rainfall to the unconfined surficial aquifer at the Base, the surficial aquifer is not used for water supply aboard MCAS, New River. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for the MCAS, New River potable water treatment facilities. The Upper Tertiary Confining Unit, Upper Tertiary Aquifer and Castle Hayne Confining Unit separate the Castle Hayne aquifer from the surficial aquifer. Data regarding hydrogeologic units below the subject site are discussed in greater detail in Section C.5. The unconfined surficial aquifer at the subject site does not appear to be a recharge source for the local Castle Hayne aquifer.

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

Surficial groundwater samples from site monitoring well USTAS3504-MW04 and USTAS3504-MW05 were analyzed per EPA Method 602, EPA Method 625+TICs, and MADEP VPH/EPH. A review of laboratory analysis results indicates Benzene, 1,4-Dichlorobenzene, Naphthalene and MADEP C9-C22 Aromatic fraction concentrations above of applicable 2L GWQSs in monitoring well USTAS3504-MW05. There were no groundwater analytes detected above any established GCLs in either site monitoring wells.

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.

MCAS, New River does contain primary and secondary residences; however, they are more than 1,500 feet from the potential source area.

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.

MCAS, New River does contain places of public assembly; however, they are more than 1,500 feet from the potential source area.

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

Building AS-3504 is a slab on grade building and is part of the Modular Weapon System 272 utilities complex.

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

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

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

Building AS-3504 is within the Modular Weapon System 272 utilities complex. There is a security fence around the perimeter of this facility compound and accessibility is limited to authorized Marine Corps and civil service personnel.

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

The potential source area is capped by asphalt.

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

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

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

The MCAS, New River is not subject to local or county-zoning requirements; however, Building AS-3504 is located within an Industrial/Commercial use area.

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

The current use of the local MCAS, New River area is not likely to change in the near future.

Property Surrounding Source Area of Release

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

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

MCAS, New River does contain primary and secondary residences; however, the nearest such area(s) are greater than 1,500 feet from the potential source area.

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?*

MCAS, New River does contain places of public assembly; however, the nearest areas are greater than 1,500 feet from the potential source area.

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

As stated previously, Building AS-3504 is located within an Industrial/Commercial use area.

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

Building AS-3504 is within the Modular Weapon System 272 utilities complex. The surrounding area is utilized for Marine Corps flightline activities.

C. RECEPTOR INFORMATION

1. Water Supply Wells

There are no water supply wells 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 Building AS-3504, as well as other buildings within 1,500 feet of the potential source area by water mains, which carry treated potable water. Potable water is supplied to the site and surrounding areas by the MCAS, New River water supply system. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for the MCAS, New River potable water treatment facilities.

3. Surface Water

As stated previously, the nearest mapped surface water body is a tributary to Southwest Creek located less than 200 feet east of the potential source area.

4. Wellhead Protection Areas

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

5. Deep Aquifers in the Coastal Plain Physiographic Region

To determine deep aquifers underlying the subject site, the area was profiled in the "Visual Hydrogeologic Framework" database provided in the NCDENR Division of Water Resources website (VHF website) on January 23, 2006. This is a database of well and soil boring log data from numerous locations across the North Carolina Coastal Plain. The program uses data from the three locations closest to the point of interest to provide a cross-section of commonly identified hydrogeologic units likely to be present below the subject site.

Including the Surficial Aquifer there are eleven identified aquifers (seven principal aquifers and four minor aquifers) within the North Carolina Coastal Plain Physiographic Region. The January 23, 2006 program results regarding deep aquifers below the subject site can be summarized as follows:

Hydrogeologic Units	Approximate Depth (feet)
Surficial Aquifer	0-32
Upper Tertiary Confining Unit	32-37
Upper Tertiary Aquifer	37-64
Castle Hayne Confining Unit	64-104
Castle Hayne Aquifer	104-254
Pee Dee Confining Unit	254-280

6. Subsurface Structures

Numerous underground utilities are present throughout MCAS, New River facility. These utilities are reportedly located above the surficial groundwater table ($\pm$ 6 feet BLS) and therefore, are not considered potential receptors.

7. Property Owners and Occupants

The subject site is owned and operated by the Commanding Officer – Marine Corps Base, Camp Lejeune. Refer to Table 2.

D. SITE GEOLOGY AND HYDROGEOLOGY

D.1 Site Geology

The following site geology description is based on visual description of the soil split spoon samples obtained while installing boreholes for site groundwater monitoring wells USTAS3504-MW-04 and USTAS3504-MW-05. The encountered site soils can be summarized as follows:

USTAS3504-MW04		
Depth in feet BLS	Soil Description	USCS
0-0.5	Asphalt	-
3-5	Grayish-brown CLAY interbedded with SANDY CLAY near top. Med plasticity, med stiff, moist.	CL
8-11	Brown fine SAND with trace Silt. Wet, no odor.	SP
14-16	Light brown fine SAND. Uniform, saturated, no odor.	SP

USTAS3504-MW05		
Depth in feet BLS	Soil Description	USCS
0-3	Fill material. Fine brown SAND. Dry.	SP
3-5	Brown to grayish-brown fine SAND with silts. Trace CLAY. Wet and no odor.	SM
8-10	Gray fat CLAY. High plasticity and med. Stiff grading into brown sandy CLAY. Wet and no odor.	SP
13-15	Light gray fine SAND. Uniform, saturated, slight HCO odor.	SP

The soils described above are consistent with undivided surficial deposits typically encountered within the area Coastal Plain physiographic province. Copies of the boring logs, monitoring well as-builts, and North Carolina Well Construction records have are provided in Appendix A.

D.2 Site Hydrogeology

During the December 14, 2006 site visit, CATLIN personnel obtained depth to water from site monitoring well USTAS3504-MW04. Depth to surficial groundwater within USTAS3504-MW04 was 6.11 feet below top of casing. On March 5, 2007, monitoring well USTAS3504-MW05 was installed and gauged for depth to water on March 6, 2007. Depth to surficial groundwater within USTAS3504-MW05 was 5.7 feet below top of casing.

Review of the data generated indicates the surficial groundwater encountered below the potential source area is part of an unconfined surficial aquifer. Site monitoring well details and the groundwater gauging data has been summarized on Table 3. The location of the site monitoring wells and soil sample locations has been illustrated on Figure 2.

E. SAMPLING RESULTS

The findings of the Shaw *Removal Report* indicated potential areas of concern in the subsurface soils at the project site. Soil samples collected by Shaw in the pump island and fuel transfer excavation areas were submitted for laboratory analysis. Laboratory analysis of soil samples collected from the pump island excavation area indicated all side wall samples below the TPH GRO (10 ppm) and DRO (40ppm) State Action Levels. However, two soil samples obtained from the floor of the pump island excavation area revealed GRO and DRO concentrations greater than their respective State Action Level. Additionally, multiple side wall and floor samples collected from the fuel transfer excavation area revealed GRO and DRO concentrations greater than the State Action Levels.

Based on the results indicated in the Shaw *Removal Report*, Risk Based soil sampling was completed by CATLIN at the pump island and fuel transfer excavation areas. Also, one Type II monitoring well (USTAS3504-MW-04) was installed within the pump island excavation area and one Type II monitoring well (USTAS3504-MW-05) was installed in the fuel transfer excavation area. Both monitoring wells were installed to assess the potential impact to the surficial aquifer at the project site. Please refer to Figure 2 for the Risk Based soil sample and monitoring well locations.

All assessment activities were conducted in general accordance with CATLIN's Standard Methods of Investigation. A copy of the CATLIN Standard Methods of Investigation has been provided in Appendix B.

E.1 Soil Sampling

Pump Island Excavation Area

On December 8, 2006, CATLIN collected one soil sample (AS3504-MW04) for laboratory analysis during monitoring well USTAS3504-MW04 installation. The soil sample was taken from just beneath the former excavation limits (8-11 feet deep) and submitted to SGS Environmental Services Inc. (N.C. Certification #481) for laboratory analysis per EPA Methods 8260, 8270 and MADEP VPH/EPH.

Laboratory analysis results from the December 8, 2006 sampling event revealed all analytes below the laboratory quantitation limits. However, an estimated Acetone concentration (J value) was revealed (0.00245J mg/kg) above the method detection limit but below the quantitation limit and the lowest corresponding Maximum Soil Contaminant Concentrations (MSCCs). Please note that the soil sample collected on December 8, 2006 was most likely taken below the water table since depth to groundwater was measured in the monitoring well USTAS3504-MW04 to be 6.11 feet below top of casing.

On March 6, 2007, CATLIN collected additional Risk Based soil samples from the pump island excavation area. Four soil samples (HA-5 thru HA-8) were collected from the side walls of the pump island excavation area and were submitted to SGS Environmental Services Inc. (N.C. Certification #481) for laboratory analysis per EPA Methods 8260, 8270 and MADEP VPH/EPH.

- *EPA Method 8260*

Only Methylene Chloride was detected in excess of the Soil to Groundwater MSCC in the HA-5 soil sample. Methylene Chloride was detected at a concentration of 0.0287 mg/kg and the Soil to Groundwater MSCC is 0.02 mg/kg. This concentration does not exceed the Residential or Industrial/Commercial MSCC.

- *EPA Method 8270*

No EPA Method 8270 contaminants were detected in the pump island sidewall soil samples in excess of any MSCC.

- *MADEP VPH/EPH*

No MADEP hydrocarbon fractions were detected in the pump island side wall soil samples in excess of any MSCC.

Fuel Transfer Excavation Area

On March 6, 2007, CATLIN collected four side wall soil samples (HA-1 thru HA-4) from the fuel transfer excavation area for Risk Based analysis. The soil samples were submitted to SGS Environmental Services Inc. (N.C. Certification #481) for laboratory analysis per EPA Methods 8260, 8270 and MADEP VPH/EPH.

- *EPA Method 8260*

Methylene Chloride was detected in excess of the Soil to Groundwater MSCC in the HA-3 soil sample. An estimated Methylene Chloride concentration (J value) of 0.0227 J mg/kg was detected and the Soil to Groundwater MSCC for Methylene Chloride is 0.02 mg/kg. This concentration does not exceed the Residential or Industrial/Commercial MSCC.

2-Butanone was detected in soil samples HA-1 and HA-2. 2-Butanone was detected at a concentration of 0.05 mg/kg in soil sample HA-1 and an estimated concentration (J value) of 0.0146 J mg/kg in soil samples HA-2. No applicable MSCC is established for 2- Butanone.

- *EPA Method 8270*

Benzo[a]pyrene was detected in excess of the Soil to Groundwater MSCC in the HA-1 soil sample. Benzo[a]pyrene was detected at an estimated concentration (J value) of 0.108 J mg/kg and the Soil to Groundwater MSCC is 0.091 mg/kg. This concentration does not exceed the Residential or Industrial/Commercial MSCC.

- *MADEP VPH/EPH*

No MADEP hydrocarbon fractions were detected in the fuel transfer side wall soil samples in excess of any MSCC.

A summary of soil analytical laboratory results are provided in Tables 4A, 4B and 4C. Also, complete laboratory analytical reports along with Chain-of-Custody documentations are provided in Appendix C.

E.2 Groundwater Sampling

Pump Island Excavation Area

On December 8, 2006, CATLIN installed a Type II monitoring well (USTAS3504-MW04) to assess the potential impact to the surficial aquifer in the pump island excavation area. Groundwater samples were collected on December 14, 2006 from USTAS3504-MW04 and submitted to SGS Environmental Services Inc. (N.C. Certification #481) for laboratory analysis. Samples were analyzed per EPA Methods 602, 625 + TICs and MADEP VPH/EPH.

Laboratory results from the December 2006 sampling event revealed all concentrations to be below the laboratory quantitation limits, method detection limits, NCAC T15A:02L Groundwater Quality Standards (2L GWQS) and Gross Contaminant Levels (GCLs).

Fuel Transfer Excavation Area

On March 5, 2007, CATLIN installed an additional Type II monitoring well (USTAS3504-MW05) to assess the potential impact to the surficial aquifer in the fuel transfer excavation area. Groundwater samples were collected on March 6, 2007 from USTAS3504-MW05 and submitted to SGS Environmental Services Inc. (N.C. Certification #481) for laboratory analysis. Samples were analyzed per EPA Methods 602, 625 + TICs and MADEP VPH/EPH.

- *EPA Method 602*

Benzene was detected in excess of the 2L GWQS in the groundwater samples collected from the fuel transfer excavation area. Benzene was detected at a concentration of 3.41 ug/L and 3.45 ug/L in a duplicate sample (USTAS3504-MW05DUP). The 2L GWQS for Benzene is 1.0 ug/L. The Benzene concentrations detected in USTAS3504-MW05 did not exceed the GCL.

- *EPA Method 625*

1,4-Dichlorobenzene and Naphthalene were detected in excess of the corresponding 2L GWQS in the groundwater samples collected from fuel transfer excavation area. 1,4-Dichlorobenzene was detected at an estimated concentration (J value) of 4.90 J ug/L and the 2L GWQS is 1.4 ug/L. Naphthalene was detected at a concentration of 27.6 ug/L and the 2L GWQS is 21.0 ug/L. Neither concentration exceeded the GCL.

- **MADEP VPH/EPH**

MADEP C9-C22 Aromatic hydrocarbon fractions were detected in excess of the 2L GWQS in the groundwater samples collected from the fuel transfer excavation area. C9-C22 Aromatic hydrocarbon fractions were detected at a concentration of 740 ug/L and the 2L GWQS is 210 ug/L. There is no GCL established for any groundwater MADEP hydrocarbon fraction.

A summary of groundwater laboratory results is provided in Tables 5A, 5B and 5C. Also, complete laboratory analytical reports along with Chain-of-Custody documentations are provided in Appendix C.

E.3 Free-Phase Product

No measurable amount of free-phase product was detected in either site groundwater monitoring well during Phase I LSA or Phase I LSA Addendum activities.

F. CONCLUSIONS AND RECOMMENDATIONS

F.1 Conclusions

LSA field and laboratory findings can be summarized as follows:

- Based on the field and laboratory findings of this Phase I LSA, CATLIN concludes that the subject site meets the criteria for Industrial/Commercial (I/C) land use and Intermediate Risk classification.
- Risk Based soil samples collected from the pump island and fuel transfer excavation areas and analyzed per EPA Methods 8260, 8270 and MADEP VPH/EPH. Analysis of the soil samples collected from the pump island excavation area revealed Methylene Chloride concentrations above the Soil to Groundwater. Additionally, soil samples collected from the fuel transfer excavation area revealed Benzo[a]pyrene, 2-Butanone and Methylene Chloride concentrations above the Soil to Groundwater. However, all soil sample results were below the Industrial/Commercial and Residential MSCCs.
- Groundwater samples were collected from the pump island and fuel transfer excavation areas and analyzed per EPA Methods 602, 625 + TICs and MADEP VPH/EPH. Groundwater samples collected from pump island excavation area (USTAS3504-MW04) revealed all analytes below the laboratory quantitation limits, methods detection limits, 2L GWQSs and GCLs. However, groundwater samples collected from fuel transfer excavation area (USTAS3504-MW05) revealed Benzene, 1,4-Dichlorobenzene, Naphthalene and MADEP C9-C22 Aromatic hydrocarbon fractions above the 2L GWQS but below the GCLs.

- No free-phase product was detected in any site groundwater monitoring well.
- The potential source area is capped with asphalt.

F.2 Recommendations

Ultimately, the NCDENR Division of Waste Management Underground Storage Tank Section will determine the risk classification for the incident at the subject site. Any additional assessment and/or remediation activities would be based on the pending risk classification. The following recommendations are based on CATLIN personnel evaluating site findings in accordance with the 2001 Guidelines.

Based on the results from the Phase I LSA and Addendum activities, it is recommended that the pump island excavation area be considered for No Further Action (NFA) with no Land Use Restriction. However, it is recommended that the fuel transfer excavation area be considered for No Further Action (NFA) with a "Notice of Residual Petroleum" or Land Use Restriction for groundwater only. The monitoring well (USTAS3504-MW05) in the fuel transfer excavation area is recommended to be sampled on a two year basis until contaminants are reduced to below the 2L GWQS at which time the site will be considered for NFA without Land Use Restriction.

A copy of this report should be forwarded to the NCDENR at the following address:

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

G. REFERENCES

- AH Environmental Consultants, Wellhead Protection Plan – 2002 Update, Marine Corp Base, Camp Lejeune, North Carolina, August 2002.
- North Carolina Department of Natural Resources and Community Development. *Geology Map of North Carolina* 1985.
- North Carolina Department of Environment and Natural Resources (NCDENR), Underground Storage Tank Section. *Guidelines for Assessment and Corrective Action*. Effective July 1, 2001.
- North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Resources, Hydrogeology Framework Database.
http://www.ehnr.state.nc.us/Data_and_Modeling/Ground_Water_Databases/frametstnew.php.
- Shaw Environmental Inc. *Building AS-3504 Pump Island Soil Removal Report, Marine Corps Base Camp Lejeune, Onslow County North Carolina*, December 2006.
- Winner, M.D., Jr., and Coble, R.W., 1989, *Hydrogeologic Framework of the North Carolina Coastal Plain Aquifer System: U.S. Geological Survey Open-File Report 87-690*, 155 p.

TABLES

TABLE 1

UST SYSTEM INFORMATION

BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA

UST ID Number	Product	Capacity (gallons)	Date Installed	Date Permanently Closed
93162	Diesel	550	Unknown	9/19/1992
93193	Diesel	550	Unknown	9/19/1992
93164	Diesel	550	Unknown	10/7/1992
92307	Diesel	2,500	Unknown	9/19/1992
92314	Diesel	2,500	Unknown	9/19/1992

TABLE 2**UST OWNER/OPERATOR INFORMATION****BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA**

Dates of Ownership/Operation	UST ID Number	Name of Owner/ Operator	Address	Telephone Number
Unknown - August 1993	93162	Commanding General Attn: Director I&E/EMD/EQB (owner/operator)	PSC Box 20004 Marine Corps Base Camp Lejeune, NC 28542-0004	(910) 451-5068
Unknown - August 1993	93193	Commanding General Attn: Director I&E/EMD/EQB (owner/operator)	PSC Box 20004 Marine Corps Base Camp Lejeune, NC 28542-0004	(910) 451-5068
Unknown - September 1993	93164	Commanding General Attn: Director I&E/EMD/EQB (owner/operator)	PSC Box 20004 Marine Corps Base Camp Lejeune, NC 28542-0004	(910) 451-5068
Unknown - August 1993	92307	Commanding General Attn: Director I&E/EMD/EQB (owner/operator)	PSC Box 20004 Marine Corps Base Camp Lejeune, NC 28542-0004	(910) 451-5068
Unknown - August 1993	92314	Commanding General Attn: Director I&E/EMD/EQB (owner/operator)	PSC Box 20004 Marine Corps Base Camp Lejeune, NC 28542-0004	(910) 451-5068

TABLE 3**WELL CONSTRUCTION INFORMATION****BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA**

Well ID	Date Installed	Date Water Level Measured	Well Casing Depth (ft. BLS)	Screened Interval (x to y ft. BLS)	Bottom of Well (ft. BLS)	Top of Casing Elevation (ft.)	Depth to Water from Top of Casing (ft.)	Free Product Thickness (ft.)	Ground Water Elevation (ft.)	Comments
USTAS3504-MW04	12/8/2006	12/14/2006	4	4-14	14	Not Measured	6.11	0.00	Not Measured	Monitoring
USTAS3504-MW05	3/5/2007	3/6/2007	3.5	3.5-13.5	13.5	Not Measured	5.7	0.00	Not Measured	Monitoring

ft BLS = feet below land surface

TABLE 4A
SUMMARY OF SOIL LABORATORY RESULTS - EPA 8260
BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA

Sample ID	Contaminant of Concern →		Acetone	2-Butanone	Methylene chloride	All Other 8260 Compounds
	Date Collected	Sample Depth (ft. BLS)				
Residential MSCC (mg/kg)			1564	NE	85	Varies
Industrial/Commercial MSCC (mg/kg)			40880	NE	763	Varies
Soil to Groundwater MSCC (mg/kg)			2.8	NE	0.02	Varies
AS3504-MW04	12/8/2006	8-11	0.00245 J	BQL	BQL	BQL
HA-1	3/6/2007	3-4	0.0505 J	0.05	0.0188 J	BQL
HA-2	3/6/2007	3-4	0.0736	0.0146 J	0.0193 J	BQL
HA-2 DUP	3/6/2007	3-4	BQL	BQL	0.00522 J	BQL
HA-3	3/6/2007	5-6	0.0367 J	BQL	0.0227 J	BQL
HA-4	3/6/2007	3-4	0.00928 J	BQL	0.0175 J	BQL
HA-5	3/6/2007	3-4	0.0866	BQL	0.0287	BQL
HA-6	3/6/2007	3-4	0.0276 J	BQL	0.0158 J	BQL
HA-7	3/6/2007	4-5	0.0722	BQL	0.0134 J	BQL
HA-8	3/6/2007	3-4	0.0373 J	BQL	0.0179	BQL

NE = None Established

BQL = Below Quantitation Limit

ft. BLS = feet below land surface

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

Bold results indicate concentrations above the lowest of the MSCCs.

J = Estimated concentration, below calibration range and above Method Detection Limit.

TABLE 4B
SUMMARY OF SOIL LABORATORY RESULTS - EPA 8270

BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA

Sample ID	Contaminant of Concern →		Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Fluoranthene	Phenanthrene	Phenol	Pyrene	All Other 8270 Compounds
	Date Collected	Sample Depth (ft. BLS)											
Residential MSCC (mg/kg)			0.88	0.088	0.88	9	46	88	620	469	4693	469	Varies
Industrial/Commercial MSCC (mg/kg)			8	0.78	8	78	410	780	16400	12264	122600	12264	Varies
Soil to Groundwater MSCC (mg/kg)			0.34	0.091	1.2	12	5.6	38	280	60	1.7	290	Varies
AS3504-MW04	12/8/2006	8-11	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
HA-1	3/6/2007	3-4	0.098 J	0.108 J	0.105 J	0.119 J	BQL	0.134 J	0.242 J	0.072 J	BQL	0.206 J	BQL
HA-2	3/6/2007	3-4	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
HA-3	3/6/2007	5-6	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
HA-4	3/6/2007	3-4	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
HA-5	3/6/2007	3-4	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
HA-6	3/6/2007	3-4	BQL	BQL	BQL	BQL	0.060 J	BQL	BQL	BQL	BQL	BQL	BQL
HA-7	3/6/2007	4-5	BQL	BQL	BQL	BQL	0.053 J	BQL	BQL	BQL	BQL	BQL	BQL
HA-8	3/6/2007	3-4	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

NE = None Established

BQL = Below Quantitation Limit

ft. BLS = feet below land surface

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

Bold results indicate concentrations above the lowest of the MSCCs.

J = Estimated concentration, below calibration range and above Method Detection Limit.

TABLE 4C

SUMMARY OF SOIL LABORATORY RESULTS - MADEP VPH/EPH

BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected	Sample Depth (ft. BLS)				
Residential MSCC (mg/kg)			939	9386	93860	469
Industrial/Commercial MSCC (mg/kg)			24528	245280	#	12264
Soil to Groundwater MSCC (mg/kg)			72	3300	##	34
AS3504-MW04	12/8/2006	8-11	<10	<20	<10	<20
HA-1	3/6/2007	3-4	<10	<21	<20	<20
HA-2	3/6/2007	3-4	<10	<20	<20	<20
HA-3	3/6/2007	5-6	<10	<20	<20	<20
HA-4	3/6/2007	3-4	<10	<20	<20	<20
HA-5	3/6/2007	3-4	<10	<20	<20	<20
HA-6	3/6/2007	3-4	<10	<20	<20	<20
HA-7	3/6/2007	4-5	<10	<20	<20	<20
HA-8	3/6/2007	3-4	<10	<20	<20	<20

NE = None Established

BQL = Below Quantitation Limit

ft. BLS = feet below land surface

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

J = Estimated concentration, below calibration range and above Method Detection Limit.

= health based level >100%

= Considered immobile

TABLE 5A SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA 602 BUILDING AS-3504 PHASE I LIMITED SITE ASSESSMENT MCAS, NEW RIVER, NORTH CAROLINA				
Well ID	Contaminant of Concern →		Benzene	All Other Remaining EPA Method 602 Compounds
	Sample ID	Date Collected		
GCL 2L GWQS			5000 1	Varies Varies
USTAS3504-MW04	USTAS3504-MW04	12/14/2006	BQL	BQL
USTAS3504-MW05	USTAS3504-MW05	3/6/2007	3.41	BQL
	USTAS3504-MW05DUP	3/6/2007	3.45	BQL

BQL = Below Quantitation Limit

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

Bold results indicate concentration above 2L GWQS.

J = Estimated concentration, below calibration range and above Method Detection Limit.

TABLE 5B

SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA 625

BUILDING AS-3504
 PHASE I LIMITED SITE ASSESSMENT
 MCAS, NEW RIVER, NORTH CAROLINA

Well ID	Contaminant of Concern →		Acenaphthene	1,4-Dichlorobenzene	Diethylphthalate	Fluorene	Naphthalene	Phenanthrene	All Other Remaining EPA Method 625 Compounds
	Sample ID	Date Collected							
GCL 2L GWQS			2120 80	39500 1.4	NE 5000	950 280	15500 21	410 210	Varies Varies
USTAS3504-MW04	USTAS3504-MW04	12/14/2006	BQL	BQL	BQL	BQL	BQL	BQL	BQL
USTAS3504-MW05	USTAS3504-MW05	3/6/2007	2.20 J	4.90 J	12.8	2.1 J	27.6	2.20 J	BQL

BQL = Below Quantitation Limit

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

Bold results indicate concentration above 2L GWQS.

J = Estimated concentration, below calibration range and above Method Detection Limit.

TABLE 5C

SUMMARY OF GROUNDWATER LABORATORY RESULTS - MADEP VPH/EPH

BUILDING AS-3504
PHASE I LIMITED SITE ASSESSMENT
MCAS, NEW RIVER, NORTH CAROLINA

Well ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Sample ID	Date Collected				
GCL 2L GWQS			NE 420	NE 4,200	NE 42,000	NE 210
USTAS3504-MW04	USTAS3504-MW04	12/14/2006	<100	<200	<100	<200
USTAS3504-MW05	USTAS3504-MW05	3/6/2007	<100	<520	<100	740

NE = None Established

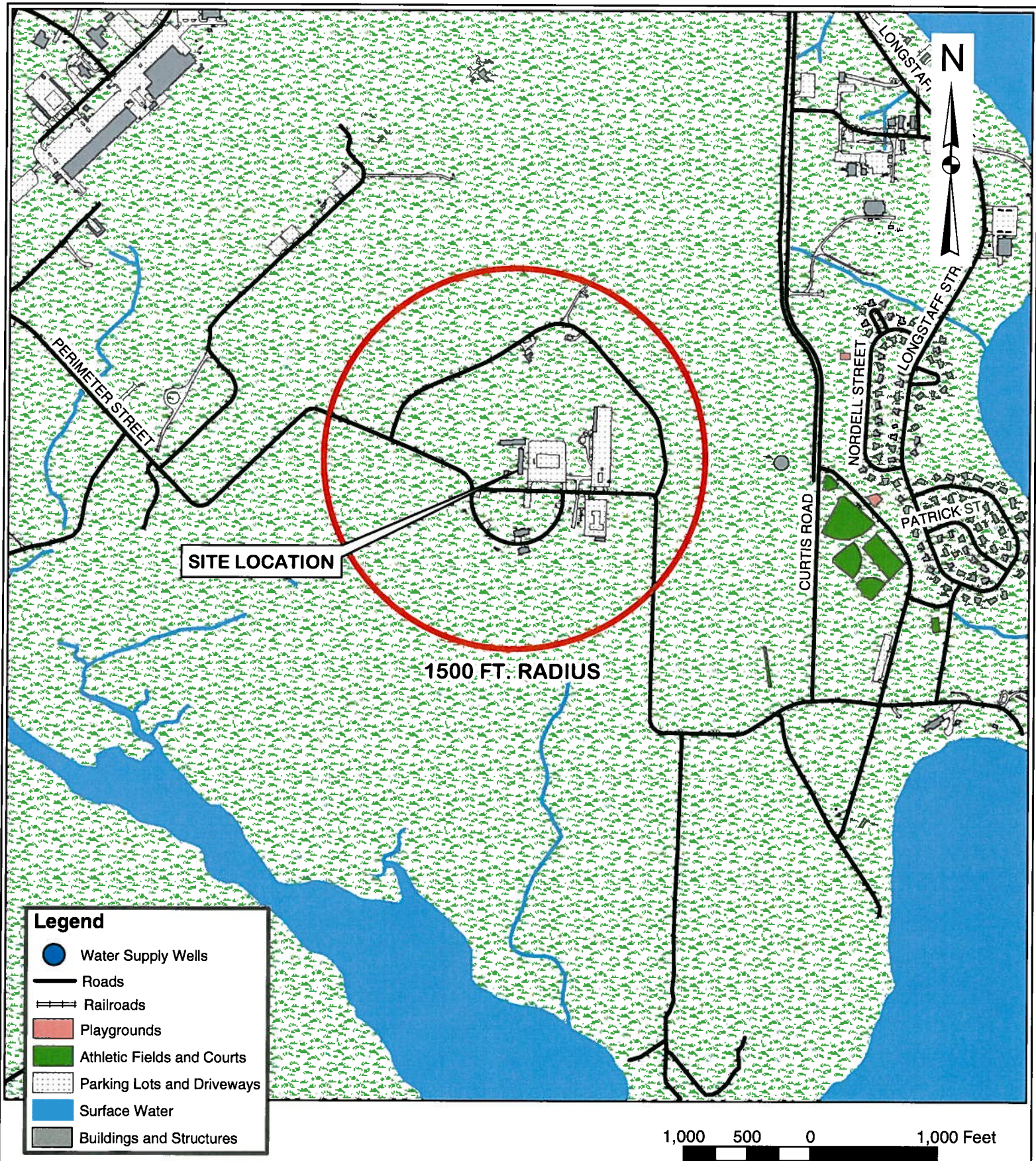
BQL = Below Quantitation Limit

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

Bold results indicate concentration above 2L GWQS.

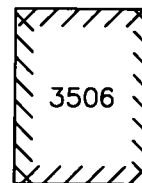
J = Estimated concentration, below calibration range and above Method Detection Limit.

FIGURES

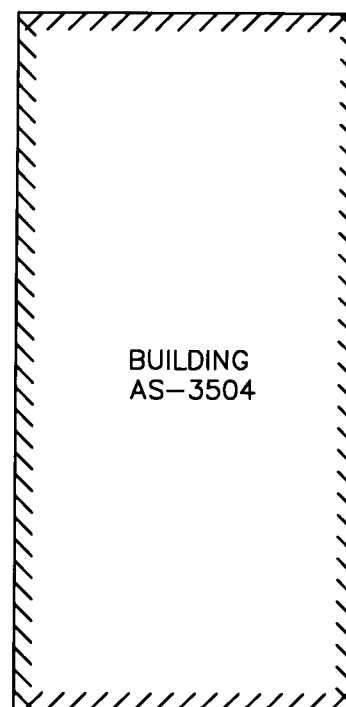
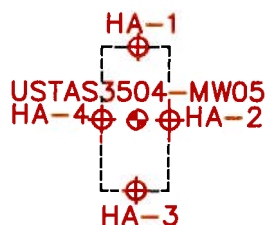


Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.

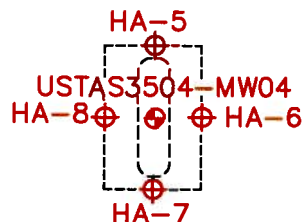
	PROJECT BUILDING AS-3504 PHASE I LSA MARINE CORPS AIR STATION NEW RIVER, NC		TITLE SITE VICINITY MAP		FIGURE 1	
	JOB NO. 205-077	DATE APRIL 2007	SCALE AS SHOWN	DRAWN BY KAWS	CHECKED BY JPC	



FUEL TRANSFER
EXCAVATION LIMITS
(15'X7'X8')



FORMER PUMP ISLAND
EXCAVATION LIMITS
(15'X10'X7')



LEGEND

EXISTING



BUILDING



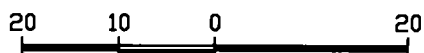
REMOVED STRUCTURES



TYPE II MONITORING WELLS



SOIL SAMPLE LOCATION



SCALE IN FEET

CAELIN
ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT

BUILDING AS-3504
PHASE I LSA
MARINE CORPS AIR STATION
NEW RIVER, NC

TITLE

SITE PLAN WITH
TYPE II MONITORING WELLS
AND SOIL SAMPLE
LOCATIONS

FIGURE

2

JOB NO: 205-077

DATE: APR 2007

SCALE: 1"=20'

DRAWN BY: LCJ

CHECKED BY: JPC

205-077-LAS-AS3504-02

APPENDICES

APPENDIX A

BORING LOGS, MONITORING WELL AS-BUILTS, AND NORTH CAROLINA WELL CONSTRUCTION RECORDS

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	WELL ID: USTAS3504-MW04
NORTHING: 3,842,837.2		EASTING: 276,525.0	CREW: A. Chance
SYSTEM: UTM NAD83 (m)		BORING LOCATION: West of Bld. AS-3504	T.O.C. ELEV.:
DRILL MACHINE: D-25	METHOD: HSA	0 HOUR DTW: ~ 8.0	BORING DEPTH: 16.0
START DATE: 12/8/06	FINISH DATE: 12/8/06	24 HOUR DTW:	WELL DEPTH: 14.0

DEPTH	BLOW COUNT				pH	REC.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	WELL DETAIL
	6in	6in	6in	6in							
0.0									0.0	LAND SURFACE	0.0
							GP		0.5	Black Asphalt	
3.0	5	5	4	6	0.0		CL		3.0	Grayish-brown CLAY interbedded with SANDY CLAY near top. Med. plasticity. Med. Stiff. Moist.	4.0
5.0									5.0		
8.0	4	4	3	6	0.0		SP		8.0	Brown fine SAND with trace SILT. Wet. No Odor.	
11.0									11.0		
14.0	5	6	9	13	0.0		SP		14.0	Light brown fine SAND. Uniform. Saturated. No odor.	14.0
16.0									16.0	Boring Terminated at Depth 16.0 ft Fine SAND. Well set @ 14'.	15.0

 Bentonite Grout

 #2 Medium Sand

KOCH WELL LOG 205-077 BLD. AS-3504 GP-1 CATLIN.GDT 4/12/07

WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR (INDIVIDUAL) NAME (print) William J. Miller CERTIFICATION # 2927
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WQ PERMIT # N/A
(if applicable) (if applicable)

USTAS3504- MW04

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION:

Nearest Town: Jacksonville County: Onslow

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: MCB, Camp Lejeune, Commanding Officer

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code
451-9017
Area code - Phone number

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

3842837.188/276525.02

UTM NAD83 (m)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

4. DATE DRILLED: 12/8/2006

5. TOTAL DEPTH: 14

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☐

7. STATIC WATER LEVEL Below Top of Casing ~8.0 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS _____ FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 4 ft. 2 in. Sch. 40 PVC
From 0 To 4 ft. _____ in. _____
From _____ To _____ ft. _____ in. _____

14. GROUT: Depth Material Method
From 1 To 2 ft. _____
From _____ To _____ ft. _____

15. SCREEN: Depth Diameter Slot Size Material
From 4 To 14 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____ in. _____

16. SAND/GRAVEL PACK: Depth Size Material
From 2 To 15 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____

17. REMARKS: Fine SAND. Well set @ 14'.

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

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

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Attn: Information Management, 1617 Mail Service Center - Raleigh, NC 27699-1617 Phone No. (919) 733-7015, within 30 days.

Modified from:
GW-1 REV.09/2004

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504	LOGGED BY: J. Heter	WELL ID: USTAS3504-MW05	
	DRILLER: B. Miller		
NORTHING: 3,842,850.8	EASTING: 276,512.1	CREW: J. Wood	
SYSTEM: UTM NAD83 (m)	BORING LOCATION: In grass West of bld.	T.O.C. ELEV.:	
DRILL MACHINE: D-25	METHOD: HSA	0 HOUR DTW: 7.0'	BORING DEPTH: 15.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: 5.7'	WELL DEPTH: 13.5

DEPTH	BLOW COUNT				pH	REC.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	WELL DETAIL
6in	6in	6in	6in								
									0.0	LAND SURFACE	0.0
	DP	DP	DP	WOH	--		SP		3.0	Fill material- Fine brown SAND. Dry.	1.0
3.0	1	2	1	2	--		SM		5.0	Brown to grayish-brown fine SAND w/ SILTS. Trace CLAY. Wet. No odor.	3.5
5.0											
8.0	1	1	3	4	--		SC/ CH		8.0	Gray fat CLAY- high plasticity and med. stiff grading into brown SANDY CLAY. Wet. No odor.	2" Slot 010 Sch. 40 PVC
10.0									10.0		
13.0									13.0		
15.0	6	7	7	14	0.2		SP		15.0	Light gray fine SAND- uniform. Saturated. Slight HCO odor.	13.5
										Boring Terminated at Depth 15.0 ft Fine SAND. Well set @ 13.5' BLS.	13.5

KOCH WELL LOG 205-077 BLD. AS-3504 GEL CATLIN GDT 4/12/07

 Portland Cement
  Bentonite Grout
  #2 Medium Sand

WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR (INDIVIDUAL) NAME (print) William J. Miller CERTIFICATION # 2927
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WQ PERMIT # N/A
(if applicable) (if applicable)

USTAS3504- MW05

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____
2. WELL LOCATION:
Nearest Town: Jacksonville County: Onslow
(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)
3. OWNER: MCB, Camp Lejeune, Commanding Officer
Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)
Camp Lejeune NC 28542-0004
City or Town State Zip Code
451-9017
Area code - Phone number
4. DATE DRILLED: 3/5/2007
5. TOTAL DEPTH: 13.5
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☐
7. STATIC WATER LEVEL Below Top of Casing 5.7 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS _____ FT. Above Land Surface*
* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): Surficial Aquifer
12. DISINFECTION: Type N/A Amount N/A
13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 3.5 ft. 2 in. Sch. 40 PVC
From 0 To 3.5 ft. _____ in. _____
From _____ To _____ ft. _____ in. _____
14. GROUT: Depth Material Method
From 0.5 To 1 ft. _____
From _____ To _____ ft. _____
15. SCREEN: Depth Diameter Slot Size Material
From 3.5 To 13.5 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____ in. _____
16. SAND/GRAVEL PACK: Depth Size Material
From 2 To 13.8 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____
17. REMARKS: Fine SAND. Well set @ 13.5' BLS.

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

3842850.816/276512.134

UTM NAD83 (m)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

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

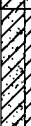
SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Attn: Information Management, 1617 Mail Service Center - Raleigh, NC 27699-1617 Phone No. (919) 733-7015, within 30 days.

Modified from:
GW-1 REV.09/2004

SHEET 1 OF 1

DEPTH	BLOW COUNT				BLOWS PER FOOT	LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION	
	6in	6in	6in	6in					DEPTH	DESCRIPTION
					0				0.0	LAND SURFACE
0.0	DP	DP	DP	DP			SP		1.0	Fill material- Fine SAND
1.0							SP		2.0	Brown fine SAND.
2.0							SC/ SM		4.0	Brown/gray SILTY to CLAYEY SAND
3.0						1410				
4.0							SC/ CL		6.0	Gray/brown CLAYEY SAND to SANDY CLAY.
										Boring Terminated at Depth 6.0 ft CLAYEY SAND to SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID:
		DRILLER:	HA-2
NORTHING:	EASTING:	CREW:	
SYSTEM:		BORING LOCATION: 5' East of MW-05	LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: 5.7	TOTAL DEPTH: 6.0
START DATE: 3/6/07	FINISH DATE: 3/6/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT						LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION
	6in	6in	6in	6in	0	20	40	60	80	100					
0.0														0.0	LAND SURFACE
1.0	DP	DP	DP	DP								SP		1.0	Fill material- Fine SAND.
2.0												SP		2.0	Brown fine SAND.
3.0												SC/ SM		4.0	Brown/gray SILTY to CLAYEY SAND.
4.0											1420	SC/ CL		6.0	Gray/brown CLAYEY SAND to SANDY CLAY
															Boring Terminated at Depth 6.0 ft CLAYEY SAND to SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID:
		DRILLER:	HA-3
NORTHING:	EASTING:	CREW:	
SYSTEM:		BORING LOCATION: 5' South of MW-05	
LAND ELEV.:			
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: 5.7	TOTAL DEPTH: 6.0
START DATE: 3/6/07	FINISH DATE: 3/6/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT					LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION	
	6in	6in	6in	6in	0	20	40	60	80	100			DEPTH	
0.0													0.0	LAND SURFACE
1.0	DP	DP	DP	DP								SP	1.0	Fill material- Fine SAND.
2.0												SP	2.0	Brown fine SAND.
4.0												SC/SM	4.0	Brown/gray SILTY to CLAYEY SAND.
5.0												SC/CL	6.0	Gray/brown CLAYEY SAND to SANDY CLAY.
										1430				Boring Terminated at Depth 6.0 ft CLAYEY SAND to SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID:
		DRILLER:	HA-4
NORTHING:	EASTING:	CREW:	
SYSTEM:	BORING LOCATION: 5' West of MW-05		LAND ELEV.:
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW: 5.7	TOTAL DEPTH: 6.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT						LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION	
	6in	6in	6in	6in	0	20	40	60	80	100				DEPTH	
0.0	DP	DP	DP	DP										0.0	LAND SURFACE
1.0												SP		1.0	Fill material- Fine SAND.
2.0												SP		2.0	Brown fine SAND.
3.0												SC/ SM			Brown/gray SILTY to CLAYEY SAND.
4.0											1440			4.0	
												SC/ CL		6.0	Gray/brown CLAYEY SAND to SANDY CLAY.
															Boring Terminated at Depth 6.0 ft CLAYEY SAND to SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID: HA-5
NORTHING:		EASTING:	CREW:
SYSTEM:		BORING LOCATION: 5' North of MW-04	
DRILL MACHINE: Power Probe	METHOD: Direct Push	0 HOUR DTW: 5.5	TOTAL DEPTH: 6.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT						LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION
	6in	6in	6in	6in	0	20	40	60	80	100					
0.0	DP	DP	DP	DP										0.0	LAND SURFACE
0.5														0.5	Asphalt.
2.0														2.0	Brown fine to medium SAND.
3.0														4.0	Brown SILTY SAND.
4.0											1445			4.0	
														6.0	Gray/brown SANDY CLAY.
															Boring Terminated at Depth 6.0 ft SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID: HA-6
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM:		BORING LOCATION: 5' East of MW-04	LAND ELEV.:
DRILL MACHINE: Power Probe	METHOD: Direct Push	0 HOUR DTW: 5.5	TOTAL DEPTH: 6.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT						LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION
	6in	6in	6in	6in	0	20	40	60	80	100					
0.0	DP	DP	DP	DP										0.0	LAND SURFACE
0.5														0.5	Asphalt.
2.0														2.0	Brown fine to medium SAND.
3.0														4.0	Brown SILTY SAND.
4.0											1450			6.0	Gray/brown SANDY CLAY.
															Boring Terminated at Depth 6.0 ft SANDY CLAY

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID: HA-7
		DRILLER:	
NORTHING:	EASTING:	CREW:	
SYSTEM:		BORING LOCATION: 5' South of MW-04	LAND ELEV.:
DRILL MACHINE: Power Probe	METHOD: Direct Push	0 HOUR DTW: 5.5	TOTAL DEPTH: 6.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT					LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION
	6in	6in	6in	6in	0	20	40	60	80	100				
0.0	DP	DP	DP	DP									0.0	LAND SURFACE
0.5													0.5	Asphalt.
2.0													2.0	Brown fine to medium SAND.
4.0													4.0	Brown SILTY SAND.
5.0											1455	SC/ CL	6.0	Gray/brown SANDY CLAY.
														Boring Terminated at Depth 6.0 ft SANDY CLAY

CATLIN BORING LOG 205-077 BLD AS-3504 GEL TEST GDT 4/10/07

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Building AS-3504		LOGGED BY: J. Heter	BORING ID: HA-8
NORTHING:		EASTING:	CREW:
SYSTEM:		BORING LOCATION: 5' West of MW-04	LAND ELEV.:
DRILL MACHINE: Power Probe	METHOD: Direct Push	0 HOUR DTW: 5.5	TOTAL DEPTH: 6.0
START DATE: 3/5/07	FINISH DATE: 3/5/07	24 HOUR DTW: NM	ROCK DEPTH: ---

DEPTH	BLOW COUNT				BLOWS PER FOOT						LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION
	6in	6in	6in	6in	0	20	40	60	80	100					
0.0	DP	DP	DP	DP										0.0	LAND SURFACE
0.5														0.5	Asphalt.
2.0														2.0	Brown fine to medium SAND.
3.0														4.0	Brown SILTY SAND.
4.0											1500			4.0	
														6.0	Gray/brown SANDY CLAY.
															Boring Terminated at Depth 6.0 ft SANDY CLAY

APPENDIX B

CATLIN STANDARD METHODS OF INVESTIGATION

CATLIN STANDARD METHODS OF INVESTIGATION

(REVISED APRIL 2002)

1.0 DATA COLLECTION

1.1 BACKGROUND DATA

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

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

1.2 SURVEYS AND POTENTIAL RECEPTOR DATA

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

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

1.2.1 Horizontal Survey

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

1.2.2 Vertical Survey

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

1.3 DRILLING AND MONITORING WELL/PIEZOMETER INSTALLATION

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

1.3.1 Drilling Methods and Subsurface Data Collection

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

Auger Drilling

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

Hand Augering

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

Direct Push

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

Other Methods

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

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

1.3.2 Hydropunch Installation

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

1.3.3 Well Installation

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

1.3.4 Well Development

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

1.4 HYDROGEOLOGIC DATA COLLECTION

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

1.4.1 Regional Geology

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

1.4.2 Site Geology

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

1.4.3 Groundwater Occurrence and Characteristics

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

Well Water Levels

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

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

Aquifer Testing

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

Other Methods

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

1.5 PETROLEUM HYDROCARBON DATA COLLECTION

1.5.1 Collection Methods

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

Field Analysis

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

Laboratory Analysis

- Laboratory analysis of phase-separated products.
- Laboratory vapor, soil, and groundwater analysis using appropriate EPA Methods.

1.5.2 Field Sampling

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

Product Samples

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

Vapor Samples

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

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

Soil Samples

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

Groundwater Samples

Groundwater samples are collected in accordance with the following procedures:

- Creeks/Lakes/Etc.

Grab samples are obtained.

- Domestic Wells

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

- Monitoring Wells

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

Three well volumes are removed from each well using a thoroughly cleaned Teflon bailer or appropriate purging pump. If it is not possible to remove three volumes, due to very low yields, a minimum of one volume is removed prior to obtaining a sample.

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

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

Sampling records are field prepared.

Samples are labeled and proper chain of custody documents are maintained.

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

2.0 DATA EVALUATION

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

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

APPENDIX C

**LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION**



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

Report Number: G128-1871

Client Project: 205-077 (AS-3504)

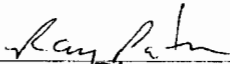
Dear Mr. Mason:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will 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 SGS/Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS/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,
SGS/Paradigm Analytical Laboratories, Inc.


Laboratory Director
J. Patrick Weaver

12/21/2006
Date


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

Client Sample ID: AS-3504 MW-04
 Client Project ID: 205-077 (AS-3504)
 Lab Sample ID: G128-1871-1A
 Lab Project ID: G128-1871
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected: 12-08-2006 15:00
 Date Received: 12/11/2006
 Matrix: Soil
 %Solids: 78.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.00245	0.0399	0.00235	1	12/13/2006	J
Benzene	BQL	0.00399	0.00228	1	12/13/2006	
Bromobenzene	BQL	0.00399	0.00196	1	12/13/2006	
Bromochloromethane	BQL	0.00399	0.00233	1	12/13/2006	
Bromodichloromethane	BQL	0.00399	0.00227	1	12/13/2006	
Bromoform	BQL	0.00399	0.00193	1	12/13/2006	
Bromomethane	BQL	0.00399	0.00335	1	12/13/2006	
2-Butanone	BQL	0.0200	0.00230	1	12/13/2006	
n-Butylbenzene	BQL	0.00399	0.00268	1	12/13/2006	
sec-Butylbenzene	BQL	0.00399	0.00279	1	12/13/2006	
tert-Butylbenzene	BQL	0.00399	0.00277	1	12/13/2006	
Carbon disulfide	BQL	0.00399	0.00210	1	12/13/2006	
Carbon tetrachloride	BQL	0.00399	0.00276	1	12/13/2006	
Chlorobenzene	BQL	0.00399	0.00200	1	12/13/2006	
Chloroethane	BQL	0.00399	0.00251	1	12/13/2006	
Chloroform	BQL	0.00399	0.00200	1	12/13/2006	
Chloromethane	BQL	0.00399	0.00192	1	12/13/2006	
2-Chlorotoluene	BQL	0.00399	0.00238	1	12/13/2006	
4-Chlorotoluene	BQL	0.00399	0.00222	1	12/13/2006	
Dibromochloromethane	BQL	0.00399	0.00179	1	12/13/2006	
1,2-Dibromo-3-chloropropane	BQL	0.00399	0.00846	1	12/13/2006	
Dibromomethane	BQL	0.00399	0.00240	1	12/13/2006	
1,2-Dibromoethane (EDB)	BQL	0.00399	0.00186	1	12/13/2006	
1,2-Dichlorobenzene	BQL	0.00399	0.00192	1	12/13/2006	
1,3-Dichlorobenzene	BQL	0.00399	0.00187	1	12/13/2006	
1,4-Dichlorobenzene	BQL	0.00399	0.00196	1	12/13/2006	
trans-1,4-Dichloro-2-butene	BQL	0.00399	0.00854	1	12/13/2006	
1,1-Dichloroethane	BQL	0.00399	0.00230	1	12/13/2006	
1,1-Dichloroethene	BQL	0.00399	0.00307	1	12/13/2006	
1,2-Dichloroethane	BQL	0.00399	0.00229	1	12/13/2006	
cis-1,2-Dichloroethene	BQL	0.00399	0.00196	1	12/13/2006	
trans-1,2-dichloroethene	BQL	0.00399	0.00260	1	12/13/2006	
1,2-Dichloropropane	BQL	0.00399	0.00204	1	12/13/2006	
1,3-Dichloropropane	BQL	0.00399	0.00183	1	12/13/2006	
2,2-Dichloropropane	BQL	0.00399	0.00254	1	12/13/2006	
1,1-Dichloropropene	BQL	0.00399	0.00288	1	12/13/2006	
cis-1,3-Dichloropropene	BQL	0.00399	0.00222	1	12/13/2006	
trans-1,3-Dichloropropene	BQL	0.00399	0.00226	1	12/13/2006	
Dichlorodifluoromethane	BQL	0.00399	0.00298	1	12/13/2006	
Diisopropyl ether (DIPE)	BQL	0.00399	0.00189	1	12/13/2006	
Ethylbenzene	BQL	0.00399	0.00243	1	12/13/2006	
Hexachlorobutadiene	BQL	0.00399	0.00315	1	12/13/2006	



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

Client Sample ID: AS-3504 MW-04
Client Project ID: 205-077 (AS-3504)
Lab Sample ID G128-1871-1A
Lab Project ID: G128-1871
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 12-08-2006 15:00
Date Received: 12/11/2006
Matrix: Soil
%Solids: 78.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00399	0.00174	1	12/13/2006	
Iodomethane	BQL	0.00399	0.00371	1	12/13/2006	
Isopropylbenzene	BQL	0.00399	0.00257	1	12/13/2006	
4-Isopropyltoluene	BQL	0.00399	0.00272	1	12/13/2006	
Methylene chloride	BQL	0.0160	0.00228	1	12/13/2006	
4-Methyl-2-pentanone	BQL	0.00399	0.00184	1	12/13/2006	
Methyl-tert-butyl ether (MTBE)	BQL	0.00399	0.00203	1	12/13/2006	
Naphthalene	BQL	0.00399	0.00161	1	12/13/2006	
n-Propyl benzene	BQL	0.00399	0.00256	1	12/13/2006	
Styrene	BQL	0.00399	0.00286	1	12/13/2006	
1,1,1,2-Tetrachloroethane	BQL	0.00399	0.00217	1	12/13/2006	
1,1,2,2-Tetrachloroethane	BQL	0.00399	0.00196	1	12/13/2006	
Tetrachloroethene	BQL	0.00399	0.00252	1	12/13/2006	
Toluene	BQL	0.00399	0.00236	1	12/13/2006	
1,2,3-Trichlorobenzene	BQL	0.00399	0.00175	1	12/13/2006	
1,2,4-Trichlorobenzene	BQL	0.00399	0.00179	1	12/13/2006	
Trichloroethene	BQL	0.00399	0.00249	1	12/13/2006	
1,1,1-Trichloroethane	BQL	0.00399	0.00275	1	12/13/2006	
1,1,2-Trichloroethane	BQL	0.00399	0.00206	1	12/13/2006	
Trichlorofluoromethane	BQL	0.00399	0.00330	1	12/13/2006	
1,2,3-Trichloropropane	BQL	0.00399	0.00212	1	12/13/2006	
1,2,4-Trimethylbenzene	BQL	0.00399	0.00224	1	12/13/2006	
1,3,5-Trimethylbenzene	BQL	0.00399	0.00238	1	12/13/2006	
Vinyl chloride	BQL	0.00399	0.00264	1	12/13/2006	
m-,p-Xylene	BQL	0.00799	0.00453	1	12/13/2006	
o-Xylene	BQL	0.00399	0.00224	1	12/13/2006	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0428	86		
1,2-Dichloroethane-d4		0.05	0.0614	123		
Toluene-d8		0.05	0.0454	91		

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By: RL


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

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID VBLK9121306B
 Lab Project ID:
 Report Basis: Dry Weight

Analyzed By: MJC
 Date Collected:
 Date Received:
 Matrix: Soil
 %Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	2.94	1	12/13/2006	
Benzene	BQL	5.00	2.85	1	12/13/2006	
Bromobenzene	BQL	5.00	2.46	1	12/13/2006	
Bromochloromethane	BQL	5.00	2.92	1	12/13/2006	
Bromodichloromethane	BQL	5.00	2.84	1	12/13/2006	
Bromoform	BQL	5.00	2.42	1	12/13/2006	
Bromomethane	BQL	5.00	4.19	1	12/13/2006	
2-Butanone	BQL	25.0	2.88	1	12/13/2006	
n-Butylbenzene	BQL	5.00	3.35	1	12/13/2006	
sec-Butylbenzene	BQL	5.00	3.50	1	12/13/2006	
tert-Butylbenzene	BQL	5.00	3.47	1	12/13/2006	
Carbon disulfide	BQL	5.00	2.63	1	12/13/2006	
Carbon tetrachloride	BQL	5.00	3.46	1	12/13/2006	
Chlorobenzene	BQL	5.00	2.51	1	12/13/2006	
Chloroethane	BQL	5.00	3.14	1	12/13/2006	
Chloroform	BQL	5.00	2.51	1	12/13/2006	
Chloromethane	BQL	5.00	2.41	1	12/13/2006	
2-Chlorotoluene	BQL	5.00	2.98	1	12/13/2006	
4-Chlorotoluene	BQL	5.00	2.78	1	12/13/2006	
Dibromochloromethane	BQL	5.00	2.24	1	12/13/2006	
1,2-Dibromo-3-chloropropane	BQL	5.00	10.6	1	12/13/2006	
Dibromomethane	BQL	5.00	3.00	1	12/13/2006	
1,2-Dibromoethane (EDB)	BQL	5.00	2.33	1	12/13/2006	
1,2-Dichlorobenzene	BQL	5.00	2.41	1	12/13/2006	
1,3-Dichlorobenzene	BQL	5.00	2.34	1	12/13/2006	
1,4-Dichlorobenzene	BQL	5.00	2.46	1	12/13/2006	
trans-1,4-Dichloro-2-butene	BQL	5.00	10.7	1	12/13/2006	
1,1-Dichloroethane	BQL	5.00	2.88	1	12/13/2006	
1,1-Dichloroethene	BQL	5.00	3.85	1	12/13/2006	
1,2-Dichloroethane	BQL	5.00	2.87	1	12/13/2006	
cis-1,2-Dichloroethene	BQL	5.00	2.46	1	12/13/2006	
trans-1,2-dichloroethene	BQL	5.00	3.25	1	12/13/2006	
1,2-Dichloropropane	BQL	5.00	2.56	1	12/13/2006	
1,3-Dichloropropane	BQL	5.00	2.29	1	12/13/2006	
2,2-Dichloropropane	BQL	5.00	3.18	1	12/13/2006	
1,1-Dichloropropene	BQL	5.00	3.61	1	12/13/2006	
cis-1,3-Dichloropropene	BQL	5.00	2.78	1	12/13/2006	
trans-1,3-Dichloropropene	BQL	5.00	2.83	1	12/13/2006	
Dichlorodifluoromethane	BQL	5.00	3.73	1	12/13/2006	
Diisopropyl ether (DIPE)	BQL	5.00	2.37	1	12/13/2006	
Ethylbenzene	BQL	5.00	3.04	1	12/13/2006	
Hexachlorobutadiene	BQL	5.00	3.95	1	12/13/2006	



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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9121306B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	2.18	1	12/13/2006	
Iodomethane	BQL	5.00	4.65	1	12/13/2006	
Isopropylbenzene	BQL	5.00	3.22	1	12/13/2006	
4-Isopropyltoluene	BQL	5.00	3.40	1	12/13/2006	
Methylene chloride	BQL	20.0	2.86	1	12/13/2006	
4-Methyl-2-pentanone	BQL	5.00	2.31	1	12/13/2006	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	2.54	1	12/13/2006	
Naphthalene	BQL	5.00	2.01	1	12/13/2006	
n-Propyl benzene	BQL	5.00	3.21	1	12/13/2006	
Styrene	BQL	5.00	3.58	1	12/13/2006	
1,1,1,2-Tetrachloroethane	BQL	5.00	2.72	1	12/13/2006	
1,1,2,2-Tetrachloroethane	BQL	5.00	2.46	1	12/13/2006	
Tetrachloroethene	BQL	5.00	3.15	1	12/13/2006	
Toluene	BQL	5.00	2.96	1	12/13/2006	
1,2,3-Trichlorobenzene	BQL	5.00	2.19	1	12/13/2006	
1,2,4-Trichlorobenzene	BQL	5.00	2.24	1	12/13/2006	
Trichloroethene	BQL	5.00	3.12	1	12/13/2006	
1,1,1-Trichloroethane	BQL	5.00	3.45	1	12/13/2006	
1,1,2-Trichloroethane	BQL	5.00	2.58	1	12/13/2006	
Trichlorofluoromethane	BQL	5.00	4.13	1	12/13/2006	
1,2,3-Trichloropropane	BQL	5.00	2.65	1	12/13/2006	
1,2,4-Trimethylbenzene	BQL	5.00	2.80	1	12/13/2006	
1,3,5-Trimethylbenzene	BQL	5.00	2.98	1	12/13/2006	
Vinyl chloride	BQL	5.00	3.30	1	12/13/2006	
m-,p-Xylene	BQL	10.0	5.67	1	12/13/2006	
o-Xylene	BQL	5.00	2.80	1	12/13/2006	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	38.7	77
1,2-Dichloroethane-d4	50	53.8	108
Toluene-d8	50	44.9	90

Comments:

Flags:

BQL = Below Quantitation Limits.

Reviewed By:



SGS Environmental Services

LABORATORY CONTROL SAMPLE VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) Soil

Lab Sample ID: LCS9121306a

Sample wt/vol: 5.00 (g)

Lab File ID: 1213905.D

Level: (low/med) low

% Moisture: not dec.

Date Analyzed: 2006-12-13 14:10

GC Column: DB-624 ID: 0.2 (mm)

Dilution Factor: 1

Soil Extract Volume: NA

Soil Aliquot Volume: NA

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
71-43-2	benzene	30.0	28.2	93.9	77.6-122
108-90-7	chlorobenzene	30.0	26.6	88.7	75.3-125
75-35-4	1,1-dichloroethene	30.0	25.6	85.2	78.5-121
108-88-3	toluene	30.0	27.5	91.7	75.7-124
79-01-6	trichloroethene	30.0	26.0	86.6	60.8-139

System Monitoring Compound Results

		Spike Added (µg/kg)	Spike Result (µg/kg)	Percent Rec. (%)	Percent Recovery (%)
460-00-4	4-Bromofluorobenzene	50	45.0	90.0	49.1 - 151
17060-07-0	1,2-Dichloroethane-d4	50	51.0	102	37.8 - 170
2037-26-5	Toluene-d8	50	48.0	96.0	58.8 - 144



SGS Environmental Services

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

LCS: LCS9121306A

Filename: 1213905.D

Date Analyzed: 12/13/06 14:10 Dilution: 1

LCSD: LCS9121306B

Filename: 1213906.D

Date Analyzed: 12/13/06 14:36 Matrix: Soil

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS	
								RPD	REC
benzene	30.0	28.2	93.9	30.0	27.5	91.6	2.48	30	77.6-122
chlorobenzene	30.0	26.6	88.7	30.0	27.7	92.3	3.94	30	75.3-125
1,1-dichloroethene	30.0	25.6	85.2	30.0	25.9	86.4	1.36	30	78.5-121
toluene	30.0	27.5	91.7	30.0	26.6	88.6	3.44	30	75.7-124
trichloroethene	30.0	26.0	86.6	30.0	25.8	86.1	0.656	30	60.8-139

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

* Values outside of QC limits

COMMENTS:

SGS ENVIRONMENTAL SERVICES, INC.



SGS Environmental Services

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No. g537-278-16a

Dilution: 1

Filenames: 1213910.D, 1213922.D, 1213923.D

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS %	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD %	RPD	QC LIMITS	
									RPD	REC
benzene	BQL	39.9	35.8	89.7	39.9	32.0	80.4	11.0	30	74.8-133
chlorobenzene	BQL	39.9	25.0	62.7*	39.9	19.9	50.0*	22.5	30	66.3-135
1,1-dichloroethene	BQL	39.9	32.7	82.0	39.9	29.3	73.5	10.9	30	72.0-135
toluene	BQL	39.9	31.2	78.4	39.9	28.4	71.2	9.54	30	70.5-138
trichloroethene	BQL	39.9	29.7	74.5	39.9	26.7	66.9	10.6	30	60.7-152

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

* Values outside of QC limits

COMMENTS:



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS-3504 MW-04
Client Project ID: 205-077 (AS-3504)
Lab Sample ID: G128-1871-1J
Lab Project ID: G128-1871
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 12/8/2006 15:00
Date Received: 12/11/2006
Date Extracted: 12/15/2006
Matrix: Soil
% Solids: 78.17

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.389	0.056	1	12/19/2006	
Acenaphthylene	BQL	0.389	0.052	1	12/19/2006	
Anthracene	BQL	0.389	0.057	1	12/19/2006	
Benzo[a]anthracene	BQL	0.389	0.067	1	12/19/2006	
Benzo[a]pyrene	BQL	0.389	0.060	1	12/19/2006	
Benzo[b]fluoranthene	BQL	0.389	0.068	1	12/19/2006	
Benzo[g,h,i]perylene	BQL	0.389	0.106	1	12/19/2006	
Benzo[k]fluoranthene	BQL	0.389	0.075	1	12/19/2006	
Benzoic Acid	BQL	0.779	0.779	1	12/19/2006	
Bis(2-chloroethoxy)methane	BQL	0.389	0.058	1	12/19/2006	
Bis(2-chloroethyl)ether	BQL	0.389	0.047	1	12/19/2006	
Bis(2-chloroisopropyl)ether	BQL	0.389	0.049	1	12/19/2006	
Bis(2-ethylhexyl)phthalate	BQL	0.389	0.052	1	12/19/2006	
4-bromophenyl phenyl ether	BQL	0.389	0.066	1	12/19/2006	
Butylbenzylphthalate	BQL	0.389	0.060	1	12/19/2006	
2-Chloronaphthalene	BQL	0.389	0.061	1	12/19/2006	
2-Chlorophenol	BQL	0.389	0.122	1	12/19/2006	
4-Chloro-3-methylphenol	BQL	0.389	0.122	1	12/19/2006	
4-Chloroaniline	BQL	1.95	0.297	1	12/19/2006	
4-Chlorophenyl phenyl ether	BQL	0.389	0.057	1	12/19/2006	
Chrysene	BQL	0.389	0.042	1	12/19/2006	
Dibenzo[a,h]anthracene	BQL	0.389	0.109	1	12/19/2006	
Dibenzofuran	BQL	0.389	0.071	1	12/19/2006	
Di-n-Butylphthalate	BQL	0.389	0.046	1	12/19/2006	
1,2-Dichlorobenzene	BQL	0.389	0.043	1	12/19/2006	
1,3-Dichlorobenzene	BQL	0.389	0.042	1	12/19/2006	
1,4-Dichlorobenzene	BQL	0.389	0.044	1	12/19/2006	
3,3'-Dichlorobenzidine	BQL	0.779	0.098	1	12/19/2006	
2,4-Dichlorophenol	BQL	0.389	0.140	1	12/19/2006	
Diethylphthalate	BQL	0.389	0.050	1	12/19/2006	
Dimethylphthalate	BQL	0.389	0.047	1	12/19/2006	
2,4-Dimethylphenol	BQL	0.389	0.278	1	12/19/2006	
Di-n-octylphthalate	BQL	0.389	0.064	1	12/19/2006	
4,6-Dinitro-2-methylphenol	BQL	1.95	0.229	1	12/19/2006	
2,4-Dinitrophenol	BQL	1.95	0.858	1	12/19/2006	
2,4-Dinitrotoluene	BQL	0.389	0.051	1	12/19/2006	
2,6-Dinitrotoluene	BQL	0.389	0.071	1	12/19/2006	
Diphenylamine *	BQL	0.389	0.038	1	12/19/2006	
Fluoranthene	BQL	0.389	0.055	1	12/19/2006	
Fluorene	BQL	0.389	0.048	1	12/19/2006	
Hexachlorobenzene	BQL	0.389	0.060	1	12/19/2006	
Hexachlorobutadiene	BQL	0.389	0.062	1	12/19/2006	
Hexachlorocyclopentadiene	BQL	0.779	0.040	1	12/19/2006	
Hexachloroethane	BQL	0.389	0.035	1	12/19/2006	
Indeno(1,2,3-c,d)pyrene	BQL	0.389	0.100	1	12/19/2006	
Isophorone	BQL	0.389	0.057	1	12/19/2006	
2-Methylnaphthalene	BQL	0.389	0.114	1	12/19/2006	
2-Methylphenol	BQL	0.389	0.137	1	12/19/2006	
3- & 4-Methylphenol	BQL	0.389	0.132	1	12/19/2006	
Naphthalene	BQL	0.389	0.032	1	12/19/2006	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS-3504 MW-04
 Client Project ID: 205-077 (AS-3504)
 Lab Sample ID: G128-1871-1J
 Lab Project ID: G128-1871
 Report Basis: Dry weight

Analyzed By: EAW
 Date Collected: 12/8/2006 15:00
 Date Received: 12/11/2006
 Date Extracted: 12/15/2006
 Matrix: Soil
 % Solids: 78.17

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
2-Nitroaniline	BQL	0.389	0.061	1	12/19/2006	
3-Nitroaniline	BQL	1.95	0.401	1	12/19/2006	
4-Nitroaniline	BQL	1.95	0.120	1	12/19/2006	
Nitrobenzene	BQL	0.389	0.053	1	12/19/2006	
2-Nitrophenol	BQL	0.389	0.121	1	12/19/2006	
4-Nitrophenol	BQL	1.95	0.108	1	12/19/2006	
N-Nitrosodi-n-propylamine	BQL	0.389	0.050	1	12/19/2006	
Pentachlorophenol	BQL	1.95	0.102	1	12/19/2006	
Phenanthrene	BQL	0.389	0.044	1	12/19/2006	
Phenol	BQL	0.389	0.107	1	12/19/2006	
Pyrene	BQL	0.389	0.075	1	12/19/2006	
1,2,4-Trichlorobenzene	BQL	0.389	0.049	1	12/19/2006	
2,4,5-Trichlorophenol	BQL	0.389	0.151	1	12/19/2006	
2,4,6-Trichlorophenol	BQL	0.389	0.139	1	12/19/2006	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8.7	87		
2-Fluorophenol		10	10.1	101		
Nitrobenzene-d5		10	9.6	96		
Phenol-d6		10	9.9	99		
2,4,6-Tribromophenol		10	8.9	88		
4-Terphenyl-d14		10	10.5	105		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: EAW

**Results of Library Search for Semivolatile Compounds**
by GCMS

Client Sample ID: AS-3504 MW-04
Client Project ID: 205-077 (AS-3504)
Lab Sample ID: G128-1871-1J
Lab Project ID: G128-1871
Sample Wt/Vol: 32.85 g
Dilution: 1

Analyzed By: EAW
Date Collected: 12/8/2006 15:00
Date Received: 12/11/2006
Date Extracted: 12/15/2006
Date Analyzed: 12/19/2007
Matrix: Soil
% Solids: 78.2

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/KG)
1	Unknown	11.66			263
2	Unknown	16.93			200
3	Unknown	16.98			185
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: EW



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB6924
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 12/15/2006
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	313	44.7	1	12/19/2006	
Acenaphthylene	BQL	313	41.6	1	12/19/2006	
Anthracene	BQL	313	45.3	1	12/19/2006	
Benzo[a]anthracene	BQL	313	54.1	1	12/19/2006	
Benzo[a]pyrene	BQL	313	47.8	1	12/19/2006	
Benzo[b]fluoranthene	BQL	313	54.7	1	12/19/2006	
Benzo[g,h,i]perylene	BQL	313	85.0	1	12/19/2006	
Benzo[k]fluoranthene	BQL	313	60.3	1	12/19/2006	
Benzoic Acid	BQL	625	625	1	12/19/2006	
Bis(2-chloroethoxy)methane	BQL	313	46.6	1	12/19/2006	
Bis(2-chloroethyl)ether	BQL	313	37.8	1	12/19/2006	
Bis(2-chloroisopropyl)ether	BQL	313	39.1	1	12/19/2006	
Bis(2-ethylhexyl)phthalate	BQL	313	41.9	1	12/19/2006	
4-bromophenyl phenyl ether	BQL	313	52.8	1	12/19/2006	
Butylbenzylphthalate	BQL	313	48.1	1	12/19/2006	
2-Chloronaphthalene	BQL	313	49.1	1	12/19/2006	
2-Chlorophenol	BQL	313	97.8	1	12/19/2006	
4-Chloro-3-methylphenol	BQL	313	97.5	1	12/19/2006	
4-Chloroaniline	BQL	1560	238	1	12/19/2006	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	12/19/2006	
Chrysene	BQL	313	33.8	1	12/19/2006	
Dibenzo[a,h]anthracene	BQL	313	87.5	1	12/19/2006	
Dibenzofuran	BQL	313	56.9	1	12/19/2006	
Di-n-Butylphthalate	BQL	313	37.2	1	12/19/2006	
1,2-Dichlorobenzene	BQL	313	34.7	1	12/19/2006	
1,3-Dichlorobenzene	BQL	313	34.1	1	12/19/2006	
1,4-Dichlorobenzene	BQL	313	35.3	1	12/19/2006	
3,3'-Dichlorobenzidine	BQL	625	78.8	1	12/19/2006	
2,4-Dichlorophenol	BQL	313	113	1	12/19/2006	
Diethylphthalate	BQL	313	40.3	1	12/19/2006	
Dimethylphthalate	BQL	313	37.8	1	12/19/2006	
2,4-Dimethylphenol	BQL	313	223	1	12/19/2006	
Di-n-octylphthalate	BQL	313	51.6	1	12/19/2006	
4,6-Dinitro-2-methylphenol	BQL	1560	184	1	12/19/2006	
2,4-Dinitrophenol	BQL	1560	688	1	12/19/2006	
2,4-Dinitrotoluene	BQL	313	40.6	1	12/19/2006	
2,6-Dinitrotoluene	BQL	313	56.9	1	12/19/2006	
Diphenylamine *	BQL	313	30.6	1	12/19/2006	
Fluoranthene	BQL	313	43.7	1	12/19/2006	
Fluorene	BQL	313	38.8	1	12/19/2006	
Hexachlorobenzene	BQL	313	48.1	1	12/19/2006	
Hexachlorobutadiene	BQL	313	50.0	1	12/19/2006	
Hexachlorocyclopentadiene	BQL	625	32.2	1	12/19/2006	
Hexachloroethane	BQL	313	28.1	1	12/19/2006	
Indeno(1,2,3-c,d)pyrene	BQL	313	80.0	1	12/19/2006	
Isophorone	BQL	313	45.9	1	12/19/2006	
2-Methylnaphthalene	BQL	313	91.2	1	12/19/2006	
2-Methylphenol	BQL	313	110	1	12/19/2006	
3- & 4-Methylphenol	BQL	313	106	1	12/19/2006	
Naphthalene	BQL	313	25.3	1	12/19/2006	



**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID: PB6924
 Lab Project ID:
 Report Basis: Dry Weight

Analyzed By: EAW
 Date Collected:
 Date Received:
 Date Extracted: 12/15/2006
 Matrix: SOIL
 % Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
2-Nitroaniline	BQL	313	49.1	1	12/19/2006	
3-Nitroaniline	BQL	1560	322	1	12/19/2006	
4-Nitroaniline	BQL	1560	96.3	1	12/19/2006	
Nitrobenzene	BQL	313	42.2	1	12/19/2006	
2-Nitrophenol	BQL	313	96.9	1	12/19/2006	
4-Nitrophenol	BQL	1560	86.6	1	12/19/2006	
N-Nitrosodi-n-propylamine	BQL	313	39.7	1	12/19/2006	
Pentachlorophenol	BQL	1560	81.6	1	12/19/2006	
Phenanthrene	BQL	313	35.6	1	12/19/2006	
Phenol	BQL	313	85.6	1	12/19/2006	
Pyrene	BQL	313	60.0	1	12/19/2006	
1,2,4-Trichlorobenzene	BQL	313	39.1	1	12/19/2006	
2,4,5-Trichlorophenol	BQL	313	121	1	12/19/2006	
2,4,6-Trichlorophenol	BQL	313	111	1	12/19/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.2	92
2-Fluorophenol	10	10.2	102
Nitrobenzene-d5	10	9.7	97
Phenol-d6	10	10	100
2,4,6-Tribromophenol	10	9.1	91
4-Terphenyl-d14	10	9.8	98

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By:



**Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS**

Client Sample ID: Batch QC

Date Collected:

Client Project ID:

Date Received:

Lab Sample ID: Batch-6924-MS/MSD/LCS

Date Extracted: 12/15/07

Lab Project ID:

Date Analyzed: 12/19/06

Matrix: SOIL

Analyzed By: EAW

Prep Method: 3540

Dilution: 1

	Sample Amount (µg/kg)	MS Spike (µg/kg)	MS Conc. (µg/kg)	MS Spike % Rec.	MSD Spike (µg/kg)	MSD Conc. (µg/kg)	MSD Conc. % Rec.	RPD	QC Limits	
									RPD	% Rec.
Acenaphthylene	BQL	3920	3790	96.6	3950	3850	97.3	0.722	30	73.0-140
4-Chloro-3-methylphenol	BQL	3920	4040	103	3950	4190	106.0	2.58	30	80.0-115
2-Chlorophenol	BQL	3920	3800	97.0	3950	3880	98.1	1.13	30	77.1-111
1,4-Dichlorobenzene	BQL	3920	3510	89.6	3950	3560	90.2	0.667	30	70.6-117
2,4-Dinitrotoluene	BQL	3920	3820	97.5	3950	3970	100.0	2.93	30	67.6-136
N-Nitrosodi-n-propylamine	BQL	3920	3980	102	3950	4150	105.0	3.39	30	74.3-133
4-Nitrophenol	BQL	3920	4150	106	3950	4410	111.0	5.15	30	56.8-133
Pentachlorophenol	BQL	3920	3440	87.8	3950	3460	87.6	0.228	30	29.2-108
Phenol	BQL	3920	4040	103	3950	3960	100.0	2.86	30	71.2-120
Pyrene	BQL	3920	4310	110	3950	4010	102.0	7.95	30	68.5-140
1,2,4-Trichlorobenzene	BQL	3920	3410	87.0	3950	3520	89.1	2.39	30	68.9-119

	Spiked Amount (µg/kg)	LCS Conc. (µg/kg)	LCS Spike %	QC Limits % Rec.
Acenaphthylene	3125	3190	102	80.9-143
4-Chloro-3-methylphenol	3125	3330	106	83.9-124
2-Chlorophenol	3125	3140	100	80.3-119
1,4-Dichlorobenzene	3125	2970	95.0	76.3-118
2,4-Dinitrotoluene	3125	3220	103	80.6-126
N-Nitrosodi-n-propylamine	3125	3370	108	80.3-131
4-Nitrophenol	3125	3200	102	60.0-145
Pentachlorophenol	3125	2790	89.2	36.4-114
Phenol	3125	3220	103	74.3-117
Pyrene	3125	3980	127	74.7-141
1,2,4-Trichlorobenzene	3125	2880	92.0	74.1-120

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: EAW



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: 205-077 (AS-3504)

Sample Information and Analytical Results	
Sample Identification	AS-3504 MW-04
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/08/06
Date Received	12/11/06
Date Extracted	12/08/06
Date Analyzed	12/18/06
Dry Weight	78
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	91
Surrogate % Recovery - FID	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: g128-1871-1e

Reviewed By: BJ



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 11/21/06PID Initial Calibration Date: 11/21/06

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	21.8	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	24.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/18/06

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	-11.9
C ₉ -C ₁₂ Aliphatics	500	50	12.5
C ₉ -C ₁₀ Aromatics	500	50	7.9

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: 205-077 (AS-3504)

Sample Information and Analytical Results	
Sample Identification	AS-3504 MW-04
Sample Matrix	Soil
Date Collected	12/08/06
Date Received	12/11/06
Date Extracted	12/12/06
Date Analyzed	12/15/06
Dry Weight	78.2
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	92
Aromatic Surrogate % Recovery	88

Comments:

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

Lab info: G128-1871-1G

Reviewed By: RS



Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/14/06

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	1.00	Linear Regression
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	1.0	Linear Regression
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	1	Linear Regression
	85		
	170		
	340		
	680		

Calibration Check Date: 12/14/06

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-5.9
C ₁₉ -C ₃₆ Aliphatics	160	-6.7
C ₁₁ -C ₂₂ Aromatics	340	-19.3

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% 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.

1 CLIENT: <u>DOD Lejune</u>		PHONE NO: <u>(910) 352-7741</u>		PAGE <u>6128-1871</u> OF <u>6</u>		SGS Reference:		SAMPLE TYPE C= COMP G= GRAB		No CONTAINERS		Preservatives Used Analysis Required		Shipping Carrier:		Samples Received Cold? (Circle) YES NO											
CONTACT: <u>Mike E. Mason</u>		PROJECT: <u>205-077 (AS-3504)</u>		E-MAIL:		QUOTE #		P.O. NUMBER <u>261211-4</u>		SAMPLE IDENTIFICATION		DATE		TIME		MATRIX		REMARKS									
REPORTS TO:		INVOICE TO:		FAX NO: <u>(910) 452-7563</u>		Catlin		LAB NO.		AS-3504 MN-04		12/8		1500		S		8270 + EPH 8260/5035 VPH 8260/5035 VAB		Shipping Ticket No:		Temperature [C]: <u>58°C</u>		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT			
Relinquished By: (1) <u>Justin Hoto</u>		Relinquished By: (2)		Relinquished By: (3)		Relinquished By: (4)		Date		Date		Date		Date		Time		Time		Time		Time		Requested Turnaround Time and Special Instructions:		Standard	



Mr. Jason Cook
Richard Catlin & Associates
P.O. Box 10279
Wilmington NC 28404-0279

Report Number: G128-1874

Client Project: Blg AS-3504 Phase 1 LSA

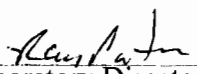
Dear Mr. Cook:

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 SGS/Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS/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,
SGS/Paradigm Analytical Laboratories, Inc.



Laboratory Director
J. Patrick Weaver

12/29/2006

Date

**Results for Volatiles**

by GC 602

Client Sample ID: USTAS3504-MW04

Analyzed By: RSB

Client Project ID: Blg AS-3504 Phase 1 LSA

Date Collected: 12/14/2006 11:50

Lab Sample ID: G128-1874-1A

Date Received: 12/14/2006

Lab Project ID: G128-1874

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.183	1	12/20/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.229	1	12/20/2006	
Ethylbenzene	BQL	1.00	0.181	1	12/20/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.359	1	12/20/2006	
Toluene	BQL	1.00	0.157	1	12/20/2006	
m/p-Xylene	BQL	2.00	0.481	1	12/20/2006	
o-Xylene	BQL	2.00	0.584	1	12/20/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	38.9	97.2

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

**Results for Volatiles**

by GC 602

Client Sample ID: Method Blank

Analyzed By: RSB

Client Project ID:

Date Collected:

Lab Sample ID: VBLK1122106A

Date Received:

Lab Project ID:

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.183	1	12/20/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.229	1	12/20/2006	
Ethylbenzene	BQL	1.00	0.181	1	12/20/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.359	1	12/20/2006	
Toluene	BQL	1.00	0.157	1	12/20/2006	
m/p-Xylene	BQL	2.00	0.481	1	12/20/2006	
o-Xylene	BQL	2.00	0.584	1	12/20/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.4	101

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.



Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10
 Instrument : gc1
 Sample : 122106\011r0101.txt
 MS : 122106\013r0101.txt
 MSD : 122106\014r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	ND	11.7	10.2	117	102	39	150
Chlorobenzene	ND	11.4	9.9	114	99	55	135
1,2-Dichlorobenzene	4.6	18.1	15.2	135	106	37	154
1,3-Dichlorobenzene	ND	13.5	11.7	130	112	50	141
1,4-Dichlorobenzene	ND	11.6	10.1	116	101	42	143
• Diisopropyl ether	ND	11.5	9.8	115	98	30	170
Ethylbenzene	ND	12.5	10.8	124	107	32	160
• MTBE	ND	11.3	9.7	113	97	35	165
Toluene	ND	11.8	10.2	118	102	46	148
• m,p-Xylene	8.9	36.0	30.3	136	107	D	239
• o-Xylene	10.9	25.9	21.3	151	104	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected
- ND = None Detected

Reviewed by: ew



Control Limits for QC Check / Laboratory Control Spike

Method: 602 Spike[ppb]: 10
 Instrument : gc1
 Filename : 122106\004r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	10.1	101.2	77.0	123.0	101	39	150
Chlorobenzene	10.0	99.7	80.5	119.5	100	55	135
1,2-Dichlorobenzene	10.7	106.6	68.0	132.0	107	37	154
1,3-Dichlorobenzene	10.4	104.5	72.5	127.5	104	50	141
1,4-Dichlorobenzene	10.6	105.8	69.5	130.5	106	42	143
• Diisopropyl ether	9.9	99.5	43.1	156.9	99	30	170
Ethylbenzene	10.3	102.7	63.0	137.0	103	32	160
• MTBE	10.0	100.1	46.8	153.2	100	35	165
Toluene	10.1	101.4	77.5	127.0	101	46	148
• m,p-Xylene	20.6	102.9	11.2	188.8	103	D	239
• o-Xylene	10.3	103.2	47.6	152.4	103	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected

Reviewed by: Paul



Control Limits for QC Check / Laboratory Control Spike

Method: 602 Spike[ppb]: 10
 Instrument : gc1
 Filename : 122106\005r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	10.0	99.5	77.0	123.0	100	39	150
Chlorobenzene	9.8	97.9	80.5	119.5	98	55	135
1,2-Dichlorobenzene	10.3	102.5	68.0	132.0	103	37	154
1,3-Dichlorobenzene	10.1	101.1	72.5	127.5	101	50	141
1,4-Dichlorobenzene	10.1	101.3	69.5	130.5	101	42	143
Diisopropyl ether	9.8	98.0	43.1	156.9	98	30	170
Ethylbenzene	10.1	101.3	63.0	137.0	101	32	160
MTBE	9.8	97.8	46.8	153.2	98	35	165
Toluene	9.9	98.7	77.5	127.0	99	46	148
m,p-Xylene	20.4	101.8	11.2	188.8	102	D	239
o-Xylene	10.2	101.9	47.6	152.4	102	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected

Reviewed by: *R*



**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTAS3504-MW04
 Client Project ID: Blg AS-3504 Phase 1 LSA
 Lab Sample ID: G128-1874-1H
 Lab Project ID: G128-1874

Analyzed By: EAW
 Date Collected: 12/14/2006 11:50
 Date Received: 12/14/2006
 Date Extracted: 12/18/2006
 Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/20/2006	
Acenaphthylene	BQL	10.0	1.12	1	12/20/2006	
Anthracene	BQL	10.0	1.75	1	12/20/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/20/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/20/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/20/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/20/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/20/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/20/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/20/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/20/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/20/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/20/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/20/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/20/2006	
2-Chlorophenol	BQL	10.0	4.22	1	12/20/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/20/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/20/2006	
Chrysene	BQL	10.0	1.11	1	12/20/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/20/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/20/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/20/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/20/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/20/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/20/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/20/2006	
Diethylphthalate	BQL	10.0	1.48	1	12/20/2006	
Dimethylphthalate	BQL	10.0	1.04	1	12/20/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/20/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/20/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/20/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/20/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/20/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/20/2006	
Diphenylamine *	BQL	10.0	1.53	1	12/20/2006	
Fluoranthene	BQL	10.0	1.41	1	12/20/2006	
Fluorene	BQL	10.0	1.22	1	12/20/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	12/20/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/20/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/20/2006	
Hexachloroethane	BQL	10.0	1.58	1	12/20/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/20/2006	
Isophorone	BQL	10.0	1.27	1	12/20/2006	
Naphthalene	BQL	10.0	1.08	1	12/20/2006	
Nitrobenzene	BQL	10.0	1.32	1	12/20/2006	
2-Nitrophenol	BQL	10.0	3.52	1	12/20/2006	
4-Nitrophenol	BQL	50.0	3.17	1	12/20/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/20/2006	
Pentachlorophenol	BQL	50.0	2.83	1	12/20/2006	
Phenanthrene	BQL	10.0	1.38	1	12/20/2006	



**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTAS3504-MW04
 Client Project ID: Blg AS-3504 Phase 1 LSA
 Lab Sample ID: G128-1874-1H
 Lab Project ID: G128-1874

Analyzed By: EAW
 Date Collected: 12/14/2006 11:50
 Date Received: 12/14/2006
 Date Extracted: 12/18/2006
 Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Phenol	BQL	10.0	3.38	1	12/20/2006	
Pyrene	BQL	10.0	2.08	1	12/20/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/20/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/20/2006	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8.3	83		
2-Fluorophenol		10	9.6	96		
Nitrobenzene-d5		10	9.1	91		
Phenol-d6		10	9.5	95		
2,4,6-Tribromophenol		10	8.6	86		
4-Terphenyl-d14		10	9.4	94		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By:

**Results of Library Search for Semivolatile Compounds**
by GCMS

Client Sample ID: USTAS3504-MW04
Client Project ID: Blg AS-3504 Phase 1 LSA
Lab Sample ID: G128-1874-1H
Lab Project ID: G128-1874
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 12/14/2006 11:50
Date Received: 12/14/2006
Date Extracted: 12/18/2006
Date Analyzed: 12/19/2007
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	11.66			9.79
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: EAW



**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB6940
Lab Project ID:

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 12/18/2006
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/19/2006	
Acenaphthylene	BQL	10.0	1.12	1	12/19/2006	
Anthracene	BQL	10.0	1.75	1	12/19/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/19/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/19/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/19/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/19/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/19/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/19/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/19/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/19/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/19/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/19/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/19/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/19/2006	
2-Chlorophenol	BQL	10.0	4.22	1	12/19/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/19/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/19/2006	
Chrysene	BQL	10.0	1.11	1	12/19/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/19/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/19/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/19/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/19/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/19/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/19/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/19/2006	
Diethylphthalate	BQL	10.0	1.48	1	12/19/2006	
Dimethylphthalate	BQL	10.0	1.04	1	12/19/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/19/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/19/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/19/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/19/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/19/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/19/2006	
Diphenylamine *	BQL	10.0	1.53	1	12/19/2006	
Fluoranthene	BQL	10.0	1.41	1	12/19/2006	
Fluorene	BQL	10.0	1.22	1	12/19/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	12/19/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/19/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/19/2006	
Hexachloroethane	BQL	10.0	1.58	1	12/19/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/19/2006	
Isophorone	BQL	10.0	1.27	1	12/19/2006	
Naphthalene	BQL	10.0	1.08	1	12/19/2006	
Nitrobenzene	BQL	10.0	1.32	1	12/19/2006	
2-Nitrophenol	BQL	10.0	3.52	1	12/19/2006	
4-Nitrophenol	BQL	50.0	3.17	1	12/19/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/19/2006	
Pentachlorophenol	BQL	50.0	2.83	1	12/19/2006	
Phenanthrene	BQL	10.0	1.38	1	12/19/2006	



**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
 Client Project ID:
 Lab Sample ID: PB6940
 Lab Project ID:

Analyzed By: EAW
 Date Collected:
 Date Received:
 Date Extracted: 12/18/2006
 Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Phenol	BQL	10.0	3.38	1	12/19/2006	
Pyrene	BQL	10.0	2.08	1	12/19/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/19/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/19/2006	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8.4	84		
2-Fluorophenol		10	7.9	79		
Nitrobenzene-d5		10	8.2	82		
Phenol-d6		10	8.2	82		
2,4,6-Tribromophenol		10	8.2	82		
4-Terphenyl-d14		10	8.4	84		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: *EAW*



Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS

Client Sample ID: Batch QC

Date Collected:

Client Project ID:

Date Received:

Lab Sample ID: Batch-6940-MS/MSD/LCS

Date Extracted: 12/18/07

Lab Project ID:

Date Analyzed: 12/19/06

Matrix: WATER

Analyzed By: EAW

Prep Method: 3520

Dilution: 1

	Sample Amount (µg/L)	MS Spike (µg/L)	MS Conc. (µg/L)	MS Spike % Rec.	MSD Spike (µg/L)	MSD Conc. (µg/L)	MSD Conc. % Rec.	RPD	QC Limits	
									RPD	% Rec.
Acenaphthylene	BQL	250	235	94.0	250	232	92.7	1.39	30	62.0-119
4-Chloro-3-methylphenol	BQL	250	233	93.1	250	230	92.1	1.08	30	67.0-109
2-Chlorophenol	BQL	250	221	88.4	250	219	87.4	1.14	30	59.0-95.0
1,4-Dichlorobenzene	BQL	250	154	61.4	250	161	64.2	4.46	30	29.0-86.0
2,4-Dinitrotoluene	BQL	250	228	91.2	250	230	92.0	0.873	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	250	249	99.7	250	244	97.7	2.03	30	67.0-107
4-Nitrophenol	BQL	250	230	91.8	250	254	102.0	10.1	30	49.0-146
Pentachlorophenol	BQL	250	192	76.9	250	196	78.3	1.80	30	43.0-106
Phenol	BQL	250	221	88.4	250	219	87.7	0.795	30	61.0-100
Pyrene	BQL	250	225	90.0	250	210	84.2	6.66	30	41.0-123
1,2,4-Trichlorobenzene	BQL	250	213	85.1	250	214	85.7	0.703	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits % Rec.
Acenaphthylene	100	90.5	90.5	72.9-127
4-Chloro-3-methylphenol	100	88.3	88.3	61.6-113
2-Chlorophenol	100	85.1	85.1	52.3-104
1,4-Dichlorobenzene	100	81.6	81.6	27.3-85.0
2,4-Dinitrotoluene	100	86.1	86.1	66.5-117
N-Nitrosodi-n-propylamine	100	95.6	95.6	54.4-119
4-Nitrophenol	100	90.8	90.8	32.4-150
Pentachlorophenol	100	69.0	69.0	23.9-115
Phenol	100	83.8	83.8	54.5-106
Pyrene	100	86.4	86.4	63.5-126
1,2,4-Trichlorobenzene	100	91.1	91.1	49.1-98.5

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: RM



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Blg AS-3504 Phase 1 LSA

Sample Information and Analytical Results	
Sample Identification	USTAS3504-MW04
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	12/14/06
Date Received	12/14/06
Date Extracted	12/18/06
Date Analyzed	12/18/06
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	94
Surrogate % Recovery - FID	94

* = 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: g128-1874-1d

Reviewed By: gcl



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 11/21/06PID Initial Calibration Date: 11/21/06

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	21.8	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	24.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/18/06

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	-11.9
C ₉ -C ₁₂ Aliphatics	500	50	12.5
C ₉ -C ₁₀ Aromatics	500	50	7.9

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: Blg AS-3504 Phase 1 LSA

Sample Information and Analytical Results	
Sample Identification	USTAS3504-MW04
Sample Matrix	Water
Date Collected	12/14/06
Date Received	12/14/06
Date Extracted	12/18/06
Date Analyzed	12/20/06
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	34
Aromatic Surrogate % Recovery	78

Comments:

- * = Excludes any surrogates or internal standards.
- Sample did not require fractionation.
- Duplicate analysis confirms low surrogates.

Lab info: G128-1874-11

Reviewed By: ew



Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/11/06

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L) (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	1.00	Linear Regression
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	1.0	Linear Regression
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	1	Linear Regression
	85		
	170		
	340		
	680		

Calibration Check Date: 12/20/06

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-15.4
C ₁₉ -C ₃₆ Aliphatics	160	-13.2
C ₁₁ -C ₂₂ Aromatics	340	-10.0

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% 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.



Locations Nationwide

- Alaska
- Louisiana
- New Jersey
- West Virginia
- Hawaii
- Maryland
- North Carolina

www.us.sgs.com

Carolina
06615

[illegible]

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

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



Mr. Jason Cook
Richard Catlin & Associates
P.O. Box 10279
Wilmington NC 28404-0279

Report Number: G128-1912

Client Project: AS-3504

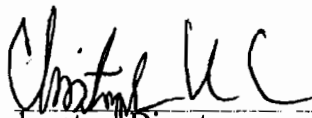
Dear Mr. Cook:

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 SGS/Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS/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,
SGS/Paradigm Analytical Laboratories, Inc.


Laboratory Director
J. Patrick Weaver

For Date 3/20/07
←

**Results for Volatiles**

by GC 602

Client Sample ID: USTAS3504-MW05

Analyzed By: RSB

Client Project ID: AS-3504

Date Collected: 3/6/2007 12:00

Lab Sample ID: G128-1912-1A

Date Received: 3/6/2007

Lab Project ID: G128-1912

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	3.41	1.00	0.183	1	3/14/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.229	1	3/14/2007	
Ethylbenzene	BQL	1.00	0.181	1	3/14/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.359	1	3/14/2007	
Toluene	BQL	1.00	0.157	1	3/14/2007	
m/p-Xylene	BQL	2.00	0.481	1	3/14/2007	
o-Xylene	BQL	2.00	0.584	1	3/14/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	36.6	91.4

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

**Results for Volatiles**

by GC 602

Client Sample ID: USTAS3504 -MW05 DUP

Analyzed By: RSB

Client Project ID: AS-3504

Date Collected: 3/6/2007 12:00

Lab Sample ID: G128-1912-10A

Date Received: 3/6/2007

Lab Project ID: G128-1912

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	3.45	1.00	0.183	1	3/14/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.229	1	3/14/2007	
Ethylbenzene	BQL	1.00	0.181	1	3/14/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.359	1	3/14/2007	
Toluene	BQL	1.00	0.157	1	3/14/2007	
m/p-Xylene	BQL	2.00	0.481	1	3/14/2007	
o-Xylene	BQL	2.00	0.584	1	3/14/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	37.4	93.4

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

**Results for Volatiles**

by GC 602

Client Sample ID: Method Blank

Analyzed By: RSB

Client Project ID:

Date Collected:

Lab Sample ID: VBLK3031407A

Date Received:

Lab Project ID:

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.183	1	3/14/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.229	1	3/14/2007	
Ethylbenzene	BQL	1.00	0.181	1	3/14/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.359	1	3/14/2007	
Toluene	BQL	1.00	0.157	1	3/14/2007	
m/p-Xylene	BQL	2.00	0.481	1	3/14/2007	
o-Xylene	BQL	2.00	0.584	1	3/14/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	36.1	90.2

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Summary Results for Laboratory Control Spike

Method : 601

Filename : 031407/004F

Compound	SA	Result	Rec	F	LCS Limits	
	ug/L	ug/L	(%)		Lower	Upper
Bromodichloromethane	10.0	11.1	111.4		42	172
Bromoform	10.0	9.7	97.4		13	159
Bromomethane	10.0	8.6	86.1		0	144
Carbon tetrachloride	20.0	24.7	123.4		43	143
Chlorobenzene	10.0	10.7	107.5		38	150
Chloroethane	10.0	9.5	95.0		46	137
Chloroform	10.0	12.1	120.8		49	133
Chloromethane	10.0	10.6	105.6		0	193
Dibromochloromethane	10.0	10.5	104.5		24	191
1,2-Dibromoethane	10.0	9.7	97.2		0	206
1,2-Dichlorobenzene	10.0	11.6	115.5		0	208
1,3-Dichlorobenzene	10.0	11.3	113.2		7	187
1,4-Dichlorobenzene	10.0	11.6	115.5		42	143
1,1-Dichloroethane	10.0	11.6	115.7		47	132
1,2-Dichloroethane	10.0	12.0	119.5		51	147
1,1-Dichloroethene	10.0	10.8	108.2		28	167
cis-1,2-Dichloroethene	20.0	24.8	124.2		19	181
trans-1,2-Dichloroethene	10.0	11.4	113.9		38	155
1,2-Dichloropropane	10.0	12.0	119.9		44	156
cis-1,3-Dichloropropene	10.0	10.9	109.3		22	178
trans-1,3-Dichloropropene	10.0	11.3	112.9		22	178
Methylene Chloride	10.0	9.7	97.3		25	162
1,1,2,2-Tetrachloroethane	30.0	35.6	118.8		8	184
Tetrachloroethane	10.0	11.9	119.4		26	162
1,1,1-Trichloroethane	10.0	11.8	118.1		41	138
1,1,2-Trichloroethane	10.0	12.0	120.2		39	136
Trichloroethene	10.0	11.6	115.8		35	146
Trichlorofluoromethane	10.0	9.4	94.0		21	156
Vinyl Chloride	10.0	9.8	98.1		28	163

Method: 602

Filename : 031407/004R

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	9.2	91.9	39	150
Chlorobenzene	10.0	9.1	91.3	65	135
1,2-Dichlorobenzene	20.0	18.8	94.0	37	154
1,3-Dichlorobenzene	10.0	9.2	91.5	50	141
1,4-Dichlorobenzene	20.0	18.5	92.6	42	143
Diisopropyl ether	10.0	9.5	94.6	30	170
Ethylbenzene	10.0	9.4	93.7	32	160
MTBE	20.0	18.4	91.9	35	165
Toluene	10.0	9.2	91.9	46	148
m,p-Xylene	20.0	18.6	93.0	0	239
o-Xylene	20.0	18.6	92.8	36	164

Flags :

- + = out of QC limits.
- ♦ = lab generated limits.
- D = Detected
- SA = Spiked Amount



Summary Results for Laboratory Control Spike

Method : 601

Filename : 031407/005F

Compound	SA	Result	Rec	F	LCS Limits	
	ug/L	ug/L	(%)		Lower	Upper
Bromodichloromethane	10.0	11.4	114.4		42	172
Bromoform	10.0	10.1	100.9		13	159
Bromomethane	10.0	8.9	89.4		0	144
Carbon tetrachloride	20.0	25.4	127.0		43	143
Chlorobenzene	10.0	11.1	111.2		38	150
Chloroethane	10.0	9.6	95.6		46	137
Chloroform	10.0	12.6	126.2		49	133
Chloromethane	10.0	10.9	108.6		0	193
Dibromochloromethane	10.0	11.0	109.7		24	191
1,2-Dibromoethane	10.0	10.3	103.4		0	206
1,2-Dichlorobenzene	10.0	12.0	120.4		0	208
1,3-Dichlorobenzene	10.0	11.9	119.1		7	187
1,4-Dichlorobenzene	10.0	12.2	122.5		42	143
1,1-Dichloroethane	10.0	11.9	119.5		47	132
1,2-Dichloroethane	10.0	12.2	122.4		51	147
1,1-Dichloroethene	10.0	11.2	112.1		28	167
cis-1,2-Dichloroethene	20.0	25.6	128.0		19	181
trans-1,2-Dichloroethene	10.0	11.7	116.5		38	155
1,2-Dichloropropane	10.0	12.5	125.2		44	156
cis-1,3-Dichloropropene	10.0	11.3	112.6		22	178
trans-1,3-Dichloropropene	10.0	11.6	116.0		22	178
Methylene Chloride	10.0	10.1	100.6		25	162
1,1,2,2-Tetrachloroethane	30.0	37.2	123.9		8	184
Tetrachloroethane	10.0	12.5	125.2		26	162
1,1,1-Trichloroethane	10.0	12.3	122.9		41	138
1,1,2-Trichloroethane	10.0	12.7	126.6		39	136
Trichloroethene	10.0	11.9	119.4		35	146
Trichlorofluoromethane	10.0	9.3	93.2		21	156
Vinyl Chloride	10.0	9.9	99.5		28	163

Method: 602

Filename : 031407/005R

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	9.6	95.6	39	150
Chlorobenzene	10.0	9.4	94.4	55	135
1,2-Dichlorobenzene	20.0	19.4	97.2	37	154
1,3-Dichlorobenzene	10.0	9.5	94.9	60	141
1,4-Dichlorobenzene	20.0	19.2	95.8	42	143
Diisopropyl ether	10.0	9.8	98.0	30	170
Ethylbenzene	10.0	9.7	97.0	32	160
MTBE	20.0	19.1	95.4	35	165
Toluene	10.0	9.5	95.5	46	148
m,p-Xylene	20.0	19.3	96.5	0	239
o-Xylene	20.0	19.2	96.0	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected
- SA = Spiked Amount



Summary Results for MS-MSD

Method : 601

Sample : 031407/011F::031407/011R

MS : 031407/013F::031407/013R

MSD : 031407/014F::031407/014R

Compound	SA	µg/L			REC(%)		REC Limits	
		Sam.	MS	MSD	MS	MSD	Lower	Upper
Bromodichloromethane	10.0	ND	9.7	9.8	97	98	42	172
Bromoform	10.0	ND	7.2	7.1	72	71	13	159
Bromomethane	10.0	ND	4.1	7.9	41	79	D	144
Carbon tetrachloride	20.0	ND	21.7	22.2	109	111	43	143
Chlorobenzene	10.0	ND	9.8	9.7	98	97	38	150
Chloroethane	10.0	ND	5.0	9.0	50	90	46	137
Chloroform	10.0	ND	10.7	10.9	121	123	49	133
Chloromethane	10.0	ND	5.6	9.9	60	104	D	193
Dibromochloromethane	10.0	ND	8.7	8.6	87	86	24	191
1,2-Dibromoethane	10.0	ND	8.8	8.9	88	89	D	206
1,2-Dichlorobenzene	10.0	ND	10.1	10.2	101	102	D	208
1,3-Dichlorobenzene	10.0	ND	10.0	10.1	108	109	7	187
1,4-Dichlorobenzene	10.0	ND	10.2	10.5	115	117	42	143
1,1-Dichloroethane	10.0	ND	10.1	10.5	101	105	47	132
1,2-Dichloroethane	20.0	ND	10.7	11.1	59	61	51	147
1,1-Dichloroethene	10.0	ND	9.5	9.8	95	98	28	167
cis-1,2-Dichloroethene	20.0	ND	21.8	22.6	109	113	19	181
trans-1,2-Dichloroethene	10.0	ND	10.0	10.2	100	102	38	155
1,2-Dichloropropane	10.0	ND	10.8	10.9	124	126	44	156
cis-1,3-Dichloropropene	10.0	ND	9.2	9.4	92	94	22	178
trans-1,3-Dichloropropene	10.0	ND	9.4	9.6	100	102	22	178
Methylene Chloride	10.0	ND	8.5	8.7	118	118	25	162
1,1,2,2-Tetrachloroethane	20.0	ND	17.9	18.5	90	93	8	184
Tetrachloroethane	20.0	ND	21.4	21.8	121	123	26	162
1,1,1-Trichloroethane	10.0	ND	10.6	10.7	106	107	41	138
1,1,2-Trichloroethane	10.0	ND	10.8	10.8	108	108	39	136
Trichloroethene	10.0	ND	10.4	10.6	104	106	35	146
Trichlorofluoromethane	10.0	ND	4.8	8.8	48	88	21	156
Vinyl Chloride	10.0	ND	4.9	8.9	58	98	28	163

Method: 602

Compound	SA	µg/L			P(%)		P Limits	
		Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	10.0	60.9	65.9	68.4	50	75	39	150
Chlorobenzene	10.0	ND	8.3	8.4	84	86	55	135
1,2-Dichlorobenzene	20.0	1.7	20.7	19.8	95	90	37	154
1,3-Dichlorobenzene	10.0	ND	8.5	8.5	84	84	50	141
1,4-Dichlorobenzene	20.0	7.4	16.1	16.3	44	45	42	143
Diisopropyl ether	10.0	ND	11.1	11.3	102	103	30	170
Ethylbenzene	10.0	9.9	19.4	19.1	94	92	32	160
MTBE	20.0	5.8	22.2	22.9	82	86	35	165
Toluene	10.0	80.5	86.3	87.3	58	68	46	148
m,p-Xylene	20.0	51.0	71.4	69.9	102	95	D	239
o-Xylene	20.0	31.8	44.1	43.4	61	58	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected
- ND = None Detected
- SA = Spike Added

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

Client Sample ID: AS3504 HA-1
Client Project ID: AS-3504
Lab Sample ID G128-1912-2B
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:10
Date Received: 3/6/2007
Matrix: Soil
%Solids: 85.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0505	0.0522	0.00307	1	3/13/2007	J
Benzene	BQL	0.00522	0.00298	1	3/13/2007	
Bromobenzene	BQL	0.00522	0.00257	1	3/13/2007	
Bromochloromethane	BQL	0.00522	0.00305	1	3/13/2007	
Bromodichloromethane	BQL	0.00522	0.00297	1	3/13/2007	
Bromoform	BQL	0.00522	0.00253	1	3/13/2007	
Bromomethane	BQL	0.00522	0.00438	1	3/13/2007	
2-Butanone	0.0500	0.0261	0.00301	1	3/13/2007	
n-Butylbenzene	BQL	0.00522	0.00350	1	3/13/2007	
sec-Butylbenzene	BQL	0.00522	0.00366	1	3/13/2007	
tert-Butylbenzene	BQL	0.00522	0.00362	1	3/13/2007	
Carbon disulfide	BQL	0.00522	0.00275	1	3/13/2007	
Carbon tetrachloride	BQL	0.00522	0.00361	1	3/13/2007	
Chlorobenzene	BQL	0.00522	0.00262	1	3/13/2007	
Chloroethane	BQL	0.00522	0.00328	1	3/13/2007	
Chloroform	BQL	0.00522	0.00262	1	3/13/2007	
Chloromethane	BQL	0.00522	0.00252	1	3/13/2007	
2-Chlorotoluene	BQL	0.00522	0.00311	1	3/13/2007	
4-Chlorotoluene	BQL	0.00522	0.00290	1	3/13/2007	
Dibromochloromethane	BQL	0.00522	0.00234	1	3/13/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00522	0.0111	1	3/13/2007	
Dibromomethane	BQL	0.00522	0.00313	1	3/13/2007	
1,2-Dibromoethane (EDB)	BQL	0.00522	0.00243	1	3/13/2007	
1,2-Dichlorobenzene	BQL	0.00522	0.00252	1	3/13/2007	
1,3-Dichlorobenzene	BQL	0.00522	0.00244	1	3/13/2007	
1,4-Dichlorobenzene	BQL	0.00522	0.00257	1	3/13/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00522	0.0112	1	3/13/2007	
1,1-Dichloroethane	BQL	0.00522	0.00301	1	3/13/2007	
1,1-Dichloroethene	BQL	0.00522	0.00402	1	3/13/2007	
1,2-Dichloroethane	BQL	0.00522	0.00300	1	3/13/2007	
cis-1,2-Dichloroethene	BQL	0.00522	0.00257	1	3/13/2007	
trans-1,2-dichloroethene	BQL	0.00522	0.00339	1	3/13/2007	
1,2-Dichloropropane	BQL	0.00522	0.00267	1	3/13/2007	
1,3-Dichloropropane	BQL	0.00522	0.00239	1	3/13/2007	
2,2-Dichloropropane	BQL	0.00522	0.00332	1	3/13/2007	
1,1-Dichloropropene	BQL	0.00522	0.00377	1	3/13/2007	
cis-1,3-Dichloropropene	BQL	0.00522	0.00290	1	3/13/2007	
trans-1,3-Dichloropropene	BQL	0.00522	0.00296	1	3/13/2007	
Dichlorodifluoromethane	BQL	0.00522	0.00390	1	3/13/2007	
Diisopropyl ether (DIPE)	BQL	0.00522	0.00248	1	3/13/2007	
Ethylbenzene	BQL	0.00522	0.00318	1	3/13/2007	
Hexachlorobutadiene	BQL	0.00522	0.00413	1	3/13/2007	

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

Client Sample ID: AS3504 HA-1
Client Project ID: AS-3504
Lab Sample ID G128-1912-2B
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:10
Date Received: 3/6/2007
Matrix: Soil
%Solids: 85.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00522	0.00228	1	3/13/2007	
Iodomethane	BQL	0.00522	0.00486	1	3/13/2007	
Isopropylbenzene	BQL	0.00522	0.00336	1	3/13/2007	
4-Isopropyltoluene	BQL	0.00522	0.00355	1	3/13/2007	
Methylene chloride	0.0188	0.0209	0.00299	1	3/13/2007	J
4-Methyl-2-pentanone	BQL	0.00522	0.00241	1	3/13/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00522	0.00265	1	3/13/2007	
Naphthalene	BQL	0.00522	0.00210	1	3/13/2007	
n-Propyl benzene	BQL	0.00522	0.00335	1	3/13/2007	
Styrene	BQL	0.00522	0.00374	1	3/13/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00522	0.00284	1	3/13/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00522	0.00257	1	3/13/2007	
Tetrachloroethene	BQL	0.00522	0.00329	1	3/13/2007	
Toluene	BQL	0.00522	0.00309	1	3/13/2007	
1,2,3-Trichlorobenzene	BQL	0.00522	0.00229	1	3/13/2007	
1,2,4-Trichlorobenzene	BQL	0.00522	0.00234	1	3/13/2007	
Trichloroethene	BQL	0.00522	0.00326	1	3/13/2007	
1,1,1-Trichloroethane	BQL	0.00522	0.00360	1	3/13/2007	
1,1,2-Trichloroethane	BQL	0.00522	0.00269	1	3/13/2007	
Trichlorofluoromethane	BQL	0.00522	0.00431	1	3/13/2007	
1,2,3-Trichloropropane	BQL	0.00522	0.00277	1	3/13/2007	
1,2,4-Trimethylbenzene	BQL	0.00522	0.00292	1	3/13/2007	
1,3,5-Trimethylbenzene	BQL	0.00522	0.00311	1	3/13/2007	
Vinyl chloride	BQL	0.00522	0.00345	1	3/13/2007	
m-,p-Xylene	BQL	0.0104	0.00592	1	3/13/2007	
o-Xylene	BQL	0.00522	0.00292	1	3/13/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0442	88		
1,2-Dichloroethane-d4		0.05	0.0602	120		
Toluene-d8		0.05	0.0502	100		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By:

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

Client Sample ID: AS3504 HA-2
Client Project ID: AS-3504
Lab Sample ID G128-1912-3A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:20
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0736	0.0542	0.00319	1	3/12/2007	
Benzene	BQL	0.00542	0.00309	1	3/12/2007	
Bromobenzene	BQL	0.00542	0.00267	1	3/12/2007	
Bromochloromethane	BQL	0.00542	0.00317	1	3/12/2007	
Bromodichloromethane	BQL	0.00542	0.00308	1	3/12/2007	
Bromoform	BQL	0.00542	0.00263	1	3/12/2007	
Bromomethane	BQL	0.00542	0.00455	1	3/12/2007	
2-Butanone	0.0146	0.0271	0.00312	1	3/12/2007	J
n-Butylbenzene	BQL	0.00542	0.00363	1	3/12/2007	
sec-Butylbenzene	BQL	0.00542	0.00380	1	3/12/2007	
tert-Butylbenzene	BQL	0.00542	0.00376	1	3/12/2007	
Carbon disulfide	BQL	0.00542	0.00285	1	3/12/2007	
Carbon tetrachloride	BQL	0.00542	0.00375	1	3/12/2007	
Chlorobenzene	BQL	0.00542	0.00272	1	3/12/2007	
Chloroethane	BQL	0.00542	0.00341	1	3/12/2007	
Chloroform	BQL	0.00542	0.00272	1	3/12/2007	
Chloromethane	BQL	0.00542	0.00261	1	3/12/2007	
2-Chlorotoluene	BQL	0.00542	0.00323	1	3/12/2007	
4-Chlorotoluene	BQL	0.00542	0.00302	1	3/12/2007	
Dibromochloromethane	BQL	0.00542	0.00243	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00542	0.0115	1	3/12/2007	
Dibromomethane	BQL	0.00542	0.00325	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00542	0.00253	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00542	0.00261	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00542	0.00254	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00542	0.00267	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00542	0.0116	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00542	0.00312	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00542	0.00418	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00542	0.00311	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00542	0.00267	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00542	0.00353	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00542	0.00278	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00542	0.00248	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00542	0.00345	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00542	0.00392	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00542	0.00302	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00542	0.00307	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00542	0.00405	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00542	0.00257	1	3/12/2007	
Ethylbenzene	BQL	0.00542	0.00330	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00542	0.00429	1	3/12/2007	

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

Client Sample ID: AS3504 HA-2
Client Project ID: AS-3504
Lab Sample ID G128-1912-3A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:20
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00542	0.00237	1	3/12/2007	
Iodomethane	BQL	0.00542	0.00505	1	3/12/2007	
Isopropylbenzene	BQL	0.00542	0.00349	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00542	0.00369	1	3/12/2007	
Methylene chloride	0.0193	0.0217	0.00310	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	0.00542	0.00251	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00542	0.00276	1	3/12/2007	
Naphthalene	BQL	0.00542	0.00218	1	3/12/2007	
n-Propyl benzene	BQL	0.00542	0.00348	1	3/12/2007	
Styrene	BQL	0.00542	0.00388	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00542	0.00295	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00542	0.00267	1	3/12/2007	
Tetrachloroethene	BQL	0.00542	0.00342	1	3/12/2007	
Toluene	BQL	0.00542	0.00321	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00542	0.00238	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00542	0.00243	1	3/12/2007	
Trichloroethene	BQL	0.00542	0.00339	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00542	0.00374	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00542	0.00280	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00542	0.00448	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00542	0.00288	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00542	0.00304	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00542	0.00323	1	3/12/2007	
Vinyl chloride	BQL	0.00542	0.00358	1	3/12/2007	
m-,p-Xylene	BQL	0.0108	0.00615	1	3/12/2007	
o-Xylene	BQL	0.00542	0.00304	1	3/12/2007	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0448	90
1,2-Dichloroethane-d4	0.05	0.0607	121
Toluene-d8	0.05	0.0493	99

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fu

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

Client Sample ID: AS3504 HA-3
Client Project ID: AS-3504
Lab Sample ID G128-1912-4A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:30
Date Received: 3/6/2007
Matrix: Soil
%Solids: 85.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0367	0.0592	0.00348	1	3/12/2007	J
Benzene	BQL	0.00592	0.00338	1	3/12/2007	
Bromobenzene	BQL	0.00592	0.00291	1	3/12/2007	
Bromochloromethane	BQL	0.00592	0.00346	1	3/12/2007	
Bromodichloromethane	BQL	0.00592	0.00336	1	3/12/2007	
Bromoform	BQL	0.00592	0.00287	1	3/12/2007	
Bromomethane	BQL	0.00592	0.00496	1	3/12/2007	
2-Butanone	BQL	0.0296	0.00341	1	3/12/2007	
n-Butylbenzene	BQL	0.00592	0.00397	1	3/12/2007	
sec-Butylbenzene	BQL	0.00592	0.00415	1	3/12/2007	
tert-Butylbenzene	BQL	0.00592	0.00411	1	3/12/2007	
Carbon disulfide	BQL	0.00592	0.00312	1	3/12/2007	
Carbon tetrachloride	BQL	0.00592	0.00410	1	3/12/2007	
Chlorobenzene	BQL	0.00592	0.00297	1	3/12/2007	
Chloroethane	BQL	0.00592	0.00372	1	3/12/2007	
Chloroform	BQL	0.00592	0.00297	1	3/12/2007	
Chloromethane	BQL	0.00592	0.00286	1	3/12/2007	
2-Chlorotoluene	BQL	0.00592	0.00353	1	3/12/2007	
4-Chlorotoluene	BQL	0.00592	0.00329	1	3/12/2007	
Dibromochloromethane	BQL	0.00592	0.00265	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00592	0.0126	1	3/12/2007	
Dibromomethane	BQL	0.00592	0.00355	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00592	0.00276	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00592	0.00286	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00592	0.00277	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00592	0.00291	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00592	0.0127	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00592	0.00341	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00592	0.00456	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00592	0.00340	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00592	0.00291	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00592	0.00385	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00592	0.00303	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00592	0.00271	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00592	0.00377	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00592	0.00428	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00592	0.00329	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00592	0.00335	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00592	0.00442	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00592	0.00281	1	3/12/2007	
Ethylbenzene	BQL	0.00592	0.00360	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00592	0.00468	1	3/12/2007	

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

Client Sample ID: AS3504 HA-3
Client Project ID: AS-3504
Lab Sample ID G128-1912-4A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:30
Date Received: 3/6/2007
Matrix: Soil
%Solids: 85.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00592	0.00258	1	3/12/2007	
Iodomethane	BQL	0.00592	0.00551	1	3/12/2007	
Isopropylbenzene	BQL	0.00592	0.00381	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00592	0.00403	1	3/12/2007	
Methylene chloride	0.0227	0.0237	0.00339	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	0.00592	0.00274	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00592	0.00301	1	3/12/2007	
Naphthalene	BQL	0.00592	0.00238	1	3/12/2007	
n-Propyl benzene	BQL	0.00592	0.00380	1	3/12/2007	
Styrene	BQL	0.00592	0.00424	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00592	0.00322	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00592	0.00291	1	3/12/2007	
Tetrachloroethene	BQL	0.00592	0.00373	1	3/12/2007	
Toluene	BQL	0.00592	0.00351	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00592	0.00259	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00592	0.00265	1	3/12/2007	
Trichloroethene	BQL	0.00592	0.00370	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00592	0.00409	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00592	0.00306	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00592	0.00489	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00592	0.00314	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00592	0.00332	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00592	0.00353	1	3/12/2007	
Vinyl chloride	BQL	0.00592	0.00391	1	3/12/2007	
m-,p-Xylene	BQL	0.0118	0.00672	1	3/12/2007	
o-Xylene	BQL	0.00592	0.00332	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0436	87		
1,2-Dichloroethane-d4		0.05	0.0607	121		
Toluene-d8		0.05	0.0488	98		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: lum

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

Client Sample ID: AS3504 HA-4
Client Project ID: AS-3504
Lab Sample ID G128-1912-5A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:40
Date Received: 3/6/2007
Matrix: Soil
%Solids: 76.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.00928	0.0586	0.00345	1	3/12/2007	J
Benzene	BQL	0.00586	0.00334	1	3/12/2007	
Bromobenzene	BQL	0.00586	0.00288	1	3/12/2007	
Bromochloromethane	BQL	0.00586	0.00342	1	3/12/2007	
Bromodichloromethane	BQL	0.00586	0.00333	1	3/12/2007	
Bromoform	BQL	0.00586	0.00284	1	3/12/2007	
Bromomethane	BQL	0.00586	0.00491	1	3/12/2007	
2-Butanone	BQL	0.0293	0.00338	1	3/12/2007	
n-Butylbenzene	BQL	0.00586	0.00393	1	3/12/2007	
sec-Butylbenzene	BQL	0.00586	0.00410	1	3/12/2007	
tert-Butylbenzene	BQL	0.00586	0.00407	1	3/12/2007	
Carbon disulfide	BQL	0.00586	0.00308	1	3/12/2007	
Carbon tetrachloride	BQL	0.00586	0.00405	1	3/12/2007	
Chlorobenzene	BQL	0.00586	0.00294	1	3/12/2007	
Chloroethane	BQL	0.00586	0.00368	1	3/12/2007	
Chloroform	BQL	0.00586	0.00294	1	3/12/2007	
Chloromethane	BQL	0.00586	0.00282	1	3/12/2007	
2-Chlorotoluene	BQL	0.00586	0.00349	1	3/12/2007	
4-Chlorotoluene	BQL	0.00586	0.00326	1	3/12/2007	
Dibromochloromethane	BQL	0.00586	0.00263	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00586	0.0124	1	3/12/2007	
Dibromomethane	BQL	0.00586	0.00352	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00586	0.00273	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00586	0.00282	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00586	0.00274	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00586	0.00288	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00586	0.0125	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00586	0.00338	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00586	0.00451	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00586	0.00336	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00586	0.00288	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00586	0.00381	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00586	0.00300	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00586	0.00268	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00586	0.00373	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00586	0.00423	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00586	0.00326	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00586	0.00332	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00586	0.00437	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00586	0.00278	1	3/12/2007	
Ethylbenzene	BQL	0.00586	0.00356	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00586	0.00463	1	3/12/2007	

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

Client Sample ID: AS3504 HA-4
Client Project ID: AS-3504
Lab Sample ID G128-1912-5A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:40
Date Received: 3/6/2007
Matrix: Soil
%Solids: 76.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00586	0.00255	1	3/12/2007	
Iodomethane	BQL	0.00586	0.00545	1	3/12/2007	
Isopropylbenzene	BQL	0.00586	0.00377	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00586	0.00398	1	3/12/2007	
Methylene chloride	0.0175	0.0234	0.00335	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	0.00586	0.00271	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00586	0.00298	1	3/12/2007	
Naphthalene	BQL	0.00586	0.00236	1	3/12/2007	
n-Propyl benzene	BQL	0.00586	0.00376	1	3/12/2007	
Styrene	BQL	0.00586	0.00420	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00586	0.00319	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00586	0.00288	1	3/12/2007	
Tetrachloroethene	BQL	0.00586	0.00369	1	3/12/2007	
Toluene	BQL	0.00586	0.00347	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00586	0.00257	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00586	0.00263	1	3/12/2007	
Trichloroethene	BQL	0.00586	0.00366	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00586	0.00404	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00586	0.00302	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00586	0.00484	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00586	0.00311	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00586	0.00328	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00586	0.00349	1	3/12/2007	
Vinyl chloride	BQL	0.00586	0.00387	1	3/12/2007	
m-,p-Xylene	BQL	0.0117	0.00664	1	3/12/2007	
o-Xylene	BQL	0.00586	0.00328	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0438	88		
1,2-Dichloroethane-d4		0.05	0.0605	121		
Toluene-d8		0.05	0.0486	97		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: ful

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

Client Sample ID: AS3504 HA-5
Client Project ID: AS-3504
Lab Sample ID G128-1912-6A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:45
Date Received: 3/6/2007
Matrix: Soil
%Solids: 88.1

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0866	0.0480	0.00282	1	3/12/2007	
Benzene	BQL	0.00480	0.00274	1	3/12/2007	
Bromobenzene	BQL	0.00480	0.00236	1	3/12/2007	
Bromochloromethane	BQL	0.00480	0.00280	1	3/12/2007	
Bromodichloromethane	BQL	0.00480	0.00273	1	3/12/2007	
Bromoform	BQL	0.00480	0.00232	1	3/12/2007	
Bromomethane	BQL	0.00480	0.00402	1	3/12/2007	
2-Butanone	BQL	0.0240	0.00277	1	3/12/2007	
n-Butylbenzene	BQL	0.00480	0.00322	1	3/12/2007	
sec-Butylbenzene	BQL	0.00480	0.00336	1	3/12/2007	
tert-Butylbenzene	BQL	0.00480	0.00333	1	3/12/2007	
Carbon disulfide	BQL	0.00480	0.00253	1	3/12/2007	
Carbon tetrachloride	BQL	0.00480	0.00332	1	3/12/2007	
Chlorobenzene	BQL	0.00480	0.00241	1	3/12/2007	
Chloroethane	BQL	0.00480	0.00302	1	3/12/2007	
Chloroform	BQL	0.00480	0.00241	1	3/12/2007	
Chloromethane	BQL	0.00480	0.00231	1	3/12/2007	
2-Chlorotoluene	BQL	0.00480	0.00286	1	3/12/2007	
4-Chlorotoluene	BQL	0.00480	0.00267	1	3/12/2007	
Dibromochloromethane	BQL	0.00480	0.00215	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00480	0.0102	1	3/12/2007	
Dibromomethane	BQL	0.00480	0.00288	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00480	0.00224	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00480	0.00231	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00480	0.00225	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00480	0.00236	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00480	0.0103	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00480	0.00277	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00480	0.00370	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00480	0.00276	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00480	0.00236	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00480	0.00312	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00480	0.00246	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00480	0.00220	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00480	0.00305	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00480	0.00347	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00480	0.00267	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00480	0.00272	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00480	0.00358	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00480	0.00228	1	3/12/2007	
Ethylbenzene	BQL	0.00480	0.00292	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00480	0.00379	1	3/12/2007	

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

Client Sample ID: AS3504 HA-5
Client Project ID: AS-3504
Lab Sample ID G128-1912-6A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:45
Date Received: 3/6/2007
Matrix: Soil
%Solids: 88.1

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00480	0.00209	1	3/12/2007	
Iodomethane	BQL	0.00480	0.00447	1	3/12/2007	
Isopropylbenzene	BQL	0.00480	0.00309	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00480	0.00327	1	3/12/2007	
Methylene chloride	0.0287	0.0192	0.00275	1	3/12/2007	
4-Methyl-2-pentanone	BQL	0.00480	0.00222	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00480	0.00244	1	3/12/2007	
Naphthalene	BQL	0.00480	0.00193	1	3/12/2007	
n-Propyl benzene	BQL	0.00480	0.00308	1	3/12/2007	
Styrene	BQL	0.00480	0.00344	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00480	0.00261	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00480	0.00236	1	3/12/2007	
Tetrachloroethene	BQL	0.00480	0.00302	1	3/12/2007	
Toluene	BQL	0.00480	0.00284	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00480	0.00210	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00480	0.00215	1	3/12/2007	
Trichloroethene	BQL	0.00480	0.00300	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00480	0.00331	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00480	0.00248	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00480	0.00397	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00480	0.00254	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00480	0.00269	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00480	0.00286	1	3/12/2007	
Vinyl chloride	BQL	0.00480	0.00317	1	3/12/2007	
m-,p-Xylene	BQL	0.00960	0.00544	1	3/12/2007	
o-Xylene	BQL	0.00480	0.00269	1	3/12/2007	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0437	87
1,2-Dichloroethane-d4	0.05	0.0605	121
Toluene-d8	0.05	0.0498	100

Comments:**Flags:**

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

Reviewed By: fu

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

Client Sample ID: AS3504 HA-6
Client Project ID: AS-3504
Lab Sample ID G128-1912-7A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:50
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0276	0.0493	0.00290	1	3/12/2007	J
Benzene	BQL	0.00493	0.00281	1	3/12/2007	
Bromobenzene	BQL	0.00493	0.00242	1	3/12/2007	
Bromochloromethane	BQL	0.00493	0.00288	1	3/12/2007	
Bromodichloromethane	BQL	0.00493	0.00280	1	3/12/2007	
Bromoform	BQL	0.00493	0.00238	1	3/12/2007	
Bromomethane	BQL	0.00493	0.00413	1	3/12/2007	
2-Butanone	BQL	0.0246	0.00284	1	3/12/2007	
n-Butylbenzene	BQL	0.00493	0.00330	1	3/12/2007	
sec-Butylbenzene	BQL	0.00493	0.00345	1	3/12/2007	
tert-Butylbenzene	BQL	0.00493	0.00342	1	3/12/2007	
Carbon disulfide	BQL	0.00493	0.00259	1	3/12/2007	
Carbon tetrachloride	BQL	0.00493	0.00341	1	3/12/2007	
Chlorobenzene	BQL	0.00493	0.00247	1	3/12/2007	
Chloroethane	BQL	0.00493	0.00309	1	3/12/2007	
Chloroform	BQL	0.00493	0.00247	1	3/12/2007	
Chloromethane	BQL	0.00493	0.00237	1	3/12/2007	
2-Chlorotoluene	BQL	0.00493	0.00294	1	3/12/2007	
4-Chlorotoluene	BQL	0.00493	0.00274	1	3/12/2007	
Dibromochloromethane	BQL	0.00493	0.00221	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00493	0.0104	1	3/12/2007	
Dibromomethane	BQL	0.00493	0.00296	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00493	0.00230	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00493	0.00237	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00493	0.00231	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00493	0.00242	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00493	0.0105	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00493	0.00284	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00493	0.00379	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00493	0.00283	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00493	0.00242	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00493	0.00320	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00493	0.00252	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00493	0.00226	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00493	0.00313	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00493	0.00356	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00493	0.00274	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00493	0.00279	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00493	0.00368	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00493	0.00234	1	3/12/2007	
Ethylbenzene	BQL	0.00493	0.00300	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00493	0.00389	1	3/12/2007	

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

Client Sample ID: AS3504 HA-6
Client Project ID: AS-3504
Lab Sample ID G128-1912-7A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:50
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00493	0.00215	1	3/12/2007	
Iodomethane	BQL	0.00493	0.00458	1	3/12/2007	
Isopropylbenzene	BQL	0.00493	0.00317	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00493	0.00335	1	3/12/2007	
Methylene chloride	0.0158	0.0197	0.00282	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	0.00493	0.00228	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00493	0.00250	1	3/12/2007	
Naphthalene	BQL	0.00493	0.00198	1	3/12/2007	
n-Propyl benzene	BQL	0.00493	0.00316	1	3/12/2007	
Styrene	BQL	0.00493	0.00353	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00493	0.00268	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00493	0.00242	1	3/12/2007	
Tetrachloroethene	BQL	0.00493	0.00310	1	3/12/2007	
Toluene	BQL	0.00493	0.00292	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00493	0.00216	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00493	0.00221	1	3/12/2007	
Trichloroethene	BQL	0.00493	0.00307	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00493	0.00340	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00493	0.00254	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00493	0.00407	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00493	0.00261	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00493	0.00276	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00493	0.00294	1	3/12/2007	
Vinyl chloride	BQL	0.00493	0.00325	1	3/12/2007	
m,p-Xylene	BQL	0.00985	0.00559	1	3/12/2007	
o-Xylene	BQL	0.00493	0.00276	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.045	90		
1,2-Dichloroethane-d4		0.05	0.0606	121		
Toluene-d8		0.05	0.0488	98		

Comments:**Flags:**

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

Reviewed By: mm

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

Client Sample ID: AS3504 HA-7
Client Project ID: AS-3504
Lab Sample ID G128-1912-8B
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:55
Date Received: 3/6/2007
Matrix: Soil
%Solids: 86.4

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0722	0.0511	0.00301	1	3/13/2007	
Benzene	BQL	0.00511	0.00291	1	3/13/2007	
Bromobenzene	BQL	0.00511	0.00251	1	3/13/2007	
Bromochloromethane	BQL	0.00511	0.00299	1	3/13/2007	
Bromodichloromethane	BQL	0.00511	0.00290	1	3/13/2007	
Bromoform	BQL	0.00511	0.00247	1	3/13/2007	
Bromomethane	BQL	0.00511	0.00428	1	3/13/2007	
2-Butanone	BQL	0.0256	0.00294	1	3/13/2007	
n-Butylbenzene	BQL	0.00511	0.00342	1	3/13/2007	
sec-Butylbenzene	BQL	0.00511	0.00358	1	3/13/2007	
tert-Butylbenzene	BQL	0.00511	0.00355	1	3/13/2007	
Carbon disulfide	BQL	0.00511	0.00269	1	3/13/2007	
Carbon tetrachloride	BQL	0.00511	0.00354	1	3/13/2007	
Chlorobenzene	BQL	0.00511	0.00257	1	3/13/2007	
Chloroethane	BQL	0.00511	0.00321	1	3/13/2007	
Chloroform	BQL	0.00511	0.00257	1	3/13/2007	
Chloromethane	BQL	0.00511	0.00246	1	3/13/2007	
2-Chlorotoluene	BQL	0.00511	0.00305	1	3/13/2007	
4-Chlorotoluene	BQL	0.00511	0.00284	1	3/13/2007	
Dibromochloromethane	BQL	0.00511	0.00229	1	3/13/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00511	0.0108	1	3/13/2007	
Dibromomethane	BQL	0.00511	0.00307	1	3/13/2007	
1,2-Dibromoethane (EDB)	BQL	0.00511	0.00238	1	3/13/2007	
1,2-Dichlorobenzene	BQL	0.00511	0.00246	1	3/13/2007	
1,3-Dichlorobenzene	BQL	0.00511	0.00239	1	3/13/2007	
1,4-Dichlorobenzene	BQL	0.00511	0.00251	1	3/13/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00511	0.0109	1	3/13/2007	
1,1-Dichloroethane	BQL	0.00511	0.00294	1	3/13/2007	
1,1-Dichloroethene	BQL	0.00511	0.00394	1	3/13/2007	
1,2-Dichloroethane	BQL	0.00511	0.00293	1	3/13/2007	
cis-1,2-Dichloroethene	BQL	0.00511	0.00251	1	3/13/2007	
trans-1,2-dichloroethene	BQL	0.00511	0.00332	1	3/13/2007	
1,2-Dichloropropane	BQL	0.00511	0.00262	1	3/13/2007	
1,3-Dichloropropane	BQL	0.00511	0.00234	1	3/13/2007	
2,2-Dichloropropane	BQL	0.00511	0.00325	1	3/13/2007	
1,1-Dichloropropene	BQL	0.00511	0.00369	1	3/13/2007	
cis-1,3-Dichloropropene	BQL	0.00511	0.00284	1	3/13/2007	
trans-1,3-Dichloropropene	BQL	0.00511	0.00289	1	3/13/2007	
Dichlorodifluoromethane	BQL	0.00511	0.00381	1	3/13/2007	
Diisopropyl ether (DIPE)	BQL	0.00511	0.00242	1	3/13/2007	
Ethylbenzene	BQL	0.00511	0.00311	1	3/13/2007	
Hexachlorobutadiene	BQL	0.00511	0.00404	1	3/13/2007	

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

Client Sample ID: AS3504 HA-7
Client Project ID: AS-3504
Lab Sample ID G128-1912-8B
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 14:55
Date Received: 3/6/2007
Matrix: Soil
%Solids: 86.4

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00511	0.00223	1	3/13/2007	
Iodomethane	BQL	0.00511	0.00475	1	3/13/2007	
Isopropylbenzene	BQL	0.00511	0.00329	1	3/13/2007	
4-Isopropyltoluene	BQL	0.00511	0.00348	1	3/13/2007	
Methylene chloride	0.0134	0.0204	0.00292	1	3/13/2007	J
4-Methyl-2-pentanone	BQL	0.00511	0.00236	1	3/13/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00511	0.00260	1	3/13/2007	
Naphthalene	BQL	0.00511	0.00205	1	3/13/2007	
n-Propyl benzene	BQL	0.00511	0.00328	1	3/13/2007	
Styrene	BQL	0.00511	0.00366	1	3/13/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00511	0.00278	1	3/13/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00511	0.00251	1	3/13/2007	
Tetrachloroethene	BQL	0.00511	0.00322	1	3/13/2007	
Toluene	BQL	0.00511	0.00303	1	3/13/2007	
1,2,3-Trichlorobenzene	BQL	0.00511	0.00224	1	3/13/2007	
1,2,4-Trichlorobenzene	BQL	0.00511	0.00229	1	3/13/2007	
Trichloroethene	BQL	0.00511	0.00319	1	3/13/2007	
1,1,1-Trichloroethane	BQL	0.00511	0.00353	1	3/13/2007	
1,1,2-Trichloroethane	BQL	0.00511	0.00264	1	3/13/2007	
Trichlorofluoromethane	BQL	0.00511	0.00422	1	3/13/2007	
1,2,3-Trichloropropane	BQL	0.00511	0.00271	1	3/13/2007	
1,2,4-Trimethylbenzene	BQL	0.00511	0.00286	1	3/13/2007	
1,3,5-Trimethylbenzene	BQL	0.00511	0.00305	1	3/13/2007	
Vinyl chloride	BQL	0.00511	0.00337	1	3/13/2007	
m,p-Xylene	BQL	0.0102	0.00580	1	3/13/2007	
o-Xylene	BQL	0.00511	0.00286	1	3/13/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0407	81		
1,2-Dichloroethane-d4		0.05	0.0614	123		
Toluene-d8		0.05	0.0489	98		

Comments:**Flags:**

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

Reviewed By: iml

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

Client Sample ID: AS3504 HA-8
Client Project ID: AS-3504
Lab Sample ID G128-1912-9A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 15:00
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.9

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0373	0.0404	0.00237	1	3/12/2007	J
Benzene	BQL	0.00404	0.00230	1	3/12/2007	
Bromobenzene	BQL	0.00404	0.00199	1	3/12/2007	
Bromochloromethane	BQL	0.00404	0.00236	1	3/12/2007	
Bromodichloromethane	BQL	0.00404	0.00229	1	3/12/2007	
Bromoform	BQL	0.00404	0.00195	1	3/12/2007	
Bromomethane	BQL	0.00404	0.00338	1	3/12/2007	
2-Butanone	BQL	0.0202	0.00232	1	3/12/2007	
n-Butylbenzene	BQL	0.00404	0.00270	1	3/12/2007	
sec-Butylbenzene	BQL	0.00404	0.00282	1	3/12/2007	
tert-Butylbenzene	BQL	0.00404	0.00280	1	3/12/2007	
Carbon disulfide	BQL	0.00404	0.00212	1	3/12/2007	
Carbon tetrachloride	BQL	0.00404	0.00279	1	3/12/2007	
Chlorobenzene	BQL	0.00404	0.00203	1	3/12/2007	
Chloroethane	BQL	0.00404	0.00253	1	3/12/2007	
Chloroform	BQL	0.00404	0.00203	1	3/12/2007	
Chloromethane	BQL	0.00404	0.00195	1	3/12/2007	
2-Chlorotoluene	BQL	0.00404	0.00241	1	3/12/2007	
4-Chlorotoluene	BQL	0.00404	0.00224	1	3/12/2007	
Dibromochloromethane	BQL	0.00404	0.00181	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00404	0.00856	1	3/12/2007	
Dibromomethane	BQL	0.00404	0.00242	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00404	0.00188	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00404	0.00195	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00404	0.00189	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00404	0.00199	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00404	0.00864	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00404	0.00232	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00404	0.00311	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00404	0.00232	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00404	0.00199	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00404	0.00262	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00404	0.00207	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00404	0.00185	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00404	0.00257	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00404	0.00291	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00404	0.00224	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00404	0.00228	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00404	0.00301	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00404	0.00191	1	3/12/2007	
Ethylbenzene	BQL	0.00404	0.00245	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00404	0.00319	1	3/12/2007	

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

Client Sample ID: AS3504 HA-8
Client Project ID: AS-3504
Lab Sample ID G128-1912-9A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 15:00
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.9

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00404	0.00176	1	3/12/2007	
Iodomethane	BQL	0.00404	0.00375	1	3/12/2007	
Isopropylbenzene	BQL	0.00404	0.00260	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00404	0.00274	1	3/12/2007	
Methylene chloride	0.0179	0.0161	0.00231	1	3/12/2007	
4-Methyl-2-pentanone	BQL	0.00404	0.00186	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00404	0.00205	1	3/12/2007	
Naphthalene	BQL	0.00404	0.00162	1	3/12/2007	
n-Propyl benzene	BQL	0.00404	0.00259	1	3/12/2007	
Styrene	BQL	0.00404	0.00289	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00404	0.00220	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00404	0.00199	1	3/12/2007	
Tetrachloroethene	BQL	0.00404	0.00254	1	3/12/2007	
Toluene	BQL	0.00404	0.00239	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00404	0.00177	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00404	0.00181	1	3/12/2007	
Trichloroethene	BQL	0.00404	0.00252	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00404	0.00278	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00404	0.00208	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00404	0.00333	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00404	0.00214	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00404	0.00226	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00404	0.00241	1	3/12/2007	
Vinyl chloride	BQL	0.00404	0.00266	1	3/12/2007	
m-,p-Xylene	BQL	0.00807	0.00458	1	3/12/2007	
o-Xylene	BQL	0.00404	0.00226	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0428	86		
1,2-Dichloroethane-d4		0.05	0.0598	120		
Toluene-d8		0.05	0.0481	96		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fm

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

Client Sample ID: AS3504 HA-2 DUP
Client Project ID: AS-3504
Lab Sample ID G128-1912-11A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 16:05
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	0.0758	0.00446	1	3/12/2007	
Benzene	BQL	0.00758	0.00432	1	3/12/2007	
Bromobenzene	BQL	0.00758	0.00373	1	3/12/2007	
Bromochloromethane	BQL	0.00758	0.00443	1	3/12/2007	
Bromodichloromethane	BQL	0.00758	0.00431	1	3/12/2007	
Bromoform	BQL	0.00758	0.00367	1	3/12/2007	
Bromomethane	BQL	0.00758	0.00635	1	3/12/2007	
2-Butanone	BQL	0.0379	0.00437	1	3/12/2007	
n-Butylbenzene	BQL	0.00758	0.00508	1	3/12/2007	
sec-Butylbenzene	BQL	0.00758	0.00531	1	3/12/2007	
tert-Butylbenzene	BQL	0.00758	0.00526	1	3/12/2007	
Carbon disulfide	BQL	0.00758	0.00399	1	3/12/2007	
Carbon tetrachloride	BQL	0.00758	0.00525	1	3/12/2007	
Chlorobenzene	BQL	0.00758	0.00381	1	3/12/2007	
Chloroethane	BQL	0.00758	0.00476	1	3/12/2007	
Chloroform	BQL	0.00758	0.00381	1	3/12/2007	
Chloromethane	BQL	0.00758	0.00365	1	3/12/2007	
2-Chlorotoluene	BQL	0.00758	0.00452	1	3/12/2007	
4-Chlorotoluene	BQL	0.00758	0.00422	1	3/12/2007	
Dibromochloromethane	BQL	0.00758	0.00340	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	0.00758	0.0161	1	3/12/2007	
Dibromomethane	BQL	0.00758	0.00455	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	0.00758	0.00353	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.00758	0.00365	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.00758	0.00355	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.00758	0.00373	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	0.00758	0.0162	1	3/12/2007	
1,1-Dichloroethane	BQL	0.00758	0.00437	1	3/12/2007	
1,1-Dichloroethene	BQL	0.00758	0.00584	1	3/12/2007	
1,2-Dichloroethane	BQL	0.00758	0.00435	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	0.00758	0.00373	1	3/12/2007	
trans-1,2-dichloroethene	BQL	0.00758	0.00493	1	3/12/2007	
1,2-Dichloropropane	BQL	0.00758	0.00388	1	3/12/2007	
1,3-Dichloropropane	BQL	0.00758	0.00347	1	3/12/2007	
2,2-Dichloropropane	BQL	0.00758	0.00482	1	3/12/2007	
1,1-Dichloropropene	BQL	0.00758	0.00547	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	0.00758	0.00422	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	0.00758	0.00429	1	3/12/2007	
Dichlorodifluoromethane	BQL	0.00758	0.00566	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	0.00758	0.00359	1	3/12/2007	
Ethylbenzene	BQL	0.00758	0.00461	1	3/12/2007	
Hexachlorobutadiene	BQL	0.00758	0.00599	1	3/12/2007	

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

Client Sample ID: AS3504 HA-2 DUP
Client Project ID: AS-3504
Lab Sample ID G128-1912-11A
Lab Project ID: G128-1912
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 03-06-2007 16:05
Date Received: 3/6/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00758	0.00331	1	3/12/2007	
Iodomethane	BQL	0.00758	0.00705	1	3/12/2007	
Isopropylbenzene	BQL	0.00758	0.00488	1	3/12/2007	
4-Isopropyltoluene	BQL	0.00758	0.00516	1	3/12/2007	
Methylene chloride	0.00522	0.0303	0.00434	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	0.00758	0.00350	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	0.00758	0.00385	1	3/12/2007	
Naphthalene	BQL	0.00758	0.00305	1	3/12/2007	
n-Propyl benzene	BQL	0.00758	0.00487	1	3/12/2007	
Styrene	BQL	0.00758	0.00543	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	0.00758	0.00412	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	0.00758	0.00373	1	3/12/2007	
Tetrachloroethene	BQL	0.00758	0.00478	1	3/12/2007	
Toluene	BQL	0.00758	0.00449	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	0.00758	0.00332	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.00758	0.00340	1	3/12/2007	
Trichloroethene	BQL	0.00758	0.00473	1	3/12/2007	
1,1,1-Trichloroethane	BQL	0.00758	0.00523	1	3/12/2007	
1,1,2-Trichloroethane	BQL	0.00758	0.00391	1	3/12/2007	
Trichlorofluoromethane	BQL	0.00758	0.00626	1	3/12/2007	
1,2,3-Trichloropropane	BQL	0.00758	0.00402	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	0.00758	0.00425	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	0.00758	0.00452	1	3/12/2007	
Vinyl chloride	BQL	0.00758	0.00500	1	3/12/2007	
m-,p-Xylene	BQL	0.0152	0.00860	1	3/12/2007	
o-Xylene	BQL	0.00758	0.00425	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.044	88		
1,2-Dichloroethane-d4		0.05	0.0629	126		
Toluene-d8		0.05	0.049	98		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: ML

**Results for Volatiles
by GCMS 8260B**

Client Sample ID: TRIP BLANK
Client Project ID: AS-3504
Lab Sample ID: G128-1912-12A
Lab Project ID: G128-1912

Analyzed By: CLP
Date Collected: 3/6/2007 0:00
Date Received: 3/6/2007
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	25.0	3.37	1	3/12/2007	
Benzene	BQL	1.00	0.162	1	3/12/2007	
Bromobenzene	BQL	1.00	0.224	1	3/12/2007	
Bromochloromethane	BQL	1.00	0.312	1	3/12/2007	
Bromodichloromethane	BQL	1.00	0.185	1	3/12/2007	
Bromoform	BQL	1.00	0.0960	1	3/12/2007	
Bromomethane	BQL	1.00	0.104	1	3/12/2007	
2-Butanone	BQL	25.0	1.09	1	3/12/2007	
n-Butylbenzene	BQL	1.00	0.272	1	3/12/2007	
sec-Butylbenzene	BQL	1.00	0.235	1	3/12/2007	
tert-Butylbenzene	BQL	1.00	0.182	1	3/12/2007	
Carbon disulfide	BQL	1.00	0.206	1	3/12/2007	
Carbon tetrachloride	BQL	1.00	0.181	1	3/12/2007	
Chlorobenzene	BQL	1.00	0.177	1	3/12/2007	
Chloroethane	BQL	1.00	0.416	1	3/12/2007	
Chloroform	BQL	1.00	0.220	1	3/12/2007	
Chloromethane	BQL	1.00	0.282	1	3/12/2007	
2-Chlorotoluene	BQL	1.00	0.205	1	3/12/2007	
4-Chlorotoluene	BQL	1.00	0.206	1	3/12/2007	
Dibromochloromethane	BQL	1.00	0.208	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	5.00	1.95	1	3/12/2007	
Dibromomethane	BQL	1.00	0.275	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	1.00	0.264	1	3/12/2007	
1,2-Dichlorobenzene	BQL	1.00	0.190	1	3/12/2007	
1,3-Dichlorobenzene	BQL	1.00	0.234	1	3/12/2007	
1,4-Dichlorobenzene	BQL	1.00	0.182	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	5.00	1.42	1	3/12/2007	
1,1-Dichloroethane	BQL	1.00	0.215	1	3/12/2007	
1,1-Dichloroethene	BQL	1.00	0.164	1	3/12/2007	
1,2-Dichloroethane	BQL	1.00	0.244	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	1.00	0.176	1	3/12/2007	
trans-1,2-dichloroethene	BQL	1.00	0.230	1	3/12/2007	
1,2-Dichloropropane	BQL	1.00	0.166	1	3/12/2007	
1,3-Dichloropropane	BQL	1.00	0.169	1	3/12/2007	
2,2-Dichloropropane	BQL	1.00	0.239	1	3/12/2007	
1,1-Dichloropropene	BQL	1.00	0.176	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	1.00	0.202	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	1.00	0.119	1	3/12/2007	
Dichlorodifluoromethane	BQL	5.00	0.385	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.235	1	3/12/2007	
Ethylbenzene	BQL	1.00	0.206	1	3/12/2007	
Hexachlorobutadiene	BQL	1.00	0.409	1	3/12/2007	

Results for Volatiles
by GCMS 8260B

Client Sample ID: TRIP BLANK
Client Project ID: AS-3504
Lab Sample ID: G128-1912-12A
Lab Project ID: G128-1912

Analyzed By: CLP
Date Collected: 3/6/2007 0:00
Date Received: 3/6/2007
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	0.874	1	3/12/2007	
Iodomethane	BQL	1.00	0.129	1	3/12/2007	
Isopropylbenzene	BQL	1.00	0.173	1	3/12/2007	
4-Isopropyltoluene	BQL	1.00	0.200	1	3/12/2007	
Methylene chloride	1.57	5.00	0.188	1	3/12/2007	J
4-Methyl-2-pentanone	BQL	5.00	0.495	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	1.00	0.214	1	3/12/2007	
Naphthalene	BQL	1.00	0.280	1	3/12/2007	
n-Propyl benzene	BQL	1.00	0.211	1	3/12/2007	
Styrene	BQL	1.00	0.239	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	1.00	0.288	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	1.00	0.256	1	3/12/2007	
Tetrachloroethene	BQL	1.00	0.304	1	3/12/2007	
Toluene	BQL	1.00	0.175	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	1.00	0.199	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	1.00	0.244	1	3/12/2007	
Trichloroethene	BQL	1.00	0.209	1	3/12/2007	
1,1,1-Trichloroethane	BQL	1.00	0.197	1	3/12/2007	
1,1,2-Trichloroethane	BQL	1.00	0.267	1	3/12/2007	
Trichlorofluoromethane	BQL	1.00	0.428	1	3/12/2007	
1,2,3-Trichloropropane	BQL	1.00	0.234	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	1.00	0.200	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	1.00	0.187	1	3/12/2007	
Vinyl chloride	BQL	1.00	0.400	1	3/12/2007	
m,p-Xylene	BQL	2.00	0.386	1	3/12/2007	
o-Xylene	BQL	1.00	0.167	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		10	10.1	101		
1,2-Dichloroethane-d4		10	10	100		
Toluene-d8		10	10.1	101		

Comments:

Flags:

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

Reviewed By:

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK4031207B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	2.94	1	3/12/2007	
Benzene	BQL	5.00	2.85	1	3/12/2007	
Bromobenzene	BQL	5.00	2.46	1	3/12/2007	
Bromochloromethane	BQL	5.00	2.92	1	3/12/2007	
Bromodichloromethane	BQL	5.00	2.84	1	3/12/2007	
Bromoform	BQL	5.00	2.42	1	3/12/2007	
Bromomethane	BQL	5.00	4.19	1	3/12/2007	
2-Butanone	BQL	25.0	2.88	1	3/12/2007	
n-Butylbenzene	BQL	5.00	3.35	1	3/12/2007	
sec-Butylbenzene	BQL	5.00	3.50	1	3/12/2007	
tert-Butylbenzene	BQL	5.00	3.47	1	3/12/2007	
Carbon disulfide	BQL	5.00	2.63	1	3/12/2007	
Carbon tetrachloride	BQL	5.00	3.46	1	3/12/2007	
Chlorobenzene	BQL	5.00	2.51	1	3/12/2007	
Chloroethane	BQL	5.00	3.14	1	3/12/2007	
Chloroform	BQL	5.00	2.51	1	3/12/2007	
Chloromethane	BQL	5.00	2.41	1	3/12/2007	
2-Chlorotoluene	BQL	5.00	2.98	1	3/12/2007	
4-Chlorotoluene	BQL	5.00	2.78	1	3/12/2007	
Dibromochloromethane	BQL	5.00	2.24	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	5.00	10.6	1	3/12/2007	
Dibromomethane	BQL	5.00	3.00	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	5.00	2.33	1	3/12/2007	
1,2-Dichlorobenzene	BQL	5.00	2.41	1	3/12/2007	
1,3-Dichlorobenzene	BQL	5.00	2.34	1	3/12/2007	
1,4-Dichlorobenzene	BQL	5.00	2.46	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	5.00	10.7	1	3/12/2007	
1,1-Dichloroethane	BQL	5.00	2.88	1	3/12/2007	
1,1-Dichloroethene	BQL	5.00	3.85	1	3/12/2007	
1,2-Dichloroethane	BQL	5.00	2.87	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	5.00	2.46	1	3/12/2007	
trans-1,2-dichloroethene	BQL	5.00	3.25	1	3/12/2007	
1,2-Dichloropropane	BQL	5.00	2.56	1	3/12/2007	
1,3-Dichloropropane	BQL	5.00	2.29	1	3/12/2007	
2,2-Dichloropropane	BQL	5.00	3.18	1	3/12/2007	
1,1-Dichloropropene	BQL	5.00	3.61	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	5.00	2.78	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	5.00	2.83	1	3/12/2007	
Dichlorodifluoromethane	BQL	5.00	3.73	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	5.00	2.37	1	3/12/2007	
Ethylbenzene	BQL	5.00	3.04	1	3/12/2007	
Hexachlorobutadiene	BQL	5.00	3.95	1	3/12/2007	

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK4031207B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	2.18	1	3/12/2007	
Iodomethane	BQL	5.00	4.65	1	3/12/2007	
Isopropylbenzene	BQL	5.00	3.22	1	3/12/2007	
4-Isopropyltoluene	BQL	5.00	3.40	1	3/12/2007	
Methylene chloride	BQL	20.0	2.86	1	3/12/2007	
4-Methyl-2-pentanone	BQL	5.00	2.31	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	2.54	1	3/12/2007	
Naphthalene	BQL	5.00	2.01	1	3/12/2007	
n-Propyl benzene	BQL	5.00	3.21	1	3/12/2007	
Styrene	BQL	5.00	3.58	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	5.00	2.72	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	5.00	2.46	1	3/12/2007	
Tetrachloroethene	BQL	5.00	3.15	1	3/12/2007	
Toluene	BQL	5.00	2.96	1	3/12/2007	
1,2,3-Trichlorobenzene	BQL	5.00	2.19	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	5.00	2.24	1	3/12/2007	
Trichloroethene	BQL	5.00	3.12	1	3/12/2007	
1,1,1-Trichloroethane	BQL	5.00	3.45	1	3/12/2007	
1,1,2-Trichloroethane	BQL	5.00	2.58	1	3/12/2007	
Trichlorofluoromethane	BQL	5.00	4.13	1	3/12/2007	
1,2,3-Trichloropropane	BQL	5.00	2.65	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	5.00	2.80	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	5.00	2.98	1	3/12/2007	
Vinyl chloride	BQL	5.00	3.30	1	3/12/2007	
m-,p-Xylene	BQL	10.0	5.67	1	3/12/2007	
o-Xylene	BQL	5.00	2.80	1	3/12/2007	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	46.7	93
1,2-Dichloroethane-d4	50	51.4	103
Toluene-d8	50	48.3	97

Comments:**Flags:**

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

Reviewed By: fm



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) Soil

Lab Sample ID: LCS4031207b

Sample wt/vol: 5.00 (g)

Lab File ID: 0312404.D

Level: (low/med) low

% Moisture: not dec.

Date Analyzed: 2007-03-12 09:58

GC Column: DB-624 ID: 0.2 (mm)

Dilution Factor: 1

Soil Extract Volume: NA

Soil Aliquot Volume: NA

CAS NO.	COMPOUND	SPIKE AMT (µg/L)	SAMP CONC (µg/L)	% REC #	QC LIMITS
71-43-2	benzene	30.0	27.4	91.3	77.6-122
108-90-7	chlorobenzene	30.0	28.2	94.1	75.3-125
75-35-4	1,1-dichloroethene	30.0	27.4	91.4	78.5-121
108-88-3	toluene	30.0	28.4	94.7	75.7-124
79-01-6	trichloroethene	30.0	28.6	95.2	60.8-139

System Monitoring Compound Results

		Spike Added (µg/L)	Spike Result (µg/L)	Percent Rec. (%)	Percent Recovery (%)
460-00-4	4-Bromofluorobenzene	50	49.0	99.0	49.1 - 151
17060-07-0	1,2-Dichloroethane-d4	50	49.0	97.0	37.8 - 170
2037-26-5	Toluene-d8	50	50.0	100	58.8 - 144



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

LCS: LCS4031207B

filename: 0312404.D

Date Analyzed: 03/12/07 09:58 Dilution: 1

LCSD: LCS4031207C

filename: 0312405.D

Date Analyzed: 03/12/07 10:23 Matrix: Soil

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS	
								RPD	REC
benzene	30.0	27.4	91.3	30.0	28.4	94.7	3.58	30	77.6-122
chlorobenzene	30.0	28.2	94.1	30.0	29.5	98.4	4.47	30	75.3-125
1,1-dichloroethene	30.0	27.4	91.4	30.0	28.1	93.8	2.63	30	78.5-121
toluene	30.0	28.4	94.7	30.0	29.1	97.0	2.40	30	75.7-124
trichloroethene	30.0	28.6	95.2	30.0	28.4	94.7	0.597	30	60.8-139

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

* Values outside of QC limits

COMMENTS:



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No.: g679-111-3a

Dilution: 1

FileNames: 0312417.D, 0312425.D, 0312426.D

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	%	QC LIMITS	
									RPD	REC
benzene	BQL	43.8	34.0	77.6	43.8	36.7	83.7	7.52	30	74.8-133
chlorobenzene	BQL	43.8	30.3	69.1	43.8	36.7	83.7	19.1	30	66.3-135
1,1-dichloroethene	BQL	43.8	32.1	73.2	43.8	37.6	85.9	15.9	30	72.0-135
toluene	BQL	43.8	31.8	72.6	43.8	36.6	83.6	14.2	30	70.5-138
trichloroethene	BQL	43.8	32.4	74.0	43.8	36.5	83.4	11.9	30	60.7-152

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

* Values outside of QC limits

COMMENTS:

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK4031307B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	2.94	1	3/13/2007	
Benzene	BQL	5.00	2.85	1	3/13/2007	
Bromobenzene	BQL	5.00	2.46	1	3/13/2007	
Bromochloromethane	BQL	5.00	2.92	1	3/13/2007	
Bromodichloromethane	BQL	5.00	2.84	1	3/13/2007	
Bromoform	BQL	5.00	2.42	1	3/13/2007	
Bromomethane	BQL	5.00	4.19	1	3/13/2007	
2-Butanone	BQL	25.0	2.88	1	3/13/2007	
n-Butylbenzene	BQL	5.00	3.35	1	3/13/2007	
sec-Butylbenzene	BQL	5.00	3.50	1	3/13/2007	
tert-Butylbenzene	BQL	5.00	3.47	1	3/13/2007	
Carbon disulfide	BQL	5.00	2.63	1	3/13/2007	
Carbon tetrachloride	BQL	5.00	3.46	1	3/13/2007	
Chlorobenzene	BQL	5.00	2.51	1	3/13/2007	
Chloroethane	BQL	5.00	3.14	1	3/13/2007	
Chloroform	BQL	5.00	2.51	1	3/13/2007	
Chloromethane	BQL	5.00	2.41	1	3/13/2007	
2-Chlorotoluene	BQL	5.00	2.98	1	3/13/2007	
4-Chlorotoluene	BQL	5.00	2.78	1	3/13/2007	
Dibromochloromethane	BQL	5.00	2.24	1	3/13/2007	
1,2-Dibromo-3-chloropropane	BQL	5.00	10.6	1	3/13/2007	
Dibromomethane	BQL	5.00	3.00	1	3/13/2007	
1,2-Dibromoethane (EDB)	BQL	5.00	2.33	1	3/13/2007	
1,2-Dichlorobenzene	BQL	5.00	2.41	1	3/13/2007	
1,3-Dichlorobenzene	BQL	5.00	2.34	1	3/13/2007	
1,4-Dichlorobenzene	BQL	5.00	2.46	1	3/13/2007	
trans-1,4-Dichloro-2-butene	BQL	5.00	10.7	1	3/13/2007	
1,1-Dichloroethane	BQL	5.00	2.88	1	3/13/2007	
1,1-Dichloroethene	BQL	5.00	3.85	1	3/13/2007	
1,2-Dichloroethane	BQL	5.00	2.87	1	3/13/2007	
cis-1,2-Dichloroethene	BQL	5.00	2.46	1	3/13/2007	
trans-1,2-dichloroethene	BQL	5.00	3.25	1	3/13/2007	
1,2-Dichloropropane	BQL	5.00	2.56	1	3/13/2007	
1,3-Dichloropropane	BQL	5.00	2.29	1	3/13/2007	
2,2-Dichloropropane	BQL	5.00	3.18	1	3/13/2007	
1,1-Dichloropropene	BQL	5.00	3.61	1	3/13/2007	
cis-1,3-Dichloropropene	BQL	5.00	2.78	1	3/13/2007	
trans-1,3-Dichloropropene	BQL	5.00	2.83	1	3/13/2007	
Dichlorodifluoromethane	BQL	5.00	3.73	1	3/13/2007	
Diisopropyl ether (DIPE)	BQL	5.00	2.37	1	3/13/2007	
Ethylbenzene	BQL	5.00	3.04	1	3/13/2007	
Hexachlorobutadiene	BQL	5.00	3.95	1	3/13/2007	

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK4031307B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	2.18	1	3/13/2007	
Iodomethane	BQL	5.00	4.65	1	3/13/2007	
Isopropylbenzene	BQL	5.00	3.22	1	3/13/2007	
4-Isopropyltoluene	BQL	5.00	3.40	1	3/13/2007	
Methylene chloride	BQL	20.0	2.86	1	3/13/2007	
4-Methyl-2-pentanone	BQL	5.00	2.31	1	3/13/2007	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	2.54	1	3/13/2007	
Naphthalene	BQL	5.00	2.01	1	3/13/2007	
n-Propyl benzene	BQL	5.00	3.21	1	3/13/2007	
Styrene	BQL	5.00	3.58	1	3/13/2007	
1,1,1,2-Tetrachloroethane	BQL	5.00	2.72	1	3/13/2007	
1,1,2,2-Tetrachloroethane	BQL	5.00	2.46	1	3/13/2007	
Tetrachloroethene	BQL	5.00	3.15	1	3/13/2007	
Toluene	BQL	5.00	2.96	1	3/13/2007	
1,2,3-Trichlorobenzene	BQL	5.00	2.19	1	3/13/2007	
1,2,4-Trichlorobenzene	BQL	5.00	2.24	1	3/13/2007	
Trichloroethene	BQL	5.00	3.12	1	3/13/2007	
1,1,1-Trichloroethane	BQL	5.00	3.45	1	3/13/2007	
1,1,2-Trichloroethane	BQL	5.00	2.58	1	3/13/2007	
Trichlorofluoromethane	BQL	5.00	4.13	1	3/13/2007	
1,2,3-Trichloropropane	BQL	5.00	2.65	1	3/13/2007	
1,2,4-Trimethylbenzene	BQL	5.00	2.80	1	3/13/2007	
1,3,5-Trimethylbenzene	BQL	5.00	2.98	1	3/13/2007	
Vinyl chloride	BQL	5.00	3.30	1	3/13/2007	
m-,p-Xylene	BQL	10.0	5.67	1	3/13/2007	
o-Xylene	BQL	5.00	2.80	1	3/13/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		50	47.3	95		
1,2-Dichloroethane-d4		50	50.8	102		
Toluene-d8		50	48.5	97		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: hmc



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) Soil

Lab Sample ID: LCS4031307a

Sample wt/vol: 5.00 (g)

Lab File ID: 0313403.D

Level: (low/med) low

% Moisture: not dec.

Date Analyzed: 2007-03-13 09:46

GC Column: DB-624 ID: 0.2 (mm)

Dilution Factor: 1

Soil Extract Volume: NA

Soil Aliquot Volume: NA

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
71-43-2	benzene	30.0	27.5	91.5	77.6-122
108-90-7	chlorobenzene	30.0	29.7	99.0	75.3-125
75-35-4	1,1-dichloroethene	30.0	26.9	89.8	78.5-121
108-88-3	toluene	30.0	28.3	94.4	75.7-124
79-01-6	trichloroethene	30.0	26.8	89.3	60.8-139

System Monitoring Compound Results

		Spike Added (µg/kg)	Spike Result (µg/kg)	Percent Rec. (%)	Percent Recovery (%)
460-00-4	4-Bromofluorobenzene	50	52.0	105	49.1 - 151
17060-07-0	1,2-Dichloroethane-d4	50	50.0	101	37.8 - 170
2037-26-5	Toluene-d8	50	49.0	99.0	58.8 - 144



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

LCS: LCS4031307A

filename: 0313403.D

Date Analyzed: 03/13/07 09:46 Dilution: 1

LCSD: LCS4031307B

filename: 0313404.D

Date Analyzed: 03/13/07 10:11 Matrix: Soil

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS	
								RPD	REC
benzene	30.0	27.5	91.5	30.0	28.5	95.1	3.82	30	77.6-122
chlorobenzene	30.0	29.7	99.0	30.0	27.3	91.1	8.38	30	75.3-125
1,1-dichloroethene	30.0	26.9	89.8	30.0	27.4	91.3	1.62	30	78.5-121
toluene	30.0	28.3	94.4	30.0	28.7	95.8	1.44	30	75.7-124
trichloroethene	30.0	26.8	89.3	30.0	28.1	93.8	4.99	30	60.8-139

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

* Values outside of QC limits

COMMENTS:



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No.: g679-112-10a

Dilution: 1

FileNames: 0313409.D, 0313425.D, 0313426.D

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	%	QC LIMITS	
									RPD	REC
benzene	BQL	31.4	22.2	70.8*	31.4	24.5	78.1	9.76	30	74.8-133
chlorobenzene	BQL	31.4	19.6	62.3*	31.4	18.9	60.1*	3.65	30	66.3-135
1,1-dichloroethene	BQL	31.4	22.8	72.7	31.4	24.6	78.4	7.63	30	72.0-135
toluene	BQL	31.4	20.5	65.2*	31.4	21.6	68.8*	5.32	30	70.5-138
trichloroethene	BQL	31.4	20.2	64.4	31.4	23.1	73.4	13.0	30	60.7-152

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

* Values outside of QC limits

COMMENTS:

**Results for Volatiles
by GCMS 8260B**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK1031207B
Lab Project ID:

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	25.0	3.37	1	3/12/2007	
Benzene	BQL	1.00	0.162	1	3/12/2007	
Bromobenzene	BQL	1.00	0.224	1	3/12/2007	
Bromochloromethane	BQL	1.00	0.312	1	3/12/2007	
Bromodichloromethane	BQL	1.00	0.185	1	3/12/2007	
Bromoform	BQL	1.00	0.0960	1	3/12/2007	
Bromomethane	BQL	1.00	0.104	1	3/12/2007	
2-Butanone	BQL	25.0	1.09	1	3/12/2007	
n-Butylbenzene	BQL	1.00	0.272	1	3/12/2007	
sec-Butylbenzene	BQL	1.00	0.235	1	3/12/2007	
tert-Butylbenzene	BQL	1.00	0.182	1	3/12/2007	
Carbon disulfide	BQL	1.00	0.206	1	3/12/2007	
Carbon tetrachloride	BQL	1.00	0.181	1	3/12/2007	
Chlorobenzene	BQL	1.00	0.177	1	3/12/2007	
Chloroethane	BQL	1.00	0.416	1	3/12/2007	
Chloroform	BQL	1.00	0.220	1	3/12/2007	
Chloromethane	BQL	1.00	0.282	1	3/12/2007	
2-Chlorotoluene	BQL	1.00	0.205	1	3/12/2007	
4-Chlorotoluene	BQL	1.00	0.206	1	3/12/2007	
Dibromochloromethane	BQL	1.00	0.208	1	3/12/2007	
1,2-Dibromo-3-chloropropane	BQL	5.00	1.95	1	3/12/2007	
Dibromomethane	BQL	1.00	0.275	1	3/12/2007	
1,2-Dibromoethane (EDB)	BQL	1.00	0.264	1	3/12/2007	
1,2-Dichlorobenzene	BQL	1.00	0.190	1	3/12/2007	
1,3-Dichlorobenzene	BQL	1.00	0.234	1	3/12/2007	
1,4-Dichlorobenzene	BQL	1.00	0.182	1	3/12/2007	
trans-1,4-Dichloro-2-butene	BQL	5.00	1.42	1	3/12/2007	
1,1-Dichloroethane	BQL	1.00	0.215	1	3/12/2007	
1,1-Dichloroethene	BQL	1.00	0.164	1	3/12/2007	
1,2-Dichloroethane	BQL	1.00	0.244	1	3/12/2007	
cis-1,2-Dichloroethene	BQL	1.00	0.176	1	3/12/2007	
trans-1,2-dichloroethene	BQL	1.00	0.230	1	3/12/2007	
1,2-Dichloropropane	BQL	1.00	0.166	1	3/12/2007	
1,3-Dichloropropane	BQL	1.00	0.169	1	3/12/2007	
2,2-Dichloropropane	BQL	1.00	0.239	1	3/12/2007	
1,1-Dichloropropene	BQL	1.00	0.176	1	3/12/2007	
cis-1,3-Dichloropropene	BQL	1.00	0.202	1	3/12/2007	
trans-1,3-Dichloropropene	BQL	1.00	0.119	1	3/12/2007	
Dichlorodifluoromethane	BQL	5.00	0.385	1	3/12/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.235	1	3/12/2007	
Ethylbenzene	BQL	1.00	0.206	1	3/12/2007	
Hexachlorobutadiene	BQL	1.00	0.409	1	3/12/2007	

Results for Volatiles
by GCMS 8260B

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK1031207B
Lab Project ID:

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Water

Compound	Result UG/L	Quantitation Limit UG/L	MDL UG/L	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	0.874	1	3/12/2007	
Iodomethane	BQL	1.00	0.129	1	3/12/2007	
Isopropylbenzene	BQL	1.00	0.173	1	3/12/2007	
4-Isopropyltoluene	BQL	1.00	0.200	1	3/12/2007	
Methylene chloride	BQL	5.00	0.188	1	3/12/2007	
4-Methyl-2-pentanone	BQL	5.00	0.495	1	3/12/2007	
Methyl-tert-butyl ether (MTBE)	BQL	1.00	0.214	1	3/12/2007	
Naphthalene	0.460	1.00	0.280	1	3/12/2007	J
n-Propyl benzene	BQL	1.00	0.211	1	3/12/2007	
Styrene	BQL	1.00	0.239	1	3/12/2007	
1,1,1,2-Tetrachloroethane	BQL	1.00	0.288	1	3/12/2007	
1,1,2,2-Tetrachloroethane	BQL	1.00	0.256	1	3/12/2007	
Tetrachloroethene	BQL	1.00	0.304	1	3/12/2007	
Toluene	BQL	1.00	0.175	1	3/12/2007	
1,2,3-Trichlorobenzene	0.460	1.00	0.199	1	3/12/2007	J
1,2,4-Trichlorobenzene	0.310	1.00	0.244	1	3/12/2007	J
Trichloroethene	BQL	1.00	0.209	1	3/12/2007	
1,1,1-Trichloroethane	BQL	1.00	0.197	1	3/12/2007	
1,1,2-Trichloroethane	BQL	1.00	0.267	1	3/12/2007	
Trichlorofluoromethane	BQL	1.00	0.428	1	3/12/2007	
1,2,3-Trichloropropane	BQL	1.00	0.234	1	3/12/2007	
1,2,4-Trimethylbenzene	BQL	1.00	0.200	1	3/12/2007	
1,3,5-Trimethylbenzene	BQL	1.00	0.187	1	3/12/2007	
Vinyl chloride	BQL	1.00	0.400	1	3/12/2007	
m-,p-Xylene	BQL	2.00	0.386	1	3/12/2007	
o-Xylene	BQL	1.00	0.167	1	3/12/2007	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		10	10.2	102		
1,2-Dichloroethane-d4		10	10.2	102		
Toluene-d8		10	10.2	102		

Comments:

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fm



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental

Contract:

Lab Code: NC00919

Case No.:

SAS No.:

SDG No.:

Matrix Spike - EPA Sample No.: g353-128-1a

Dilution: 100

Filenames: 0312120.D, 0312122.D, 0312123.D

COMPOUND	SAMPLE CONC (µg/L)	MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	% RPD	QC LIMITS	
									RPD	REC
benzene	BQL	500	612	122	500	587	117	4.17	30	61.6-135
chlorobenzene	BQL	500	617	123*	500	583	117	5.67	30	77.2-118
1,1-dichloroethene	BQL	500	590	118	500	594	119	0.676	30	64.4-130
toluene	BQL	500	619	124	500	600	120	3.12	30	66.4-128
trichloroethene	BQL	500	615	123	500	593	119	3.64	30	84.9-136

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

* Values outside of QC limits

COMMENTS:



SGS ENVIRONMENTAL SERVICES, INC.

SGS Environmental Services

LABORATORY CONTROL SAMPLE VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental

Lab Code: NC00919

Case No.:

SAS No.:

SDG No:

Matrix: (soil/water) Water

Lab Sample ID: LCS1031207a

Sample wt/vol: 5.00 (mL)

Lab File ID: 0312104.D

Level: (low/med) NA

% Moisture: not dec. NA

Date Analyzed: 2007-03-12 11:26

GC Column: DB-624 ID: 0.2 (mm)

Dilution Factor: 1

Soil Extract Volume: NA

Soil Aliquot Volume: NA

CAS NO.	COMPOUND	SPIKE AMT (µg/L)	SAMP CONC (µg/L)	% REC #	QC LIMITS
71-43-2	benzene	5.00	4.94	98.8	77.4-123
108-90-7	chlorobenzene	5.00	4.79	95.8	72.5-128
75-35-4	1,1-dichloroethene	5.00	4.66	93.2	71.7-128
108-88-3	toluene	5.00	4.91	98.2	75.9-124
79-01-6	trichloroethene	5.00	4.90	98.0	77.9-122

System Monitoring Compound Results

		Spike Added (µg/L)	Spike Result (µg/L)	Percent Rec. (%)	Percent Recovery (%)
460-00-4	4-Bromofluorobenzene	10	10.0	100	88.6 - 113
17060-07-0	1,2-Dichloroethane-d4	10	10.0	105	84.6 - 114
2037-26-5	Toluene-d8	10	10.0	101	87.4 - 109

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTAS3504-MW05

Client Project ID: AS-3504

Lab Sample ID: G128-1912-11

Lab Project ID: G128-1912

Analyzed By: EAW

Date Collected: 3/6/2007 12:00

Date Received: 3/6/2007

Date Extracted: 3/13/2007

Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	2.20	10.0	1.22	1	3/16/2007	J
Acenaphthylene	BQL	10.0	1.12	1	3/16/2007	
Anthracene	BQL	10.0	1.75	1	3/16/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	3/16/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	3/16/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	3/16/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	3/16/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	3/16/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	3/16/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	3/16/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	3/16/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	3/16/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	3/16/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	3/16/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	3/16/2007	
2-Chlorophenol	BQL	10.0	4.22	1	3/16/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	3/16/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	3/16/2007	
Chrysene	BQL	10.0	1.11	1	3/16/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	3/16/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	3/16/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	3/16/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	3/16/2007	
1,4-Dichlorobenzene	4.90	10.0	1.20	1	3/16/2007	J
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	3/16/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	3/16/2007	
Diethylphthalate	12.8	10.0	1.48	1	3/16/2007	
Dimethylphthalate	BQL	10.0	1.04	1	3/16/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	3/16/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	3/16/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	3/16/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	3/16/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	3/16/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	3/16/2007	
Diphenylamine *	BQL	10.0	1.53	1	3/16/2007	
Fluoranthene	BQL	10.0	1.41	1	3/16/2007	
Fluorene	2.10	10.0	1.22	1	3/16/2007	J
Hexachlorobenzene	BQL	10.0	1.22	1	3/16/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	3/16/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	3/16/2007	
Hexachloroethane	BQL	10.0	1.58	1	3/16/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	3/16/2007	
Isophorone	BQL	10.0	1.27	1	3/16/2007	
Naphthalene	27.6	10.0	1.08	1	3/16/2007	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTAS3504-MW05
Client Project ID: AS-3504
Lab Sample ID: G128-1912-11
Lab Project ID: G128-1912

Analyzed By: EAW
Date Collected: 3/6/2007 12:00
Date Received: 3/6/2007
Date Extracted: 3/13/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	3/16/2007	
2-Nitrophenol	BQL	10.0	3.52	1	3/16/2007	
4-Nitrophenol	BQL	50.0	3.17	1	3/16/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	3/16/2007	
Pentachlorophenol	BQL	50.0	2.83	1	3/16/2007	
Phenanthrene	2.20	10.0	1.38	1	3/16/2007	J
Phenol	BQL	10.0	3.38	1	3/16/2007	
Pyrene	BQL	10.0	2.08	1	3/16/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	3/16/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	3/16/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
2-Fluorophenol	10	5.9	59
Nitrobenzene-d5	10	6.3	63
Phenol-d6	10	7.5	75
2,4,6-Tribromophenol	10	9.2	92
4-Terphenyl-d14	10	8.7	87

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: AW

**Results of Library Search for Semivolatile Compounds**
by GCMS

Client Sample ID: USTAS3504-MW05

Client Project ID: AS-3504

Lab Sample ID: G128-1912-11

Lab Project ID: G128-1912

Sample Wt/Vol: 500 ML

Dilution: 1

Analyzed By: EAW

Date Collected: 3/6/2007 12:00

Date Received: 3/6/2007

Date Extracted: 3/13/2007

Date Analyzed: 3/16/2007

Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	12.11			135
2	Benzene, 2-ethenyl-1,4-dimethyl-	8.77	002039-89-6	95	64.8
3	Aromatic, Unknown	7.50			45.6
4	2(1H)-Naphthalenone, octahydro-, trans-	10.41	016021-08-2	95	28.8
5	Naphthalene, 2,3-dimethyl-	11.44	000581-40-8	98	22
6	Unknown	9.61			19.3
7	Naphthalene, 1,2,3,4-tetrahydro-	8.92	000119-64-2	90	16.5
8	Aromatic, Unknown	10.23			16.3
9	Unknown	13.71			16
10	1H-Indene, 2,3-dihydro-4,7-dimethyl-	9.80	006682-71-9	92	13.6

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: lme

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-1
Client Project ID: AS-3504
Lab Sample ID: G128-1912-2G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:10
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 85.63

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.361	0.052	1	3/14/2007	
Acenaphthylene	BQL	0.361	0.048	1	3/14/2007	
Anthracene	BQL	0.361	0.052	1	3/14/2007	
Benzo[a]anthracene	0.098	0.361	0.063	1	3/14/2007	J
Benzo[a]pyrene	0.108	0.361	0.055	1	3/14/2007	J
Benzo[b]fluoranthene	0.105	0.361	0.063	1	3/14/2007	J
Benzo[g,h,i]perylene	BQL	0.361	0.098	1	3/14/2007	
Benzo[k]fluoranthene	0.119	0.361	0.070	1	3/14/2007	J
Benzoic Acid	BQL	0.723	0.723	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.361	0.054	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.361	0.044	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.361	0.045	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.361	0.048	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.361	0.061	1	3/14/2007	
Butylbenzylphthalate	BQL	0.361	0.056	1	3/14/2007	
2-Chloronaphthalene	BQL	0.361	0.057	1	3/14/2007	
2-Chlorophenol	BQL	0.361	0.113	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.361	0.113	1	3/14/2007	
4-Chloroaniline	BQL	1.81	0.275	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.361	0.053	1	3/14/2007	
Chrysene	0.134	0.361	0.039	1	3/14/2007	J
Dibenzo[a,h]anthracene	BQL	0.361	0.101	1	3/14/2007	
Dibenzofuran	BQL	0.361	0.066	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.361	0.043	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.361	0.040	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.361	0.039	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.361	0.041	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.723	0.091	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.361	0.130	1	3/14/2007	
Diethylphthalate	BQL	0.361	0.047	1	3/14/2007	
Dimethylphthalate	BQL	0.361	0.044	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.361	0.258	1	3/14/2007	
Di-n-octylphthalate	BQL	0.361	0.060	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.81	0.213	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.81	0.796	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.361	0.047	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.361	0.066	1	3/14/2007	
Diphenylamine *	BQL	0.361	0.035	1	3/14/2007	
Fluoranthene	0.242	0.361	0.051	1	3/14/2007	J
Fluorene	BQL	0.361	0.045	1	3/14/2007	
Hexachlorobenzene	BQL	0.361	0.056	1	3/14/2007	
Hexachlorobutadiene	BQL	0.361	0.058	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.723	0.037	1	3/14/2007	
Hexachloroethane	BQL	0.361	0.033	1	3/14/2007	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: AS3504 HA-1
Client Project ID: AS-3504
Lab Sample ID: G128-1912-2G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:10
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 85.63

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.361	0.093	1	3/14/2007	
Isophorone	BQL	0.361	0.053	1	3/14/2007	
2-Methylnaphthalene	BQL	0.361	0.106	1	3/14/2007	
2-Methylphenol	BQL	0.361	0.127	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.361	0.122	1	3/14/2007	
Naphthalene	BQL	0.361	0.029	1	3/14/2007	
2-Nitroaniline	BQL	0.361	0.057	1	3/14/2007	
3-Nitroaniline	BQL	1.81	0.372	1	3/14/2007	
4-Nitroaniline	BQL	1.81	0.111	1	3/14/2007	
Nitrobenzene	BQL	0.361	0.049	1	3/14/2007	
2-Nitrophenol	BQL	0.361	0.112	1	3/14/2007	
4-Nitrophenol	BQL	1.81	0.100	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.361	0.046	1	3/14/2007	
Pentachlorophenol	BQL	1.81	0.094	1	3/14/2007	
Phenanthrene	0.072	0.361	0.041	1	3/14/2007	J
Phenol	BQL	0.361	0.099	1	3/14/2007	
Pyrene	0.206	0.361	0.069	1	3/14/2007	J
1,2,4-Trichlorobenzene	BQL	0.361	0.045	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.361	0.140	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.361	0.129	1	3/14/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8.3	83		
2-Fluorophenol		10	8.7	87		
Nitrobenzene-d5		10	9	90		
Phenol-d6		10	8.8	88		
2,4,6-Tribromophenol		10	9.1	91		
4-Terphenyl-d14		10	8.8	88		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: AWL

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-2
Client Project ID: AS-3504
Lab Sample ID: G128-1912-3G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:20
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 86.95

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.359	0.051	1	3/14/2007	
Acenaphthylene	BQL	0.359	0.048	1	3/14/2007	
Anthracene	BQL	0.359	0.052	1	3/14/2007	
Benzo[a]anthracene	BQL	0.359	0.062	1	3/14/2007	
Benzo[a]pyrene	BQL	0.359	0.055	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.359	0.063	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.359	0.098	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.359	0.069	1	3/14/2007	
Benzoic Acid	BQL	0.717	0.717	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.359	0.053	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.359	0.043	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.359	0.045	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.359	0.048	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.359	0.061	1	3/14/2007	
Butylbenzylphthalate	BQL	0.359	0.055	1	3/14/2007	
2-Chloronaphthalene	BQL	0.359	0.056	1	3/14/2007	
2-Chlorophenol	BQL	0.359	0.112	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.359	0.112	1	3/14/2007	
4-Chloroaniline	BQL	1.79	0.273	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.359	0.053	1	3/14/2007	
Chrysene	BQL	0.359	0.039	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.359	0.100	1	3/14/2007	
Dibenzofuran	BQL	0.359	0.065	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.359	0.043	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.359	0.040	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.359	0.039	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.359	0.041	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.717	0.090	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.359	0.129	1	3/14/2007	
Diethylphthalate	BQL	0.359	0.046	1	3/14/2007	
Dimethylphthalate	BQL	0.359	0.043	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.359	0.256	1	3/14/2007	
Di-n-octylphthalate	BQL	0.359	0.059	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.79	0.211	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.79	0.789	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.359	0.047	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.359	0.065	1	3/14/2007	
Diphenylamine *	BQL	0.359	0.035	1	3/14/2007	
Fluoranthene	BQL	0.359	0.050	1	3/14/2007	
Fluorene	BQL	0.359	0.045	1	3/14/2007	
Hexachlorobenzene	BQL	0.359	0.055	1	3/14/2007	
Hexachlorobutadiene	BQL	0.359	0.057	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.717	0.037	1	3/14/2007	
Hexachloroethane	BQL	0.359	0.032	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-2
Client Project ID: AS-3504
Lab Sample ID: G128-1912-3G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:20
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 86.95

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.359	0.092	1	3/14/2007	
Isophorone	BQL	0.359	0.053	1	3/14/2007	
2-Methylnaphthalene	BQL	0.359	0.105	1	3/14/2007	
2-Methylphenol	BQL	0.359	0.126	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.359	0.122	1	3/14/2007	
Naphthalene	BQL	0.359	0.029	1	3/14/2007	
2-Nitroaniline	BQL	0.359	0.056	1	3/14/2007	
3-Nitroaniline	BQL	1.79	0.369	1	3/14/2007	
4-Nitroaniline	BQL	1.79	0.110	1	3/14/2007	
Nitrobenzene	BQL	0.359	0.048	1	3/14/2007	
2-Nitrophenol	BQL	0.359	0.111	1	3/14/2007	
4-Nitrophenol	BQL	1.79	0.099	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.359	0.046	1	3/14/2007	
Pentachlorophenol	BQL	1.79	0.094	1	3/14/2007	
Phenanthrene	BQL	0.359	0.041	1	3/14/2007	
Phenol	BQL	0.359	0.098	1	3/14/2007	
Pyrene	BQL	0.359	0.069	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.359	0.045	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.359	0.139	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.359	0.128	1	3/14/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	7.9	79		
2-Fluorophenol		10	8.6	86		
Nitrobenzene-d5		10	8.6	86		
Phenol-d6		10	8.7	87		
2,4,6-Tribromophenol		10	8.1	81		
4-Terphenyl-d14		10	10.8	108		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fu

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-3
Client Project ID: AS-3504
Lab Sample ID: G128-1912-4G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:30
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 85.78

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.358	0.051	1	3/14/2007	
Acenaphthylene	BQL	0.358	0.048	1	3/14/2007	
Anthracene	BQL	0.358	0.052	1	3/14/2007	
Benzo[a]anthracene	BQL	0.358	0.062	1	3/14/2007	
Benzo[a]pyrene	BQL	0.358	0.055	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.358	0.063	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.358	0.098	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.358	0.069	1	3/14/2007	
Benzolc Acid	BQL	0.717	0.717	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.358	0.053	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.358	0.043	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.358	0.045	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.358	0.048	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.358	0.061	1	3/14/2007	
Butylbenzylphthalate	BQL	0.358	0.055	1	3/14/2007	
2-Chloronaphthalene	BQL	0.358	0.056	1	3/14/2007	
2-Chlorophenol	BQL	0.358	0.112	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.358	0.112	1	3/14/2007	
4-Chloroaniline	BQL	1.79	0.273	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.358	0.053	1	3/14/2007	
Chrysene	BQL	0.358	0.039	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.358	0.100	1	3/14/2007	
Dibenzofuran	BQL	0.358	0.065	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.358	0.043	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.358	0.040	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.358	0.039	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.358	0.041	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.717	0.090	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.358	0.129	1	3/14/2007	
Diethylphthalate	BQL	0.358	0.046	1	3/14/2007	
Dimethylphthalate	BQL	0.358	0.043	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.358	0.256	1	3/14/2007	
Di-n-octylphthalate	BQL	0.358	0.059	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.79	0.211	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.79	0.789	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.358	0.047	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.358	0.065	1	3/14/2007	
Diphenylamine *	BQL	0.358	0.035	1	3/14/2007	
Fluoranthene	BQL	0.358	0.050	1	3/14/2007	
Fluorene	BQL	0.358	0.044	1	3/14/2007	
Hexachlorobenzene	BQL	0.358	0.055	1	3/14/2007	
Hexachlorobutadiene	BQL	0.358	0.057	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.717	0.037	1	3/14/2007	
Hexachloroethane	BQL	0.358	0.032	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-3
Client Project ID: AS-3504
Lab Sample ID: G128-1912-4G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:30
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 85.78

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.358	0.092	1	3/14/2007	
Isophorone	BQL	0.358	0.053	1	3/14/2007	
2-Methylnaphthalene	BQL	0.358	0.105	1	3/14/2007	
2-Methylphenol	BQL	0.358	0.126	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.358	0.121	1	3/14/2007	
Naphthalene	BQL	0.358	0.029	1	3/14/2007	
2-Nitroaniline	BQL	0.358	0.056	1	3/14/2007	
3-Nitroaniline	BQL	1.79	0.369	1	3/14/2007	
4-Nitroaniline	BQL	1.79	0.110	1	3/14/2007	
Nitrobenzene	BQL	0.358	0.048	1	3/14/2007	
2-Nitrophenol	BQL	0.358	0.111	1	3/14/2007	
4-Nitrophenol	BQL	1.79	0.099	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.358	0.046	1	3/14/2007	
Pentachlorophenol	BQL	1.79	0.094	1	3/14/2007	
Phenanthrene	BQL	0.358	0.041	1	3/14/2007	
Phenol	BQL	0.358	0.098	1	3/14/2007	
Pyrene	BQL	0.358	0.069	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.358	0.045	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.358	0.139	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.358	0.128	1	3/14/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	9.5	95
Nitrobenzene-d5	10	9.4	94
Phenol-d6	10	9.7	97
2,4,6-Tribromophenol	10	9.4	94
4-Terphenyl-d14	10	10.2	102

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: Rue

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-4
Client Project ID: AS-3504
Lab Sample ID: G128-1912-5G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:40
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 76.6

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.400	0.057	1	3/14/2007	
Acenaphthylene	BQL	0.400	0.053	1	3/14/2007	
Anthracene	BQL	0.400	0.058	1	3/14/2007	
Benzo[a]anthracene	BQL	0.400	0.069	1	3/14/2007	
Benzo[a]pyrene	BQL	0.400	0.061	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.400	0.070	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.400	0.109	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.400	0.077	1	3/14/2007	
Benzoic Acid	BQL	0.800	0.800	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.400	0.060	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.400	0.048	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.400	0.050	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.400	0.054	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.400	0.068	1	3/14/2007	
Butylbenzylphthalate	BQL	0.400	0.062	1	3/14/2007	
2-Chloronaphthalene	BQL	0.400	0.063	1	3/14/2007	
2-Chlorophenol	BQL	0.400	0.125	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.400	0.125	1	3/14/2007	
4-Chloroaniline	BQL	2.00	0.305	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.400	0.059	1	3/14/2007	
Chrysene	BQL	0.400	0.043	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.400	0.112	1	3/14/2007	
Dibenzofuran	BQL	0.400	0.073	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.400	0.048	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.400	0.044	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.400	0.044	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.400	0.045	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.800	0.101	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.400	0.144	1	3/14/2007	
Diethylphthalate	BQL	0.400	0.052	1	3/14/2007	
Dimethylphthalate	BQL	0.400	0.048	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.400	0.286	1	3/14/2007	
Di-n-octylphthalate	BQL	0.400	0.066	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	2.00	0.236	1	3/14/2007	
2,4-Dinitrophenol	BQL	2.00	0.881	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.400	0.052	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.400	0.073	1	3/14/2007	
Diphenylamine *	BQL	0.400	0.039	1	3/14/2007	
Fluoranthene	BQL	0.400	0.056	1	3/14/2007	
Fluorene	BQL	0.400	0.050	1	3/14/2007	
Hexachlorobenzene	BQL	0.400	0.062	1	3/14/2007	
Hexachlorobutadiene	BQL	0.400	0.064	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.800	0.041	1	3/14/2007	
Hexachloroethane	BQL	0.400	0.036	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-4
Client Project ID: AS-3504
Lab Sample ID: G128-1912-5G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:40
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 76.6

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.400	0.102	1	3/14/2007	
Isophorone	BQL	0.400	0.059	1	3/14/2007	
2-Methylnaphthalene	BQL	0.400	0.117	1	3/14/2007	
2-Methylphenol	BQL	0.400	0.141	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.400	0.136	1	3/14/2007	
Naphthalene	BQL	0.400	0.032	1	3/14/2007	
2-Nitroaniline	BQL	0.400	0.063	1	3/14/2007	
3-Nitroaniline	BQL	2.00	0.412	1	3/14/2007	
4-Nitroaniline	BQL	2.00	0.123	1	3/14/2007	
Nitrobenzene	BQL	0.400	0.054	1	3/14/2007	
2-Nitrophenol	BQL	0.400	0.124	1	3/14/2007	
4-Nitrophenol	BQL	2.00	0.111	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.400	0.051	1	3/14/2007	
Pentachlorophenol	BQL	2.00	0.104	1	3/14/2007	
Phenanthrene	BQL	0.400	0.046	1	3/14/2007	
Phenol	BQL	0.400	0.110	1	3/14/2007	
Pyrene	BQL	0.400	0.077	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.400	0.050	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.400	0.155	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.400	0.142	1	3/14/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
2-Fluorophenol	10	9.1	91
Nitrobenzene-d5	10	8.4	84
Phenol-d6	10	9.5	95
2,4,6-Tribromophenol	10	7.8	78
4-Terphenyl-d14	10	9.2	92

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: EWL

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-5
Client Project ID: AS-3504
Lab Sample ID: G128-1912-6G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:45
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 88.1

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.340	0.049	1	3/14/2007	
Acenaphthylene	BQL	0.340	0.045	1	3/14/2007	
Anthracene	BQL	0.340	0.049	1	3/14/2007	
Benzo[a]anthracene	BQL	0.340	0.059	1	3/14/2007	
Benzo[a]pyrene	BQL	0.340	0.052	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.340	0.059	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.340	0.092	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.340	0.066	1	3/14/2007	
Benzoic Acid	BQL	0.679	0.679	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.340	0.051	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.340	0.041	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.340	0.043	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.340	0.046	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.340	0.057	1	3/14/2007	
Butylbenzylphthalate	BQL	0.340	0.052	1	3/14/2007	
2-Chloronaphthalene	BQL	0.340	0.053	1	3/14/2007	
2-Chlorophenol	BQL	0.340	0.106	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.340	0.106	1	3/14/2007	
4-Chloroaniline	BQL	1.70	0.259	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.340	0.050	1	3/14/2007	
Chrysene	BQL	0.340	0.037	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.340	0.095	1	3/14/2007	
Dibenzofuran	BQL	0.340	0.062	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.340	0.040	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.340	0.038	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.340	0.037	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.340	0.038	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.679	0.086	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.340	0.122	1	3/14/2007	
Diethylphthalate	BQL	0.340	0.044	1	3/14/2007	
Dimethylphthalate	BQL	0.340	0.041	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.340	0.243	1	3/14/2007	
Di-n-octylphthalate	BQL	0.340	0.056	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.70	0.200	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.70	0.748	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.340	0.044	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.340	0.062	1	3/14/2007	
Diphenylamine *	BQL	0.340	0.033	1	3/14/2007	
Fluoranthene	BQL	0.340	0.048	1	3/14/2007	
Fluorene	BQL	0.340	0.042	1	3/14/2007	
Hexachlorobenzene	BQL	0.340	0.052	1	3/14/2007	
Hexachlorobutadiene	BQL	0.340	0.054	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.679	0.035	1	3/14/2007	
Hexachloroethane	BQL	0.340	0.031	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-5
Client Project ID: AS-3504
Lab Sample ID: G128-1912-6G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:45
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 88.1

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.340	0.087	1	3/14/2007	
Isophorone	BQL	0.340	0.050	1	3/14/2007	
2-Methylnaphthalene	BQL	0.340	0.099	1	3/14/2007	
2-Methylphenol	BQL	0.340	0.120	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.340	0.115	1	3/14/2007	
Naphthalene	BQL	0.340	0.028	1	3/14/2007	
2-Nitroaniline	BQL	0.340	0.053	1	3/14/2007	
3-Nitroaniline	BQL	1.70	0.350	1	3/14/2007	
4-Nitroaniline	BQL	1.70	0.105	1	3/14/2007	
Nitrobenzene	BQL	0.340	0.046	1	3/14/2007	
2-Nitrophenol	BQL	0.340	0.105	1	3/14/2007	
4-Nitrophenol	BQL	1.70	0.094	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.340	0.043	1	3/14/2007	
Pentachlorophenol	BQL	1.70	0.089	1	3/14/2007	
Phenanthrene	BQL	0.340	0.039	1	3/14/2007	
Phenol	BQL	0.340	0.093	1	3/14/2007	
Pyrene	BQL	0.340	0.065	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.340	0.043	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.340	0.131	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.340	0.121	1	3/14/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8	80		
2-Fluorophenol		10	8.8	88		
Nitrobenzene-d5		10	8.6	86		
Phenol-d6		10	9	90		
2,4,6-Tribromophenol		10	8.4	84		
4-Terphenyl-d14		10	10.5	105		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fm

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-6
Client Project ID: AS-3504
Lab Sample ID: G128-1912-7G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:50
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 87.64

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.335	0.048	1	3/12/2007	
Acenaphthylene	BQL	0.335	0.045	1	3/12/2007	
Anthracene	BQL	0.335	0.049	1	3/12/2007	
Benzo[a]anthracene	BQL	0.335	0.058	1	3/12/2007	
Benzo[a]pyrene	BQL	0.335	0.051	1	3/12/2007	
Benzo[b]fluoranthene	BQL	0.335	0.059	1	3/12/2007	
Benzo[g,h,i]perylene	BQL	0.335	0.091	1	3/12/2007	
Benzo[k]fluoranthene	BQL	0.335	0.065	1	3/12/2007	
Benzoic Acid	BQL	0.670	0.670	1	3/12/2007	
Bis(2-chloroethoxy)methane	BQL	0.335	0.050	1	3/12/2007	
Bis(2-chloroethyl)ether	BQL	0.335	0.041	1	3/12/2007	
Bis(2-chloroisopropyl)ether	BQL	0.335	0.042	1	3/12/2007	
Bis(2-ethylhexyl)phthalate	0.060	0.335	0.045	1	3/12/2007	J
4-bromophenyl phenyl ether	BQL	0.335	0.057	1	3/12/2007	
Butylbenzylphthalate	BQL	0.335	0.052	1	3/12/2007	
2-Chloronaphthalene	BQL	0.335	0.053	1	3/12/2007	
2-Chlorophenol	BQL	0.335	0.105	1	3/12/2007	
4-Chloro-3-methylphenol	BQL	0.335	0.105	1	3/12/2007	
4-Chloroaniline	BQL	1.68	0.255	1	3/12/2007	
4-Chlorophenyl phenyl ether	BQL	0.335	0.049	1	3/12/2007	
Chrysene	BQL	0.335	0.036	1	3/12/2007	
Dibenzo[a,h]anthracene	BQL	0.335	0.094	1	3/12/2007	
Dibenzofuran	BQL	0.335	0.061	1	3/12/2007	
Di-n-Butylphthalate	BQL	0.335	0.040	1	3/12/2007	
1,2-Dichlorobenzene	BQL	0.335	0.037	1	3/12/2007	
1,3-Dichlorobenzene	BQL	0.335	0.037	1	3/12/2007	
1,4-Dichlorobenzene	BQL	0.335	0.038	1	3/12/2007	
3,3'-Dichlorobenzidine	BQL	0.670	0.084	1	3/12/2007	
2,4-Dichlorophenol	BQL	0.335	0.121	1	3/12/2007	
Diethylphthalate	BQL	0.335	0.043	1	3/12/2007	
Dimethylphthalate	BQL	0.335	0.041	1	3/12/2007	
2,4-Dimethylphenol	BQL	0.335	0.240	1	3/12/2007	
Di-n-octylphthalate	BQL	0.335	0.055	1	3/12/2007	
4,6-Dinitro-2-methylphenol	BQL	1.68	0.197	1	3/12/2007	
2,4-Dinitrophenol	BQL	1.68	0.738	1	3/12/2007	
2,4-Dinitrotoluene	BQL	0.335	0.044	1	3/12/2007	
2,6-Dinitrotoluene	BQL	0.335	0.061	1	3/12/2007	
Diphenylamine *	BQL	0.335	0.033	1	3/12/2007	
Fluoranthene	BQL	0.335	0.047	1	3/12/2007	
Fluorene	BQL	0.335	0.042	1	3/12/2007	
Hexachlorobenzene	BQL	0.335	0.052	1	3/12/2007	
Hexachlorobutadiene	BQL	0.335	0.054	1	3/12/2007	
Hexachlorocyclopentadiene	BQL	0.670	0.035	1	3/12/2007	
Hexachloroethane	BQL	0.335	0.030	1	3/12/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-6
Client Project ID: AS-3504
Lab Sample ID: G128-1912-7G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:50
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 87.64

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.335	0.086	1	3/12/2007	
Isophorone	BQL	0.335	0.049	1	3/12/2007	
2-Methylnaphthalene	BQL	0.335	0.098	1	3/12/2007	
2-Methylphenol	BQL	0.335	0.118	1	3/12/2007	
3- & 4-Methylphenol	BQL	0.335	0.114	1	3/12/2007	
Naphthalene	BQL	0.335	0.027	1	3/12/2007	
2-Nitroaniline	BQL	0.335	0.053	1	3/12/2007	
3-Nitroaniline	BQL	1.68	0.345	1	3/12/2007	
4-Nitroaniline	BQL	1.68	0.103	1	3/12/2007	
Nitrobenzene	BQL	0.335	0.045	1	3/12/2007	
2-Nitrophenol	BQL	0.335	0.104	1	3/12/2007	
4-Nitrophenol	BQL	1.68	0.093	1	3/12/2007	
N-Nitrosodi-n-propylamine	BQL	0.335	0.043	1	3/12/2007	
Pentachlorophenol	BQL	1.68	0.088	1	3/12/2007	
Phenanthrene	BQL	0.335	0.038	1	3/12/2007	
Phenol	BQL	0.335	0.092	1	3/12/2007	
Pyrene	BQL	0.335	0.064	1	3/12/2007	
1,2,4-Trichlorobenzene	BQL	0.335	0.042	1	3/12/2007	
2,4,5-Trichlorophenol	BQL	0.335	0.130	1	3/12/2007	
2,4,6-Trichlorophenol	BQL	0.335	0.119	1	3/12/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
2-Fluorophenol	10	9.6	96
Nitrobenzene-d5	10	9.7	97
Phenol-d6	10	10	100
2,4,6-Tribromophenol	10	8.2	82
4-Terphenyl-d14	10	9.7	97

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fu

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-7
Client Project ID: AS-3504
Lab Sample ID: G128-1912-8G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:55
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 86.41

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.355	0.051	1	3/14/2007	
Acenaphthylene	BQL	0.355	0.047	1	3/14/2007	
Anthracene	BQL	0.355	0.052	1	3/14/2007	
Benzo[a]anthracene	BQL	0.355	0.062	1	3/14/2007	
Benzo[a]pyrene	BQL	0.355	0.054	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.355	0.062	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.355	0.097	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.355	0.069	1	3/14/2007	
Benzoic Acid	BQL	0.710	0.710	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.355	0.053	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.355	0.043	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.355	0.044	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	0.053	0.355	0.048	1	3/14/2007	J
4-bromophenyl phenyl ether	BQL	0.355	0.060	1	3/14/2007	
Butylbenzylphthalate	BQL	0.355	0.055	1	3/14/2007	
2-Chloronaphthalene	BQL	0.355	0.056	1	3/14/2007	
2-Chlorophenol	BQL	0.355	0.111	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.355	0.111	1	3/14/2007	
4-Chloroaniline	BQL	1.78	0.271	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.355	0.052	1	3/14/2007	
Chrysene	BQL	0.355	0.038	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.355	0.100	1	3/14/2007	
Dibenzofuran	BQL	0.355	0.065	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.355	0.042	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.355	0.039	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.355	0.039	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.355	0.040	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.710	0.090	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.355	0.128	1	3/14/2007	
Diethylphthalate	BQL	0.355	0.046	1	3/14/2007	
Dimethylphthalate	BQL	0.355	0.043	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.355	0.254	1	3/14/2007	
Di-n-octylphthalate	BQL	0.355	0.059	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.78	0.209	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.78	0.782	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.355	0.046	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.355	0.065	1	3/14/2007	
Diphenylamine *	BQL	0.355	0.035	1	3/14/2007	
Fluoranthene	BQL	0.355	0.050	1	3/14/2007	
Fluorene	BQL	0.355	0.044	1	3/14/2007	
Hexachlorobenzene	BQL	0.355	0.055	1	3/14/2007	
Hexachlorobutadiene	BQL	0.355	0.057	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.710	0.037	1	3/14/2007	
Hexachloroethane	BQL	0.355	0.032	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-7
Client Project ID: AS-3504
Lab Sample ID: G128-1912-8G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 14:55
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 86.41

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.355	0.091	1	3/14/2007	
Isophorone	BQL	0.355	0.052	1	3/14/2007	
2-Methylnaphthalene	BQL	0.355	0.104	1	3/14/2007	
2-Methylphenol	BQL	0.355	0.125	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.355	0.120	1	3/14/2007	
Naphthalene	BQL	0.355	0.029	1	3/14/2007	
2-Nitroaniline	BQL	0.355	0.056	1	3/14/2007	
3-Nitroaniline	BQL	1.78	0.366	1	3/14/2007	
4-Nitroaniline	BQL	1.78	0.109	1	3/14/2007	
Nitrobenzene	BQL	0.355	0.048	1	3/14/2007	
2-Nitrophenol	BQL	0.355	0.110	1	3/14/2007	
4-Nitrophenol	BQL	1.78	0.098	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.355	0.045	1	3/14/2007	
Pentachlorophenol	BQL	1.78	0.093	1	3/14/2007	
Phenanthrene	BQL	0.355	0.041	1	3/14/2007	
Phenol	BQL	0.355	0.097	1	3/14/2007	
Pyrene	BQL	0.355	0.068	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.355	0.044	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.355	0.137	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.355	0.126	1	3/14/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
2-Fluorophenol	10	8.2	82
Nitrobenzene-d5	10	8.5	85
Phenol-d6	10	8.6	86
2,4,6-Tribromophenol	10	8.3	83
4-Terphenyl-d14	10	9.7	97

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: gma

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-8
Client Project ID: AS-3504
Lab Sample ID: G128-1912-9G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 15:00
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 87.87

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.348	0.050	1	3/14/2007	
Acenaphthylene	BQL	0.348	0.046	1	3/14/2007	
Anthracene	BQL	0.348	0.051	1	3/14/2007	
Benzo[a]anthracene	BQL	0.348	0.060	1	3/14/2007	
Benzo[a]pyrene	BQL	0.348	0.053	1	3/14/2007	
Benzo[b]fluoranthene	BQL	0.348	0.061	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	0.348	0.095	1	3/14/2007	
Benzo[k]fluoranthene	BQL	0.348	0.067	1	3/14/2007	
Benzoic Acid	BQL	0.696	0.696	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	0.348	0.052	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	0.348	0.042	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	0.348	0.044	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	0.348	0.047	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	0.348	0.059	1	3/14/2007	
Butylbenzylphthalate	BQL	0.348	0.054	1	3/14/2007	
2-Chloronaphthalene	BQL	0.348	0.055	1	3/14/2007	
2-Chlorophenol	BQL	0.348	0.109	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	0.348	0.109	1	3/14/2007	
4-Chloroaniline	BQL	1.74	0.265	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	0.348	0.051	1	3/14/2007	
Chrysene	BQL	0.348	0.038	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	0.348	0.097	1	3/14/2007	
Dibenzofuran	BQL	0.348	0.063	1	3/14/2007	
Di-n-Butylphthalate	BQL	0.348	0.041	1	3/14/2007	
1,2-Dichlorobenzene	BQL	0.348	0.039	1	3/14/2007	
1,3-Dichlorobenzene	BQL	0.348	0.038	1	3/14/2007	
1,4-Dichlorobenzene	BQL	0.348	0.039	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	0.696	0.088	1	3/14/2007	
2,4-Dichlorophenol	BQL	0.348	0.125	1	3/14/2007	
Diethylphthalate	BQL	0.348	0.045	1	3/14/2007	
Dimethylphthalate	BQL	0.348	0.042	1	3/14/2007	
2,4-Dimethylphenol	BQL	0.348	0.249	1	3/14/2007	
Di-n-octylphthalate	BQL	0.348	0.057	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1.74	0.205	1	3/14/2007	
2,4-Dinitrophenol	BQL	1.74	0.766	1	3/14/2007	
2,4-Dinitrotoluene	BQL	0.348	0.045	1	3/14/2007	
2,6-Dinitrotoluene	BQL	0.348	0.063	1	3/14/2007	
Diphenylamine *	BQL	0.348	0.034	1	3/14/2007	
Fluoranthene	BQL	0.348	0.049	1	3/14/2007	
Fluorene	BQL	0.348	0.043	1	3/14/2007	
Hexachlorobenzene	BQL	0.348	0.054	1	3/14/2007	
Hexachlorobutadiene	BQL	0.348	0.056	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	0.696	0.036	1	3/14/2007	
Hexachloroethane	BQL	0.348	0.031	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: AS3504 HA-8
Client Project ID: AS-3504
Lab Sample ID: G128-1912-9G
Lab Project ID: G128-1912
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 3/6/2007 15:00
Date Received: 3/6/2007
Date Extracted: 3/8/2007
Matrix: Soil
% Solids: 87.87

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	0.348	0.089	1	3/14/2007	
Isophorone	BQL	0.348	0.051	1	3/14/2007	
2-Methylnaphthalene	BQL	0.348	0.102	1	3/14/2007	
2-Methylphenol	BQL	0.348	0.123	1	3/14/2007	
3- & 4-Methylphenol	BQL	0.348	0.118	1	3/14/2007	
Naphthalene	BQL	0.348	0.028	1	3/14/2007	
2-Nitroaniline	BQL	0.348	0.055	1	3/14/2007	
3-Nitroaniline	BQL	1.74	0.358	1	3/14/2007	
4-Nitroaniline	BQL	1.74	0.107	1	3/14/2007	
Nitrobenzene	BQL	0.348	0.047	1	3/14/2007	
2-Nitrophenol	BQL	0.348	0.108	1	3/14/2007	
4-Nitrophenol	BQL	1.74	0.096	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	0.348	0.044	1	3/14/2007	
Pentachlorophenol	BQL	1.74	0.091	1	3/14/2007	
Phenanthrene	BQL	0.348	0.040	1	3/14/2007	
Phenol	BQL	0.348	0.095	1	3/14/2007	
Pyrene	BQL	0.348	0.067	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	0.348	0.044	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	0.348	0.135	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	0.348	0.124	1	3/14/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
2-Fluorophenol	10	6.2	62
Nitrobenzene-d5	10	7.2	72
Phenol-d6	10	7.3	73
2,4,6-Tribromophenol	10	8.4	84
4-Terphenyl-d14	10	10.5	105

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: me

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7541
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 3/8/2007
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	313	44.7	1	3/14/2007	
Acenaphthylene	BQL	313	41.6	1	3/14/2007	
Anthracene	BQL	313	45.3	1	3/14/2007	
Benzo[a]anthracene	BQL	313	54.1	1	3/14/2007	
Benzo[a]pyrene	BQL	313	47.8	1	3/14/2007	
Benzo[b]fluoranthene	BQL	313	54.7	1	3/14/2007	
Benzo[g,h,i]perylene	BQL	313	85.0	1	3/14/2007	
Benzo[k]fluoranthene	BQL	313	60.3	1	3/14/2007	
Benzoic Acid	BQL	625	625	1	3/14/2007	
Bis(2-chloroethoxy)methane	BQL	313	46.6	1	3/14/2007	
Bis(2-chloroethyl)ether	BQL	313	37.8	1	3/14/2007	
Bis(2-chloroisopropyl)ether	BQL	313	39.1	1	3/14/2007	
Bis(2-ethylhexyl)phthalate	BQL	313	41.9	1	3/14/2007	
4-bromophenyl phenyl ether	BQL	313	52.8	1	3/14/2007	
Butylbenzylphthalate	BQL	313	48.1	1	3/14/2007	
2-Chloronaphthalene	BQL	313	49.1	1	3/14/2007	
2-Chlorophenol	BQL	313	97.8	1	3/14/2007	
4-Chloro-3-methylphenol	BQL	313	97.5	1	3/14/2007	
4-Chloroaniline	BQL	1560	238	1	3/14/2007	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	3/14/2007	
Chrysene	BQL	313	33.8	1	3/14/2007	
Dibenzo[a,h]anthracene	BQL	313	87.5	1	3/14/2007	
Dibenzofuran	BQL	313	56.9	1	3/14/2007	
Di-n-Butylphthalate	BQL	313	37.2	1	3/14/2007	
1,2-Dichlorobenzene	BQL	313	34.7	1	3/14/2007	
1,3-Dichlorobenzene	BQL	313	34.1	1	3/14/2007	
1,4-Dichlorobenzene	BQL	313	35.3	1	3/14/2007	
3,3'-Dichlorobenzidine	BQL	625	78.8	1	3/14/2007	
2,4-Dichlorophenol	BQL	313	113	1	3/14/2007	
Diethylphthalate	BQL	313	40.3	1	3/14/2007	
Dimethylphthalate	BQL	313	37.8	1	3/14/2007	
2,4-Dimethylphenol	BQL	313	223	1	3/14/2007	
Di-n-octylphthalate	BQL	313	51.6	1	3/14/2007	
4,6-Dinitro-2-methylphenol	BQL	1560	184	1	3/14/2007	
2,4-Dinitrophenol	BQL	1560	688	1	3/14/2007	
2,4-Dinitrotoluene	BQL	313	40.6	1	3/14/2007	
2,6-Dinitrotoluene	BQL	313	56.9	1	3/14/2007	
Diphenylamine *	BQL	313	30.6	1	3/14/2007	
Fluoranthene	BQL	313	43.7	1	3/14/2007	
Fluorene	BQL	313	38.8	1	3/14/2007	
Hexachlorobenzene	BQL	313	48.1	1	3/14/2007	
Hexachlorobutadiene	BQL	313	50.0	1	3/14/2007	
Hexachlorocyclopentadiene	BQL	625	32.2	1	3/14/2007	
Hexachloroethane	BQL	313	28.1	1	3/14/2007	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7541
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 3/8/2007
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Indeno(1,2,3-c,d)pyrene	BQL	313	80.0	1	3/14/2007	
Isophorone	BQL	313	45.9	1	3/14/2007	
2-Methylnaphthalene	BQL	313	91.2	1	3/14/2007	
2-Methylphenol	BQL	313	110	1	3/14/2007	
3- & 4-Methylphenol	BQL	313	106	1	3/14/2007	
Naphthalene	BQL	313	25.3	1	3/14/2007	
2-Nitroaniline	BQL	313	49.1	1	3/14/2007	
3-Nitroaniline	BQL	1560	322	1	3/14/2007	
4-Nitroaniline	BQL	1560	96.3	1	3/14/2007	
Nitrobenzene	BQL	313	42.2	1	3/14/2007	
2-Nitrophenol	BQL	313	96.9	1	3/14/2007	
4-Nitrophenol	BQL	1560	86.6	1	3/14/2007	
N-Nitrosodi-n-propylamine	BQL	313	39.7	1	3/14/2007	
Pentachlorophenol	BQL	1560	81.6	1	3/14/2007	
Phenanthrene	BQL	313	35.6	1	3/14/2007	
Phenol	BQL	313	85.6	1	3/14/2007	
Pyrene	BQL	313	60.0	1	3/14/2007	
1,2,4-Trichlorobenzene	BQL	313	39.1	1	3/14/2007	
2,4,5-Trichlorophenol	BQL	313	121	1	3/14/2007	
2,4,6-Trichlorophenol	BQL	313	111	1	3/14/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	8.6	86		
2-Fluorophenol		10	8.6	86		
Nitrobenzene-d5		10	9.1	91		
Phenol-d6		10	8.9	89		
2,4,6-Tribromophenol		10	8.4	84		
4-Terphenyl-d14		10	11.4	114		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fm

Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS

Client Sample ID: Batch QC

Client Project ID:

Lab Sample ID: Batch-7541-MS/MSD/LCS

Lab Project ID: G161-2536-2G

Matrix: SOIL

Prep Method: 3541

Date Collected:

Date Received:

Date Extracted: 03/08/07

Date Analyzed: 03/13/07

Analyzed By: EAW

Dilution: 1

	Sample Amount (µg/kg)	MS Spike (µg/kg)	MS Conc. (µg/kg)	MS Spike % Rec.	MSD Spike (µg/kg)	MSD Conc. (µg/kg)	MSD Conc. % Rec.	QC Limits		
								RPD	RPD	% Rec.
Acenaphthylene	BQL	3270	3820	117	3220	3680	114.0	2.16	30	79.0-141
4-Chloro-3-methylphenol	BQL	3270	3060	93.5	3220	2830	87.8	6.29	30	40.0-133
2-Chlorophenol	BQL	3270	2830	86.4	3220	2700	83.8	3.06	30	40.0-120
1,4-Dichlorobenzene	BQL	3270	3660	112*	3220	3510	109*	2.71	30	56.0-95.0
2,4-Dinitrotoluene	BQL	3270	3580	109	3220	3320	103.0	5.83	30	48.0-121
N-Nitrosodi-n-propylamine	BQL	3270	3950	121*	3220	3730	116.0	4.06	30	70.0-119
4-Nitrophenol	BQL	3270	2540	77.8	3220	2070	64.3	19.0	30	40.0-147
Pentachlorophenol	BQL	3270	2540	77.6	3220	2110	65.5	16.9	30	40.0-122
Phenol	BQL	3270	2770	84.8	3220	2660	82.6	2.63	30	40.0-127
Pyrene	BQL	3270	4210	129*	3220	3740	116.0	10.1	30	56.0-123
1,2,4-Trichlorobenzene	BQL	3270	3700	113*	3220	3460	108*	5.25	30	65.0-105

	Spiked Amount (µg/kg)	LCS Conc. (µg/kg)	LCS Spike %	QC Limits
				% Rec.
Acenaphthylene	3125	3180	102	80.9-143
4-Chloro-3-methylphenol	3125	2900	92.8	83.9-124
2-Chlorophenol	3125	2710	86.7	80.3-119
1,4-Dichlorobenzene	3125	2950	94.5	76.3-118
2,4-Dinitrotoluene	3125	3070	98.2	80.6-126
N-Nitrosodi-n-propylamine	3125	3370	108	80.3-131
4-Nitrophenol	3125	2610	83.4	60.0-145
Pentachlorophenol	3125	2560	81.8	36.4-114
Phenol	3125	2640	84.4	74.3-117
Pyrene	3125	3460	111	74.7-141
1,2,4-Trichlorobenzene	3125	3020	96.5	74.1-120

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: me

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7597
Lab Project ID:

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 3/13/2007
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	3/16/2007	
Acenaphthylene	BQL	10.0	1.12	1	3/16/2007	
Anthracene	BQL	10.0	1.75	1	3/16/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	3/16/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	3/16/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	3/16/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	3/16/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	3/16/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	3/16/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	3/16/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	3/16/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	3/16/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	3/16/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	3/16/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	3/16/2007	
2-Chlorophenol	BQL	10.0	4.22	1	3/16/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	3/16/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	3/16/2007	
Chrysene	BQL	10.0	1.11	1	3/16/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	3/16/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	3/16/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	3/16/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	3/16/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	3/16/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	3/16/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	3/16/2007	
Diethylphthalate	BQL	10.0	1.48	1	3/16/2007	
Dimethylphthalate	BQL	10.0	1.04	1	3/16/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	3/16/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	3/16/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	3/16/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	3/16/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	3/16/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	3/16/2007	
Diphenylamine *	BQL	10.0	1.53	1	3/16/2007	
Fluoranthene	BQL	10.0	1.41	1	3/16/2007	
Fluorene	BQL	10.0	1.22	1	3/16/2007	
Hexachlorobenzene	BQL	10.0	1.22	1	3/16/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	3/16/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	3/16/2007	
Hexachloroethane	BQL	10.0	1.58	1	3/16/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	3/16/2007	
Isophorone	BQL	10.0	1.27	1	3/16/2007	
Naphthalene	BQL	10.0	1.08	1	3/16/2007	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7597
Lab Project ID:

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 3/13/2007
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	3/16/2007	
2-Nitrophenol	BQL	10.0	3.52	1	3/16/2007	
4-Nitrophenol	BQL	50.0	3.17	1	3/16/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	3/16/2007	
Pentachlorophenol	BQL	50.0	2.83	1	3/16/2007	
Phenanthrene	BQL	10.0	1.38	1	3/16/2007	
Phenol	BQL	10.0	3.38	1	3/16/2007	
Pyrene	BQL	10.0	2.08	1	3/16/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	3/16/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	3/16/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
2-Fluorophenol	10	7.2	72
Nitrobenzene-d5	10	8.1	81
Phenol-d6	10	8.1	81
2,4,6-Tribromophenol	10	8.2	82
4-Terphenyl-d14	10	10.6	105

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: pm

Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS) by GCMS

Client Sample ID: Batch QC

Client Project ID:

Lab Sample ID: Batch-7597-MS/MSD/LCS

Lab Project ID: G135-329-9F

Matrix: WATER

Prep Method: 3520

Date Collected:

Date Received:

Date Extracted: 03/13/07

Date Analyzed: 03/16/07

Analyzed By: EAW

Dilution: 1

	Sample Amount (µg/L)	MS Spike (µg/L)	MS Conc. (µg/L)	MS Spike % Rec.	MSD Spike (µg/L)	MSD Conc. (µg/L)	MSD Conc. % Rec.	RPD	QC Limits RPD	QC Limits % Rec.
Acenaphthylene	BQL	370	349	94.2	370	206	55.5*	51.7*	30	62.0-119
4-Chloro-3-methylphenol	BQL	370	331	89.4	370	193	52.2*	52.5*	30	67.0-109
2-Chlorophenol	BQL	370	304	82.2	370	167	45.0*	58.5*	30	59.0-95.0
1,4-Dichlorobenzene	BQL	370	266	71.7	370	183	49.5	36.6*	30	29.0-86.0
2,4-Dinitrotoluene	BQL	370	364	98.4	370	219	59.1*	49.9*	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	370	372	101	370	175	47.3*	72.0*	30	67.0-107
4-Nitrophenol	BQL	370	386	104	370	211	57.1	58.4*	30	49.0-146
Pentachlorophenol	BQL	370	319	86.1	370	176	47.5	57.8*	30	43.0-106
Phenol	BQL	370	325	87.7	370	183	49.3*	56.1*	30	61.0-100
Pyrene	BQL	370	390	105	370	223	60.1	54.6*	30	41.0-123
1,2,4-Trichlorobenzene	BQL	370	320	86.3	370	197	53.1	47.6*	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits % Rec.
Acenaphthylene	100	72.9	72.9	72.9-127
4-Chloro-3-methylphenol	100	72.4	72.4	61.6-113
2-Chlorophenol	100	61.7	61.7	52.3-104
1,4-Dichlorobenzene	100	48.0	48.0	27.3-85.0
2,4-Dinitrotoluene	100	77.0	77.0	66.5-117
N-Nitrosodi-n-propylamine	100	75.7	75.7	54.4-119
4-Nitrophenol	100	75.4	75.4	32.4-150
Pentachlorophenol	100	59.7	59.7	23.9-115
Phenol	100	65.8	65.8	54.5-106
Pyrene	100	88.0	88.0	63.5-126
1,2,4-Trichlorobenzene	100	65.9	65.9	49.1-98.5

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: JWL

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	USTAS3504-MW05
Sample Matrix	Water
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/09/07
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*	390 (ug/L)
Aliphatic Surrogate % Recovery	96
Aromatic Surrogate % Recovery	100
Fractionation Surrogate 1 % Recovery	86

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1912-1H

Reviewed By: ful

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-1
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/13/07
Dry Weight	85.6
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	11 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	100
Aromatic Surrogate % Recovery	100
Fractionation Surrogate 1 % Recovery	80

Comments:

* = Excludes any surrogates or internal standards.

Lab Info: G128-1912-2H

Reviewed By: me

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-2
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	87
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	100

Comments:

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

Lab Info: G128-1912-3H

Reviewed By: ML

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-3
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	85.8
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	96
Aromatic Surrogate % Recovery	92

Comments:

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

Lab info: G128-1912-4H

Reviewed By: RLM

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-4
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	76.6
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	100
Aromatic Surrogate % Recovery	100

Comments:

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

Lab info: G128-1912-5H

Reviewed By: RM

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-5
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	88.1
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	100

Comments:

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

Lab info: G128-1912-6H

Reviewed By: Am

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-6
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	87.6
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	100

Comments:

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

Lab info: G128-1912-7H

Reviewed By: RM

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-7
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	86.4
Dilution Factor	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	120
Aromatic Surrogate % Recovery	110

Comments:

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

Lab info: G128-1912-8H

Reviewed By: LM

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-8
Sample Matrix	Soil
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/08/07
Date Analyzed	03/11/07
Dry Weight	87.9
Dilution Factor	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	100
Aromatic Surrogate % Recovery	100

Comments:

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

Lab info: G128-1912-9I

Reviewed By: mm



Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/14/07

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100 10
C ₁₉ -C ₃₈ 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	4.20	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₈ Aliphatics	8	3.6	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.2	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 03/09/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	7.7
C ₁₉ -C ₃₈ Aliphatics	160	8.5
C ₁₁ -C ₂₂ Aromatics	340	17.9

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/14/07

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 ₃₈ 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	4.20	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₈ Aliphatics	8	3.6	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.2	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 03/13/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	7.2
C ₁₉ -C ₃₈ Aliphatics	160	6.9
C ₁₁ -C ₂₂ Aromatics	340	20.0

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: 02/14/07

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	4.20	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.6	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.2	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 03/11/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	1.8
C ₁₉ -C ₃₆ Aliphatics	160	2.3
C ₁₁ -C ₂₂ Aromatics	340	2.1

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	USTAS3504-MW05
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/07/07
Date Analyzed	03/07/07
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	420 (µg/L)
C ₉ -C ₁₀ Aromatics**	350 (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: g128-1912-1d

Reviewed By: Rue

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-1
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	86
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	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: g128-1912-2e

Reviewed By: hml

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-2
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	87
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	98

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

** = Excludes any surrogates or internal standards.

Lab Info: g128-1912-3e

Reviewed By: fm

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-3
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	86
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	110
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: g128-1912-4e

Reviewed By: RL

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-4
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	77
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	99

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

** = Excludes any surrogates or internal standards.

Lab Info: g128-1912-5e

Reviewed By: RL

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-5
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	88
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	110
Surrogate % Recovery - FID	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: g128-1912-6e

Reviewed By: lme

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-6
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	88
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₈ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	95

* = 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: g128-1912-7e

Reviewed By: pm

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-7
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	86
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	99

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

** = Excludes any surrogates or internal standards.

Lab Info: g128-1912-8e

Reviewed By: Rue

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Richard Catlin & AssociatesProject Name: AS-3504

Sample Information and Analytical Results	
Sample Identification	AS3504 HA-8
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	03/06/07
Date Received	03/06/07
Date Extracted	03/06/07
Date Analyzed	03/07/07
Dry Weight	88
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: g128-1912-9e

Reviewed By: RL



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 03/02/07PID Initial Calibration Date: 03/02/07

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	3.4	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	24.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	17.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 03/07/07

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	12.0
C ₉ -C ₁₂ Aliphatics	500	50	24.7
C ₉ -C ₁₀ Aromatics	500	50	8.2

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

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

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

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

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

% Rec = Percent Recovery

% 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.

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide

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

www.us.sgs.com

078

078231

www.us.sgs.com

CLIENT: Catlin

CONTACT: Jason Cook
PHONE NO: (910) 452-5861

PROJECT: AS-3504 SITE/PWSID#: 205-077

REPORTS TO:	E-MAIL:
-------------	---------

Jason Cook

QUOTE #

Catlin P.O. NUMBER 270306-3

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
	USTAS3504 - MW05	3/6/07	1200	W
	AS3504 HA-1		1410	S
	HA-2		1420	
	HA-3		1430	
7A	HA-4		1440	
	HA-5		1445	
	HA-6		1450	
7B	HA-7		1455	
7B	HA-8		1500	

Collected/Relinquished By: (1)	Date	Time	Received By:	Date	Time	Shipping Carrier:	Samples Received Cold? (Circle YES/NO)
Justin Hester	3/6/07	4:25	Justin Hester	3/6/07	4:25	Shipping Ticket No:	Temperature (C): 3.2
Relinquished By: (2)	Date	Time	Received By:	Date	Time	Special Deliverable Requirements:	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Relinquished By: (3)	Date	Time	Received By:	Date	Time	Special Instructions:	Standard turn-around
Relinquished By: (4)	Date	Time	Received By:	Date	Time	Requested Turnaround Time:	
						☐ RUSH ☒ STD	Date Needed

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

□ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

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



Locations Nationwide

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

078

www.us.sgs.com

SGS

SGS ENVIRONMENTAL SERVICES, INC.

[illegible]

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

1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557