

FINAL
ANNUAL GROUNDWATER MONITORING REPORT 2006-2007
BUILDING H-28

NCDENR Incident Number: 23333
Marine Corps Base
Camp Lejeune, North Carolina

14 June 2007

Prepared for:



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Contract Number: N62470-04-D-0205
Task Order: 0015

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LIST OF ACRONYMS

2000 Guidelines	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater
2001 Guidelines	Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)
2L GWQS	NCAC T15A:02L Groundwater Quality Standards
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
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
DIPE	Di-isopropyl 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
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
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System
Guidelines Vol. II	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume II, Petroleum Underground Storage Tanks (January 2, 1998)
HDPE	High Density Polyethylene
I/C	Industrial/Commercial
ID	Identification
I&E	Installations and Environment Department
IGWQS	Interim Groundwater Quality Standards
IPE	Isopropyl Ether
LSA	Limited Site Assessment
LUST	Leaking Underground Storage Tank
m	Meter
MADEP	Massachusetts Department of Environmental Protection
MCAS	Marine Corps Air Station
MCB	Marine Corps Base

MDL	Method Detection Limit
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
MSCC	Maximum Soil Contaminant Concentration
MSL	Mean Sea Level
MTBE	Methyl tertiary butyl ether
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NA	Not Analyzed
N/A	Not Applicable
NAVFAC	Naval Facilities Engineering Command Atlantic
NC	North Carolina
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
NE	None Established
NM	Not Measured
NMT	No Measurable Thickness
NS	Not Sampled
OVA	Organic Vapor Analyzer
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
SOW	Scope of Work
STGW	Soil-to-Groundwater
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
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
WiRO	NCDENR Wilmington Regional Office

EXECUTIVE SUMMARY

The Building H-28 project site is located in the Hospital Point residential area of Marine Corps Base (MCB), Camp Lejeune, North Carolina. The site is a single-family residence, which is currently vacant. The former leaking underground storage tank (UST) system consisted of a 550 gallon UST and its associated piping and was used to store Number 2 fuel oil.

A soil sample collected at the time the UST was removed from the site in May 1990 indicated petroleum constituents were present in site soils above North Carolina action levels. Additionally, groundwater samples collected from monitoring wells installed in 1991 indicated that petroleum constituents were present at concentrations slightly above North Carolina Groundwater Quality Standards (NCGWQSs). Due to the presence of petroleum constituents in the site soils and groundwater, a (1994) Corrective Action Plan (CAP) was prepared, a risk characterization assessment was completed, and site-monitoring activities (well gauging and groundwater sampling) were implemented.

One area of soil was identified during site assessment work that contained petroleum concentrations above CAP soil rehabilitation goals. It was recommended that this area of soil be excavated; however, during excavation, soil vapor analyses indicated that no petroleum-impacted soil was present. As a result, the excavated soil was used as backfill for the excavation. Subsequent soil samples collected as part of a 1999 Risk Characterization assessment showed that petroleum contaminant concentrations were below the residential Maximum Soil Contaminant Concentrations (MSCCs). Soils at the site did not require further remediation.

Groundwater rehabilitation goals for the site were set to be the NCGWQSs. The 1994 CAP recommended remediation of petroleum impacted groundwater by monitored natural attenuation. Groundwater monitoring programs were conducted beginning in 1998. Groundwater sampling data shows that groundwater contamination has been present above NCGWQSs, but below Gross Contaminant Levels (GCLs), and over time, contaminant concentrations at the site have decreased.

In addition to groundwater sampling, groundwater gauging has also been conducted at the site. Measurable free product has been detected in monitoring wells MW07 (one time in December 2005), MW08 (June, September, and December 2004), and MW11 (last in September 2004). The site is currently classified as an intermediate risk site based on the presence of free product.

During the most recent annual monitoring period, June 2006 – May 2007, gauging data reveals that no free product was measured in any of the ten site monitoring wells. Field personnel, however, noted a sheen in monitoring well MW08 during only the August 2006 event. Groundwater sampling data revealed that naphthalene and C₉ – C₂₂ Aromatics were detected in concentrations above the NCGWQSs in well MW11 during both the August/September 2006 and January 2007 sampling events. Concentrations of C₉ – C₂₂ Aromatics were also detected in well MW08 at concentrations above the NCGWQSs during only the August/September 2006 sampling event. Although other petroleum constituents were detected in groundwater at the site, the constituents were detected at concentrations well below their applicable NCGWQSs.

Based on the gauging and groundwater sampling data, existing petroleum contamination in site groundwater is decreasing. Presently, there is no free product present in any of the site wells and only wells MW08 and MW011, both located in the vicinity of the former UST, exhibit concentrations of petroleum constituents at concentrations above the NCGWQSs. C₉-C₂₂ Aromatics were detected in monitoring well MW08, and naphthalene and C₉-C₂₂ Aromatics were detected in MW11 above the NCGWQSs. Naphthalene concentrations were above the NCGWQS, but well below the established GCL. GCLs are not established for the MADEP constituents. Other petroleum constituents detected in groundwater at the site were at concentrations well below the NCGWQSs.

Due to the presence of petroleum constituent concentrations at the site above the NCGWQSs, Sovereign recommends continuing the groundwater monitoring program. It is also recommended that the gauging and sampling of MW06 and MW09 be discontinued since the wells have not exhibited contaminant concentrations above NCGWQSs since October 2000 and April 2001, respectively. In addition, MW07 should be added to the semi-annual sampling events since free product was measured in the well last in (only) December 2005. Note that sampling should occur only if product is not present in the well. The suggested monitoring program includes quarterly gauging of all ten site monitoring wells and semi-annual sampling of wells MW07, MW08, and MW11 for analysis by EPA Methods 602, 625 plus the 10 largest non target peaks, MADEP EPH, and MADEP VPH.

1.0 TITLE PAGE

Date of Report: 14 June 2007

Facility I.D.: N/A

UST Incident Number: 23333

Site Name: Building H-28

Site Location: Building H-28 Julian C. Smith Drive, Marine Corps Base Camp Lejeune, North Carolina

Nearest City/Town: Camp Lejeune

County: Onslow

Risk Classification: Intermediate Risk

Land Use Classification: Residential

UST Owner: Commanding Officer – MCB Camp Lejeune

I&E/EMD/EQB

PSC Box 20004

Address: MCB Camp Lejeune, NC 28542-0004

Phone: (910) 451-5068

UST Operator: Same as above

Address: Same as above

Phone: Same as above

Property Owner: Same as above

Address: Same as above

Phone: Same as above

Property Occupant: Property is Vacant Indefinitely (Scheduled for Demolition)

Address: Building H-28 Julian C. Smith Drive

Phone: N/A

Consultant/Contractor: Sovereign Consulting Inc.

Address: 405 Oakmeads Crescent, Suite 1

Virginia Beach, VA 23462

Phone: 757-456-5093

Release Information

Date Discovered: May 1990

Latitude:

34° 40' 64" N

Longitude:

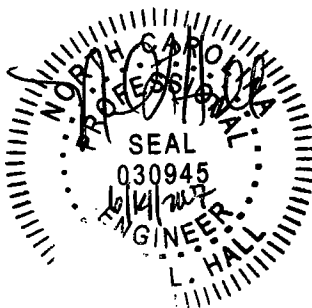
77° 22' 15" W

Estimated Quantity of Release: Unknown

Cause of Release: Unknown

Source of Release (Piping/UST): UST and piping

Sizes and contents of UST system(s) from which the release occurred: 550 gallon UST and its associated piping. The UST contained Number 2 fuel oil.



I, Nicole L. Hall, a Professional Engineer for Sovereign Consulting Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

2.0 INTRODUCTION

The purpose of this report is to summarize data from recent groundwater monitoring and sampling events at the Building H-28 site located on Julian C. Smith Drive aboard MCB Camp Lejeune (Figure 1). The project's scope of work entailed four gauging events for all ten site wells (USTH28-MW01, MW02, MW03, MW05, MW06, MW07, MW08, MW09, MW10 and MW11) and semi-annual sampling of wells (MW07, MW08, MW09 and MW11) (Figure 2). The gauging activity consisted of measuring and recording the depth to free product (if present) and depth to groundwater. The semi-annual sampling events were conducted to analyze site groundwater for petroleum constituents using USEPA Methods 602, 625, and the Massachusetts Department of Environmental Protection (MADEP) methods. Data for Sovereign Consulting Inc.'s (Sovereign) sampling and gauging events for the 2006-2007 monitoring period are presented in this report.

3.0 SITE HISTORY

The Building H-28 remediation site is located on Julian C. Smith Drive in the residential area of Hospital Point, MCB Camp Lejeune. The building is a detached, single-family residence, which is currently vacant. A 550-gallon petroleum UST formerly existed at the site to store Number 2 fuel oil for the heating needs of the building occupants. It was located immediately south of the building (Figure 2). The installation date of the UST is unknown. When the UST was removed in May 1990, a soil sample collected from the bottom of the excavation revealed petroleum hydrocarbons (Total Petroleum Hydrocarbons [TPH] – high boiling point range) at concentrations well above the state action levels.

To better characterize site contamination, in September 1991 three soil borings were advanced around the former UST's location and monitoring wells were installed in the borings. The monitoring wells are currently identified as MW08, MW09, and MW10. Analysis of soil samples collected from the borings revealed no detectable concentration of petroleum hydrocarbons. While there was no free product present in the wells during gauging activities, analysis of groundwater samples revealed benzene concentrations above the North Carolina Groundwater Quality Standard (NCGWQSs) in wells MW09 and MW10.

Data obtained during subsequent site characterization activities revealed high levels of TPH (medium-to-high boiling point range) in soils found south of the former UST location and low levels of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in site groundwater near the former UST location. A Corrective Action Plan (CAP) developed for the site in 1994 identified site rehabilitation goals for soil and groundwater. The goals, based on State guidance in effect at the time, for soil were set at 240 milligrams per kilogram (mg/kg) of TPH and for water were identified as the NCGWQSs. The TPH contamination found in soil south of the former UST location was above the CAP identified goal, and therefore, the CAP recommended removal of the soil. Monitored natural attenuation was the recommended remediation method for the site groundwater.

In November 1995 the area of contaminated soil south of the former UST was excavated by J.A. Jones Environmental Services Company; however, during excavation of the soil, soil vapor analyses indicated that no petroleum-impacted soil was present and the excavated soil was put back into the excavation. Soil samples collected during the excavation exhibited concentrations of less than 1 mg/kg. The remedial action was summarized in the J.A. Jones report titled *Close-Out Report, Soil Remediation, Building No. 21 and H-28, Marine Corps Base, Camp Lejeune, North Carolina, February 1996*.

In 1998 site groundwater was gauged and sampled to collect additional site data. All site monitoring wells were gauged in January 1998 and subsequent gauging events were conducted for wells MW06 and MW07 in April and July 1998. No free product was detected in any of the wells during any of the gauging events. Groundwater samples for VOC and SVOC analyses were collected from wells MW06 and MW07 in January, April, and July 1998. Only monitoring well MW06 had detectable concentrations of VOCs and SVOCs - detected only during the July 1998 event. All constituents detected in MW06 were at concentrations lower than the NCGWQSs, except for naphthalene. While the July 1998 concentration of naphthalene was above the NCGWQS, it was lower than the concentration of previous groundwater samples collected from MW06.

In 1999, three soil borings were advanced and one monitoring well (MW11) was installed at the site to obtain data for a risk characterization assessment performed by Law. The location of the soil borings and monitoring well were within 5 feet of the former UST location. Soil samples, collected from the vadose zone, revealed concentrations of petroleum constituents well below the most restrictive NCDENR Maximum Soil Contaminant Concentrations (MSCCs). Groundwater samples collected from wells MW07 and MW09 revealed no detectable concentrations of petroleum constituents, while groundwater samples collected from wells MW06 and MW11 revealed concentrations of C₉ – C₂₂ Aromatic Hydrocarbons, C₉ – C₁₈ Aliphatic Hydrocarbons, and/or naphthalene at concentrations above their NCGWQSs. None of the detected concentrations were above the established GCLs. Monitoring well MW11 also exhibited free product (with a maximum thickness of 0.85 foot) in two of the three gauging events that occurred in 1999 as part of the risk characterization assessment. Based on the 1999 data, the assessment recommended that the site be considered as Intermediate Risk primarily because of the presence of free product in well MW11. The Risk Assessment report is dated as January 5, 2000 and is labeled as DRAFT.

Groundwater monitoring programs were conducted in 2000 and 2001 by Law. Engineering and Environment, Inc. performed gauging and sampling events at the site beginning in 2002 and ending in 2006. Historical product and groundwater contaminant data is included in Appendix A. Monitoring continues at the site and currently includes quarterly gauging of all site wells (with the exception of MW04, which has not been located since January 1998) and semi-annual sampling of wells MW06, MW08, and MW09. Well MW11 was added to the sampling events in December 2004, and groundwater from those four wells was sampled only when there was no measurable free product. Groundwater samples were analyzed using EPA Method 602 (or 6210D), 625, and the MADEP Methods. The following bullets summarize the data obtained during the gauging and sampling events from the inception of monitoring through January 2006.

Gauging

- No free product has ever been detected in wells MW01, MW02, MW03, MW04, MW05, MW06, MW09 or MW10.
- A minimal amount of free product, a thickness of 0.01 feet, was detected in well MW07 only once since the gauging activities began. This occurred during the December 2005 gauging event.
- Minimal amounts of free product have been detected in well MW08, with the thickness ranging from 0.01 feet to 0.05 feet. These minimal amounts of free product were detected only during the three 2004 gauging events. No free product has been detected in well MW08 since the December 2004 gauging event.
- Free product thickness detected in well MW11 has ranged from 0.02 feet to 0.85 feet, with thickness generally decreasing over time. Free product has not been detected in well MW11 since the September 2004 gauging event.

Sampling

- No detectable concentrations of any analyzed constituents were found in wells MW02, MW03, or MW10.
- Concentrations of several constituents were detected in wells MW01, MW05 and MW07 at levels well below the NCGWQSs.
- Concentrations of benzo[a]anthracene, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate were detected in well MW04 at concentrations above the NCGWQSs during the May 1992 sampling event. Other petroleum constituents detected in well MW04 were at concentrations well below the NCGWQSs. Well MW04 has only been sampled once (in May 1992) since the inception of the monitoring program.
- Concentrations of benzene, naphthalene, 1,2-dichloroethane, bis(2-ethylhexyl)phthalate, N-nitrosodi-n-propylamine, and C₉-C₂₂ Aromatics have been detected in well MW06 at concentrations above the NCGWQSs. Although other petroleum constituents were detected, no other constituent was detected at concentrations above the NCGWQSs. Additionally, no constituent has been detected at concentrations above the NCGWQSs since the October 2000 sampling event.
- Concentrations of C₉-C₂₂ Aromatics and 4-isopropyltoluene have been detected in well MW08 at concentrations above the NCGWQSs. The detection of 4-isopropyltoluene occurred only once, during the October 2000 sampling event. C₉-C₂₂ Aromatics concentrations were detected in October 2000, April 2001, and June 2005. Other petroleum constituents detected have been at concentrations well below the NCGWQSs.
- Chloroform was detected in well MW09 at concentrations above the NCGWQS during the October 2000 and April 2001 sampling events only. Other petroleum constituents detected have been at concentrations well below the NCGWQSs. No petroleum constituents have been detected at concentrations above the NCGWQSs since the April 2001 sampling event.
- Concentrations of ethylbenzene, naphthalene, C₉-C₁₈ Aliphatics, and C₉-C₂₂ Aromatics have been detected in monitoring well MW11 at concentrations above the NCGWQSs. While the detected concentration of C₉-C₁₈ Aliphatics was only above the NCGWQS during the August 1999 sampling event, ethylbenzene, naphthalene, and C₉-C₂₂ Aromatics have continually been detected at concentrations above the NCGWQSs. Other petroleum constituents detected have been at concentrations well below the NCGWQSs.

The most recent monitoring period occurred from June 2006 through May 2007. Gauging of all ten site wells occurred in August and November 2006 and January and April 2007. Groundwater samples were collected from wells MW06, MW08, MW09 and MW11 in August/September 2006 and January 2007. The groundwater samples collected in September 2006 were replacement samples for VPH analysis since the August 2006 (VPH) sample were not analyzed within the specified laboratory holding time. The following section presents the data for the most recent monitoring period.

4.0 GAUGING AND SAMPLING RESULTS

The field program for the Building H-28 site consisted of quarterly gauging and semi-annual groundwater sampling. All ten site wells (MW01, MW02, MW03, MW05, MW06, MW07, MW08, MW09, MW10 and MW11) were gauged and four site wells (MW06, MW08, MW09 and MW11) were sampled during the 2006-2007 monitoring program. Activities were conducted in accordance with NCDENR guidance.

4.1 WELL GAUGING

Gauging events occurred in August and November 2006 and January and April 2007. Wells were gauged using an interface probe to measure the depth to water and depth to product (if present) from the top of casing. Table 1 presents well construction information for the ten site wells. While no measurable free product was detected at any site well during the 2006-2007 monitoring period, a sheen was observed in MW08 during the August 2006 field event. Gauging data is summarized in Tables 2 and 3.

Depth to water values at the site ranged from 8.32 feet to 9.72 feet below top of casing. Based on the resultant groundwater elevations, groundwater flow at the site appears to be variable over time. Variability in groundwater flow has been documented in past investigations. In August 2006, groundwater generally flowed towards the west. Groundwater flow was to the northwest in November 2006 and January 2007, and in April 2007, a general easterly direction was observed. During each event, groundwater elevations exhibited very little difference. Figures 3, 4, 5, and 6 show the groundwater flow direction across the site for August 2006, November 2006, January 2007, and April 2007, respectively.

4.2 GROUNDWATER SAMPLING

The semi-annual groundwater sampling events were conducted in August 2006 and January 2007. The August VPH samples, however, exceeded the 14-day holding time before being extracted by the lab for analysis; therefore, additional samples for VPH analysis were collected in September 2006.

For each of the sampling events, groundwater was collected from the site monitoring wells using low-flow purging and sampling methods. Samples were collected after water quality indicator parameters (pH, temperature, conductivity, oxidation-reduction potential, dissolved oxygen and turbidity) were recorded and had stabilized and at least one well volume had been purged. Samples were collected in laboratory-prepared glassware via polyethylene discharge tubing. The samples were placed in an iced cooler and sent under chain of custody to SGS/Paradigm Analytical

Laboratories Inc. (SGS) in Wilmington, NC (NC Certification Number 481). The samples were analyzed via EPA Method 602, 625 plus the 10 largest peaks, and MADEP VPH/EPH.

The laboratory reports and chain of custody documentation for the sampling events are included in Appendix B. Field data recorded during the sampling events are included in Appendix C. The analytical data is summarized in Tables 4 through 7. The detected contaminants for each analytical method are represented in Figures 7, 8, and 9 and are outlined below.

VOCs - EPA Method 602

The analytical results reveal that VOC concentrations were detected in the groundwater samples at levels well below the NCGWQSs. The following bullets identify the constituents detected.

- Ethylbenzene – this compound was detected in only MW11 during both sampling events. The concentrations were 29.9 µg/L and 33.0 µg/L during the August and January sampling event, respectively.
- Toluene - Minimal concentrations were detected in each well sampled, MW06, MW08, and MW11, during both sampling events. Well MW09 exhibited a minimal concentration only during the January 2007 sampling event.
- Total Xylenes - Minimal concentrations were detected in well MW11 during both sampling events.

SVOCs - EPA Method 625

The analytical results reveal that SVOC concentrations were detected in the groundwater samples at levels well below the NCGWQSs with the exception of naphthalene, which was detected in well MW11 above the NCGWQS of 21 µg/L. The following bullets identify the constituents detected.

- Acenaphthalene – Acenaphthene was detected in MW08 during the August 2006 sampling event and in MW11 during both sampling events. None of the concentrations were above the 2L standard of 80 µg/L .
- Fluorene – Minimal concentrations were detected in well MW08 during the August 2006 sampling event and in well MW11 during both sampling events. Again, none of the detections were above the NCGWQS of 280 µg/L.
- Naphthalene – Concentrations were detected in only well MW11. The concentrations were above the NCGWQS of 21 µg/L at 150 µg/L in August 2006 and 107 µg/L in January 2007.
- Phenanthrene – Minimal amounts were detected in well MW08 during the August 2006 sampling event and in well MW11 during both sampling events.

Although several Tentatively Identified Compounds (TICs) were present, not all TICs are identified and quantitated using individual standards. Additionally, many TICs are reported as compound isomers or unknown because they cannot be identified as specific compounds with match probabilities. When specific compounds were identified, the detected concentration was compared to the NCGWS, if one had been established. For those specific compounds identified

during the 2006-2007 sampling events and having an established NCGWQS, no compound was detected above the NCGWQS. Due to the uncertainties associated with TICs, it is impossible to draw any conclusions based upon their presence.

VPH/EPH - MADEP Methods

The analytical results reveal that VPH and EPH constituents were detected in the groundwater samples at levels well below the NCGWQSs with the exception of C₉-C₂₂ Aromatics, which were detected in wells MW08 and MW11 above the NCGWQS of 210 µg/L. The following bullets identify the constituents detected.

- C₉-C₁₈ Aliphatics – Concentrations were detected in well MW08 only during the August/September 2006 sampling event and in well MW11 during the August/September 2006 and January 2007 sampling events. Detected concentrations were below the standard of 4,200 µg/L.
- C₉-C₂₂ Aromatics – A concentration (<380 µg/L) above the NCGWQS of 210 µg/L was detected in well MW08 only during the August/September 2006 sampling event. Concentrations were detected in well MW11 above the NCGWQS during both the August/September 2006 and January 2007 sampling events - 1,530 µg/L and 1,200 µg/L, respectively.
- C₁₉-C₃₆ Aliphatics – Concentrations below the NCGWQS were detected only in well MW08 and only during the August/September 2006 sampling event.

Field duplicate samples were collected and laboratory-prepared trip blanks were analyzed as Quality Control (QC) samples. The trip blanks were analyzed for VOCs only. Toluene and m/p Xylenes were detected in the trip blank for the August 2006 sampling event. No VOCs were detected in the January 2007 trip blank. In addition, the duplicate sample results were comparable to its counterpart.

Other QC samples were run by the lab as required by the analytical methods. These QC samples include laboratory control spikes, method blanks, prep blanks, etc. The data was validated by reviewing sample holding times, analytical data, internal standards, calibrations, etc. The validation indicated that the data are usable for project purposes.

5.0 RECEPTOR SURVEY

Sovereign reassessed site conditions and concluded that the receptor survey previously completed by Law as a part of the DRAFT January 2000 Risk Characterization Assessment still applies. There has been no change in receptor impact, and there have been no changes to land use of the site or the surrounding areas. The residence, however, is currently vacant. The residence and surrounding area is part of a planned project to build a new operations center for 2nd Intelligence Battalion at MCB Camp Lejeune, North Carolina. Building H-28 will be demolished, so that the area can be utilized for government vehicle parking. Demolition and construction is tentatively scheduled to begin in 2012; however, project schedules often change. Site activities should be monitored as this construction project will potentially change the receptor survey. Conditions should be reevaluated during the next monitoring period.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on historical data and fieldwork and laboratory analytical data gathered during the 2006-2007 monitoring period, the following conclusions are presented:

- Surficial groundwater aquifer flow directions are variable.
- No measurable free product was detected in any of the site wells during the quarterly groundwater gauging events. A sheen was noted in MW08 during the August 2006 event.
- Only wells MW08 and MW11 exhibited concentrations of petroleum constituents above the NCGWQSs. C₉-C₂₂ Aromatics were detected in monitoring well MW08, and naphthalene and C₉-C₂₂ Aromatics were detected in MW11 above the NCGWQSs. Naphthalene concentrations were above the NCGWQS, but well below the established GCL. GCLs are not established for the MADEP constituents.
- Other petroleum constituents detected in groundwater at the site were at concentrations well below the NCGWQSs.

Due to the presence of petroleum constituent concentrations at the site above the NCGWQSs, Sovereign recommends continuing the groundwater monitoring program. It is also recommended that the gauging and sampling of MW06 and MW09 be discontinued since the wells have not exhibited contaminant concentrations above NCGWQSs since October 2000 and April 2001, respectively. In addition, MW07 should be added to the semi-annual sampling events since free product was last measured in the well in December 2005. The suggested monitoring program includes quarterly gauging of all ten site monitoring wells and semi-annual sampling of wells MW07, MW08, and MW11 for analysis by EPA Methods 602, 625 plus the 10 largest non target peaks, MADEP EPH, and MADEP VPH. Results and findings should be summarized and submitted in a groundwater monitoring report.

7.0 REFERENCES

Baker Environmental, Inc., *Corrective Action Plan, Building H-28, Marine Corps Base Camp Lejeune, North Carolina*, August 1, 1994.

Engineering and Environment, Inc., *Annual Groundwater Monitoring Report 2005-2006, Site H-28, Marine Corps Base Camp Lejeune, North Carolina*, January 6, 2006.

J.A. Jones Environmental Services Company, *Close Out Report, Soil Remediation, Building No. 21 and H-28, Marine Corps Base Camp Lejeune, North Carolina*, February 2006.

Law Engineering and Environmental Services, Inc., *Report of Natural Attenuation Monitoring, Building H-28, Marine Corps Base Camp Lejeune, North Carolina*, February 16, 1998.

Law Engineering and Environmental Services, Inc., *Natural Attenuation Monitoring Report, Second Quarter Groundwater Sampling Event, Building H-28, Hadnot Point, Marine Corps Base Camp Lejeune, North Carolina*, May 5, 1998.

Law Engineering and Environmental Services, Inc., *Third Natural Attenuation Monitoring Report, Building H-28, Hadnot Point, Marine Corps Base Camp Lejeune, North Carolina*, September 2, 1998.

Law Engineering and Environmental Services, Inc., *DRAFT Risk Characterization Assessment, Former UST H28-1, Marine Corps Base Camp Lejeune, North Carolina*, January 5, 2000.

TABLES

TABLE 1
WELL CONSTRUCTION INFORMATION
Incident Number and Name: 23333 - Building H-28

Monitoring Well	Well Type	Top of Casing Elevation (feet)
USTH28-MW01	Type II	11.30
USTH28-MW02	Type II	11.59
USTH28-MW03	Type II	11.77
USTH28-MW05	Type II	11.89
USTH28-MW06	Type II	11.53
USTH28-MW07	Type II	11.19
USTH28-MW08	Type II	11.66
USTH28-MW09	Type II	11.79
USTH28-MW10	Type II	11.21
USTH28- MW11	Type II	11.76

TOC Elevations taken from Sovereign Well Survey Database January 2007.

Monitoring well MW04 not located since 1998.

TABLE 2
GROUNDWATER ELEVATION DATA
2006-2007

Incident Number and Name: 23333 - Building H-28

Monitoring Well	Top of Casing Elevation (feet)	Groundwater Elevation (feet)			
		8/22/06	11/2/06	1/17/07	4/4/07
USTH28-MW01	11.30	2.15	2.17	2.91	2.35
USTH28-MW02	11.59	2.39	2.39	2.97	2.49
USTH28-MW03	11.77	2.27	2.57	3.07	2.48
USTH28-MW05	11.89	2.17	2.22	2.78	2.32
USTH28-MW06	11.53	2.13	2.28	2.78	2.63
USTH28-MW07	11.19	2.14	2.14	2.77	2.47
USTH28-MW08	11.66	2.20	2.25	2.86	2.39
USTH28-MW09	11.79	2.21	2.27	2.88	2.44
USTH28-MW10	11.21	2.21	2.26	2.89	2.44
USTH28- MW11	11.76	2.21	2.26	2.86	2.39

TABLE 3
PRODUCT THICKNESS DATA
2006-2007

Incident Number and Name: 23333 - Building H-28

Monitoring Well	Top of Casing Elevation (feet)	Product Thickness (feet)			
		8/22/06	11/2/06	1/17/07	4/4/07
USTH28-MW01	11.30	--	--	--	--
USTH28-MW02	11.59	--	--	--	--
USTH28-MW03	11.77	--	--	--	--
USTH28-MW05	11.89	--	--	--	--
USTH28-MW06	11.53	--	--	--	--
USTH28-MW07	11.19	--	--	--	--
USTH28-MW08	11.66	sheen	--	--	--
USTH28-MW09	11.79	--	--	--	--
USTH28-MW10	11.21	--	--	--	--
USTH28- MW11	11.76	--	--	--	--

"--" = No measurable free product detected.

TABLE 4
SUMMARY OF GROUNDWATER SAMPLING RESULTS
 2006-2007

Incident Number and Name: 23333 - Building H-28

Analytical Method: **EPA METHOD 602**

Well ID	Sample ID	Date Collected	CONTAMINANT OF CONCERN					
			Benzene	Diisopropylether (DIPE)	Ethylbenzene	Methyl-Tert Butyl Ether (MTBE)	Toluene	Total Xylenes
USTH28-MW06	USTH28-MW06	8/22/2006	<1.00	<1.00	<1.00	<2.00	0.473	<2.00
		1/17/2007	<1.00	<1.00	<1.00	<2.00	0.802J	<2.00
USTH28-MW08	USTH28-MW08	8/22/2006	<1.00	<1.00	<1.00	<2.00	0.401	<2.00
		1/17/2007	<1.00	<1.00	<1.00	<2.00	0.783J	<2.00
USTH28-MW09	USTH28-MW09	8/22/2006	<1.00	<1.00	<1.00	<2.00	<1.00	<2.00
		1/17/2007	<1.00	<1.00	<1.00	<2.00	0.447J	<2.00
USTH28-MW11	USTH28-MW11	8/22/2006	<2.00	<2.00	29.9	<4.00	1.41	141.4
		1/17/2007	<1.00	<1.00	33.0	<2.00	2.62	158.6
Duplicate	Duplicate	8/22/2006	<1.00	<1.00	<1.00	<2.00	0.238	<2.00
		1/17/2006	<1.00	<1.00	34.0	<2.00	2.73	163.4
2L Standard (µg/L)			1	70	550	200	1,000	530
GCL (µg/L)			5,000	70,000	84,500	200,000	257,500	87,500

- Duplicate sample from MW06 in August 2006 and from MW11 in January 2007.
- All results reported in µg/L
- µg/L – micrograms per liter
- <# - not detected at the indicated reporting limit
- J - Estimated concentration; below calibration range and above method detection limit
- **Bold** indicates detectable concentrations
- **Bold** and shaded indicates detectable concentrations above NCGWQSs
- NCGWQS – North Carolina Groundwater Quality Standards
- GCL – Gross Contaminant Level

TABLE 5
SUMMARY OF GROUNDWATER SAMPLING RESULTS
 2006-2007

Incident Number and Name: 23333 - Building H-28

Analytical Method: **EPA METHOD 625 PLUS TICS**

Well ID	Sample ID	Date Collected	CONTAMINANT OF CONCERN					
			Acenaphthene	Bis(2-ethylhexyl)phthalate	Fluorene	Naphthalene	Phenanthrene	Tentatively Identified Compounds (TICs)
USTH28-MW06	USTH28-MW06	8/22/2006	<10.0	<10.0	<10.0	<10.0	<10.0	15.13
		1/17/2007	<10.0	<10.0	<10.0	<10.0	<10.0	6.26
USTH28-MW08	USTH28-MW08	8/22/2006	2.70J	<10.0	4.00J	<10.0	2.80J	533.2
		1/17/2007	<10.0	<10.0	<10.0	<10.0	<10.0	16.19
USTH28-MW09	USTH28-MW09	8/22/2006	<10.0	<10.0	<10.0	<10.0	<10.0	15.09
		1/17/2007	<10.0	<10.0	<10.0	<10.0	<10.0	17.93
USTH28-MW11	USTH28-MW11	8/22/2006	6.40J	<10.0	8.20J	150	7.40J	645.5
		1/17/2007	5.30J	<10.0	5.90J	107	5.20J	474.1
Duplicate	Duplicate	8/22/2006	<10.0	<10.0	<10.0	<10.0	<10.0	9.45
		1/17/2007	5.30J	<10.0	5.60J	105	5.00J	486.1
2L Standard (µg/L)			80	2.5	280	21	210	NA
GCL (µg/L)			2,120	2,500	950	15,500	410	NA

- Duplicate sample from MW06 in August 2006 and from MW11 in January 2007.
- All results reported in µg/L
- µg/L – micrograms per liter
- <# - not detected at the indicated reporting limit
- J = Estimated concentration; below calibration range and above method detection limit
- **Bold** indicates detectable concentrations
- **Bold** and **shaded** indicates detectable concentrations above NCGWQSs
- NCGWQS – North Carolina Groundwater Quality Standards
- GCL – Gross Contaminant Level
- TICS – Tentatively Identified Compounds (refers to substances which are not present in the list of target compounds)

TABLE 6
SUMMARY OF GROUNDWATER SAMPLING RESULTS
 2006-2007

Incident Number and Name: 23333 - Building H-28

Analytical Method: **MADEP METHOD VPH/EPH**

Well ID	Sample ID	Date Collected	CONTAMINANT OF CONCERN					
			C ₅ -C ₈ Aliphatics	C ₉ -C ₁₂ Aliphatics	C ₉ -C ₁₀ Aromatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₁₁ -C ₂₂ Aromatics
USTH28-MW06	USTH28-MW06	8/22/2006 and 9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW08	USTH28-MW08	8/22/2006 and 9/18/2006*	<100	<100	<100	270	130	280
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW09	USTH28-MW09	8/22/2006 and 9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW11	USTH28-MW11	8/22/2006 and 9/18/2006*	<100	910	540	<100	<100	990
		1/17/2007	<100	1,200	630	<100	<100	570
Duplicate	Duplicate	8/22/2006 and 9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	1,200	630	<100	<100	600

- Duplicate sample from MW06 in August 2006 and from MW11 in January 2007.
- All results reported in µg/L
- µg/L – micrograms per liter
- <# - not detected at the indicated reporting limit
- **Bold** indicates detectable concentrations
- **Bold** and **shaded** indicates detectable concentrations above NCGWQSs
- NCGWQS – North Carolina Groundwater Quality Standard

* Samples collected in August 2006 for VPH analyses were extracted and analyzed out of holding time. They were recollected on September 18, 2006 and sampled within holding time on September 20, 2006. See laboratory reports for additional information.

TABLE 7
SUMMARY OF GROUNDWATER SAMPLING RESULTS
 2006-2007

Incident Number and Name: 23333 - Building H-28

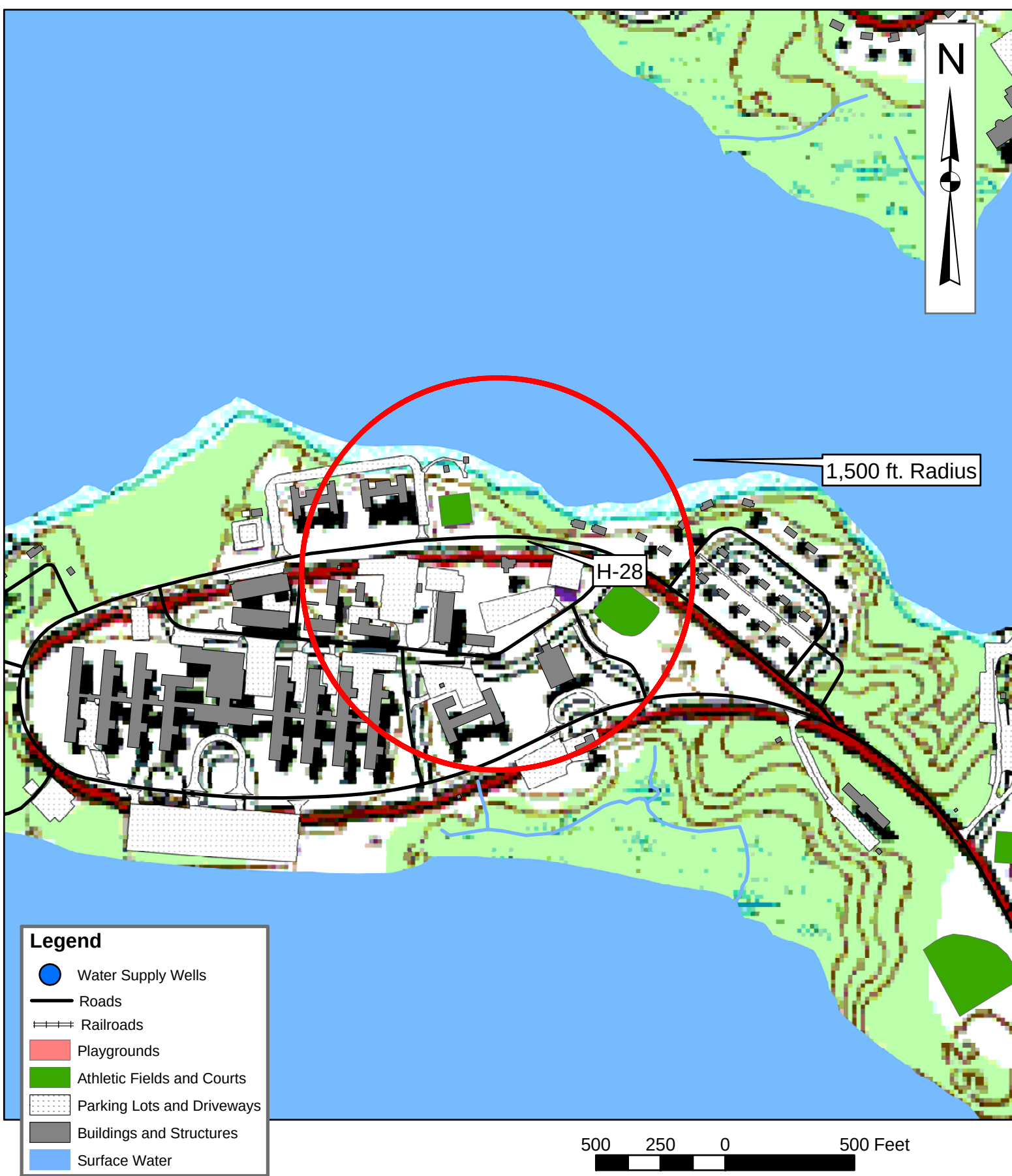
Analytical Method: **MADEP METHOD VPH/EPH AS COMPARED TO 2L STANDARDS**

Well ID	Sample ID	Date Collected	CONTAMINANT OF CONCERN			
			C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₉ -C ₂₂ Aromatics	C ₁₉ -C ₃₆ Aliphatics
USTH28-MW06	USTH28-MW06	8/22/2006 and 9/16/2006*	<100	<200	<200	<100
		1/17/2007	<100	<200	<200	<100
USTH28-MW08	USTH28-MW08	8/22/2006 and 9/16/2006*	<100	<370	<380	130
		1/17/2007	<100	<200	<200	<100
USTH28-MW09	USTH28-MW09	8/22/2006 and 9/16/2006*	<100	<200	<200	<100
		1/17/2007	<100	<200	<200	<100
USTH28-MW11	USTH28-MW11	8/22/2006 and 9/16/2006*	<100	<1,010	1,530	<100
		1/17/2007	<100	<1,300	1,200	<100
Duplicate	Duplicate	8/22/2006 and 9/18/2006*	<100	<200	<200	<100
		1/17/2007	<100	<1,300	1,230	<100
2L Standard (µg/l)			420	4,200	210	42,000
GCL (µg/l)			NE	NE	NE	NE

- Duplicate sample from MW06 in August 2006 and from MW11 in January 2007.
- All results reported in µg/L
- µg/L – micrograms per liter
- <# - not detected at the indicated reporting limit
- NE = Not established
- **Bold** indicates detectable concentrations
- **Bold** and **shaded** indicates detectable concentrations above NCGWQSs
- NCGWQS – North Carolina Groundwater Quality Standard

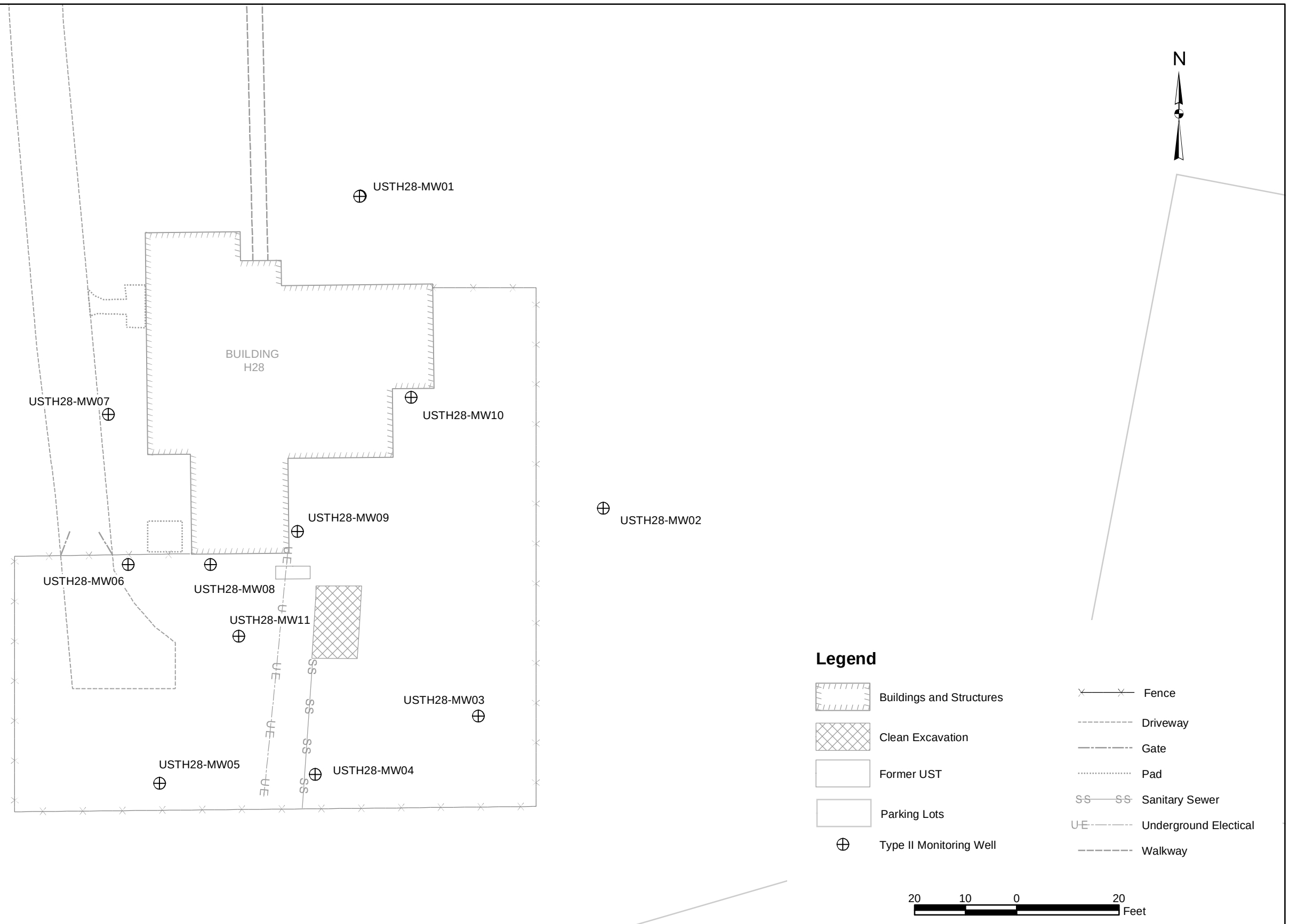
* Samples collected in August 2006 for VPH analyses were extracted and analyzed out of holding time. They were recollected on September 18, 2006 and sampled within holding time on September 20, 2006. See laboratory reports for additional information.

FIGURES



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

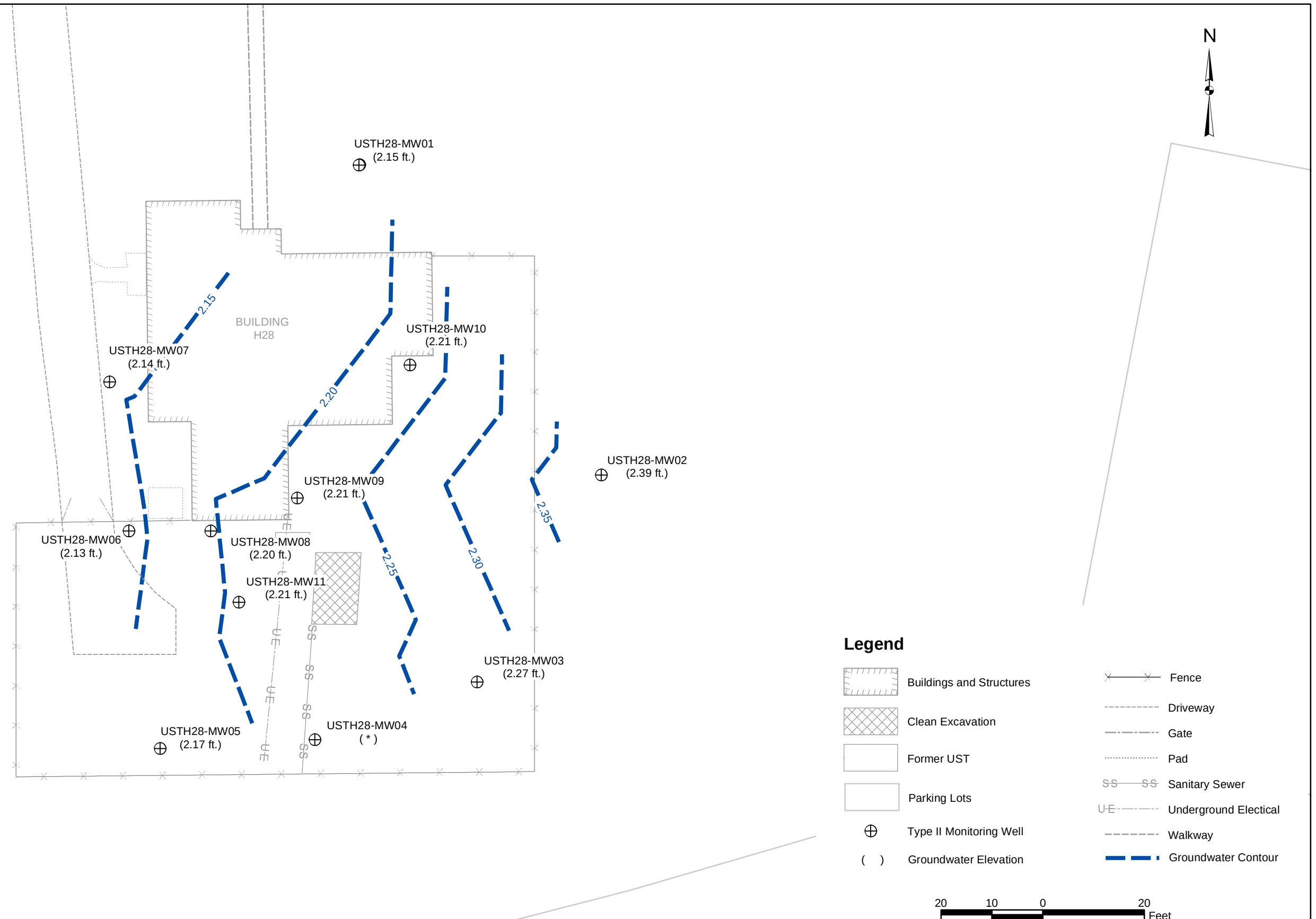
 SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT H-28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE GENERAL VICINITY TOPOGRAPHIC SITE MAP			FIGURE
	JOB NO. 206-063	DATE MAY 2007	SCALE AS SHOWN	DRAWN BY KAWS	CHECKED BY JAC	1



NOTE:
1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.

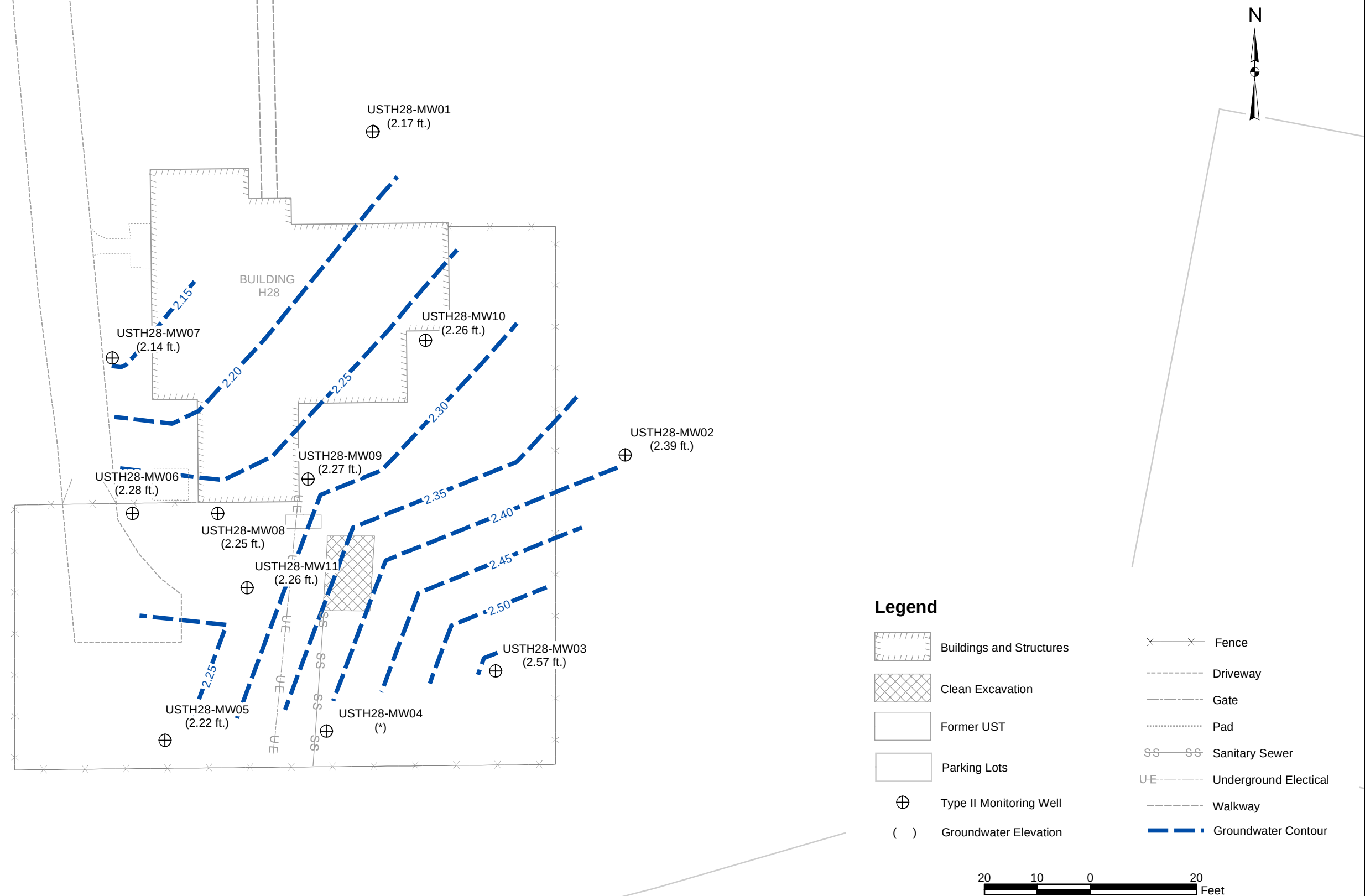
SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT		TITLE				FIGURE		
	BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		SITE MAP WITH MONITORING WELL LOCATIONS				2		
	JOB NO:	206-063	DATE:	MAY 2007	SCALE:	1" = 20'		DRAWN BY:	KAWS

206-063-H28-FIGURE-2



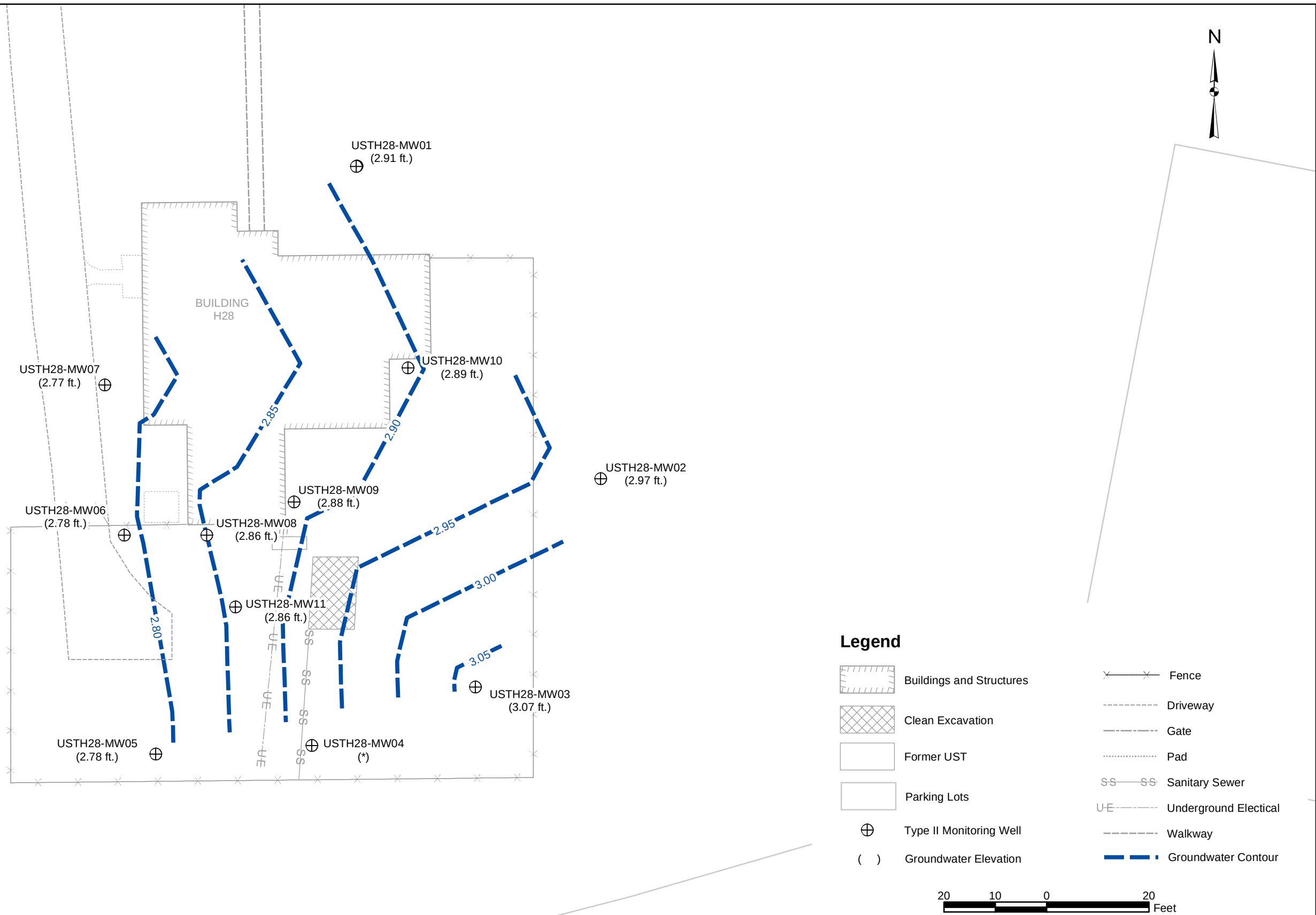
NOTE:
1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
2. CONTOUR INTERVAL = .05
3. * = NOT GAUGED

SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SHALLOW WELL GROUNDWATER ELEVATIONS AUGUST 2006				FIGURE		
							3		
	JOB NO:	206-063	DATE:	MAY 2007	SCALE:	1" = 20'		DRAWN BY:	KAWS



NOTE:
1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
2. CONTOUR INTERVAL = .05
3. * = NOT GAUGED

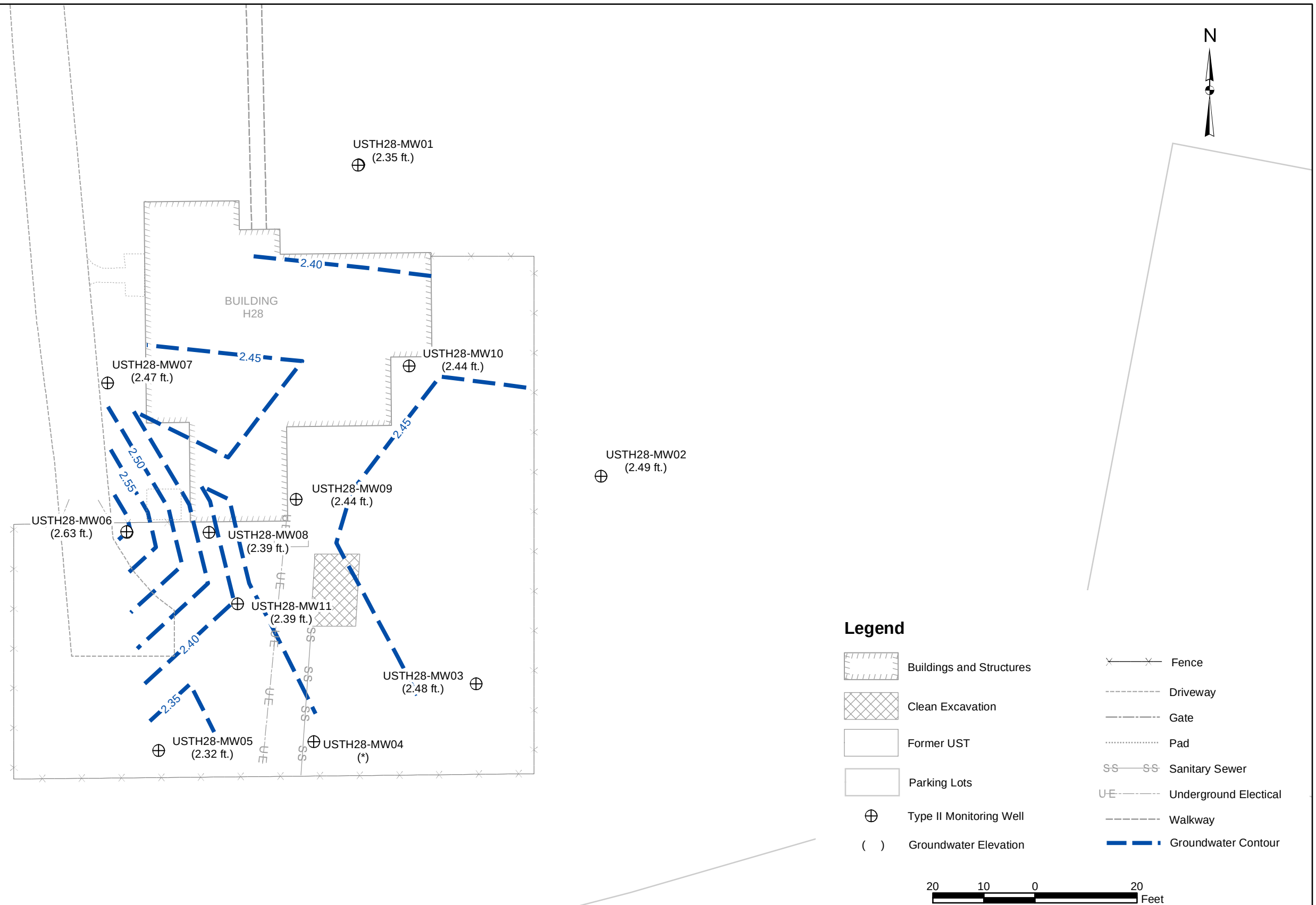
SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SHALLOW WELL GROUNDWATER ELEVATIONS - NOVEMBER 2006				FIGURE
	JOB NO: 206-063	DATE: MAY 2007	SCALE: 1" = 20'	DRAWN BY: KAWS	CHECKED BY: JAC	4	



NOTE:
 1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
 2. CONTOUR INTERVAL = .05
 3. * = NOT GAUGED

SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SHALLOW WELL GROUNDWATER ELEVATIONS - JANUARY 2007				FIGURE
							5
	JOB NO: 206-063	DATE: MAY 2007	SCALE: 1" = 20'	DRAWN BY: KAWS	CHECKED BY: JAC		

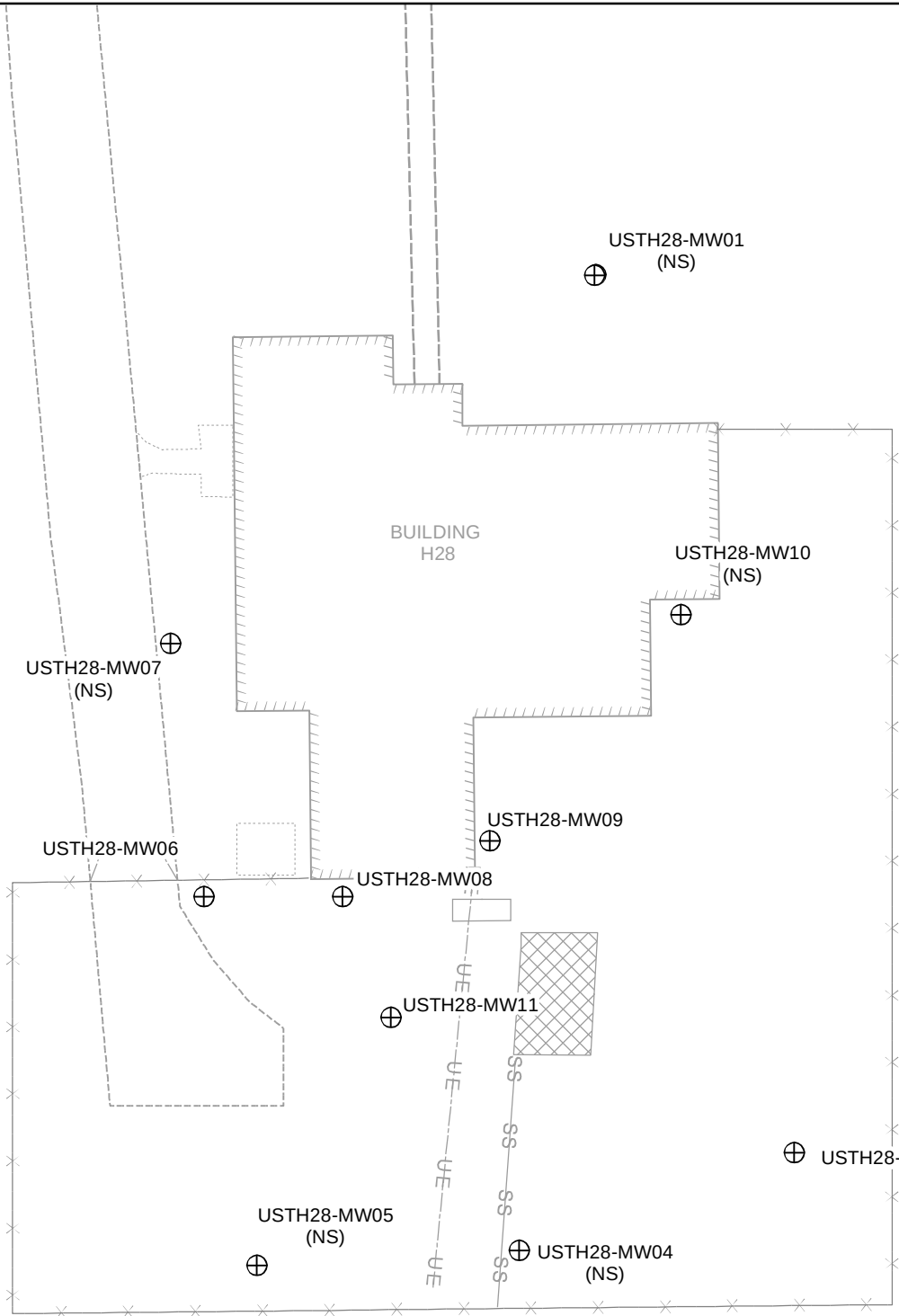
206-063-H28-FIGURE-5



NOTE:
 1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
 2. CONTOUR INTERVAL = .05
 3. * = NOT GAUGED

SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SHALLOW WELL GROUNDWATER ELEVATIONS - APRIL 2007				FIGURE
							6
	JOB NO: 206-063	DATE: MAY 2007	SCALE: 1" = 20'	DRAWN BY: KAWS	CHECKED BY: JAC		

206-063-H28-FIGURE-6



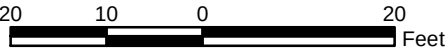
Analytical Method: EPA METHOD 602

			Contaminant of Concern					
Well ID	Sample ID	Date Collected	Benzene	Diisopropylether (DIPE)	Ethylbenzene	Methyl-Tert Butyl Ether (MTBE)	Toluene	Total Xylenes
USTH28-MW06	USTH28-MW06	8/22/2006	<1.00	<1.00	<1.00	<2.00	0.473	<2.00
USTH28-MW08	USTH28-MW08	1/17/2007	<1.00	<1.00	<1.00	<2.00	0.802J	<2.00
USTH28-MW09	USTH28-MW09	8/22/2006	<1.00	<1.00	<1.00	<2.00	0.401	<2.00
USTH28-MW11	USTH28-MW11	1/17/2007	<1.00	<1.00	<1.00	<2.00	0.783J	<2.00
Duplicate	Duplicate	8/22/2006	<1.00	<1.00	<1.00	<2.00	<1.00	<2.00
		1/17/2007	<1.00	<1.00	<1.00	<2.00	0.447J	<2.00
		8/22/2006	<2.00	<2.00	29.9	<4.00	1.41	141.4
		1/17/2007	<1.00	<1.00	33	<2.00	2.62	158.6
		8/22/2006	<1.00	<1.00	<1.00	<2.00	0.238	<2.00
		1/17/2006	<1.00	<1.00	34	<2.00	2.73	163.4
2L Standard (µg/L)			1	70	550	200	1,000	530
GCL (µg/L)			5,000	70,000	84,500	200,000	257,500	87,500

- Duplicate sample from MW06 in August 2006 and from MW11 in January 2007.
- All results reported in µg/L
- µg/L – micrograms per liter
- <# - not detected at the indicated reporting limit
- J - Estimated concentration; below calibration range and above method detection limit
- **Bold** indicates detectable concentrations
- NCGWQS – North Carolina Groundwater Quality Standards
- GCL – Gross Contaminant Level

Legend

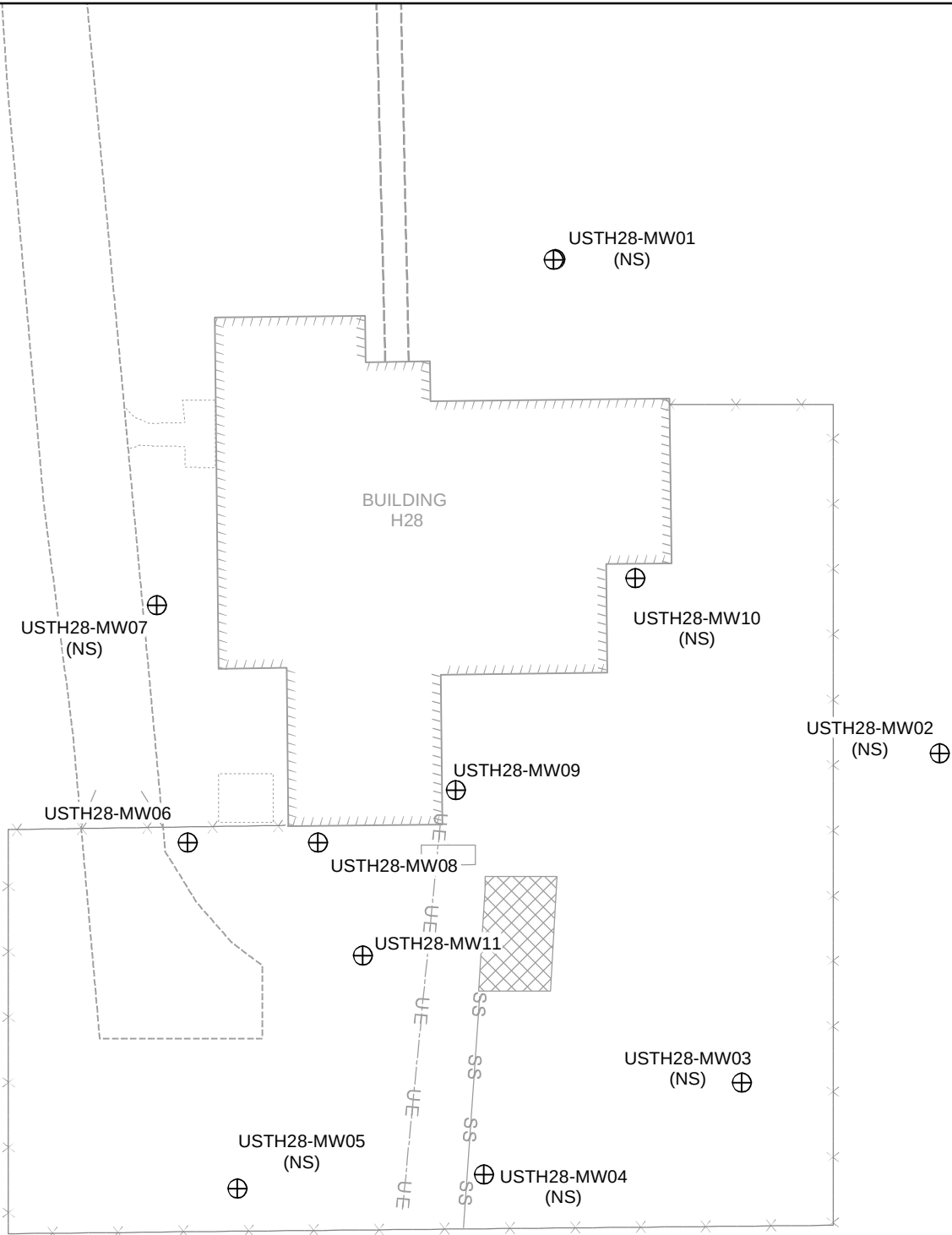
- Buildings and Structures
- Clean Excavation
- Former UST
- Parking Lots
- Type II Monitoring Well
- Fence
- Driveway
- Gate
- Pad
- Sanitary Sewer
- Underground Electrical
- Walkway



NOTE:
1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
2. NS = NOT SAMPLED

SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SITE MAP WITH 2006-2007 GROUNDWATER RESULTS - EPA METHOD 602			FIGURE
	JOB NO: 206-063		DATE: MAY 2007	SCALE: 1" = 20'	DRAWN BY: KAWS	CHECKED BY: JAC
						7

7



Analytical Method: **MADEP METHOD VPH/EPH**

			Contaminant of Concern					
Well ID	Sample ID	Date Collected	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₂ Aliphatics	C ₉ -C ₁₀ Aromatics	C ₉ -C ₁₈ Aliphatics	C ₁₀ -C ₃₆ Aliphatics	C ₁₁ -C ₂₂ Aromatics
USTH28-MW06	USTH28-MW06	9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW08	USTH28-MW08	8/22/2006 and 9/18/2006*	<100	<100	<100	270	130	280
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW09	USTH28-MW09	8/22/2006 and 9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	<100	<100	<100	<100	<100
USTH28-MW11	USTH28-MW11	8/22/2006 and 9/18/2006*	<100	910	540	<100	<100	990
		1/17/2007	<100	1,200	630	<100	<100	570
Duplicate	Duplicate	8/22/2006 and 9/18/2006*	<100	<100	<100	<100	<100	<100
		1/17/2007	<100	1,200	630	<100	<100	600
• Duplicate sample from MW06 in August 2006 and from MW11 in January 2007. • All results reported in µg/L • µg/L – micrograms per liter • <# - not detected at the indicated reporting limit • Bold indicates detectable concentrations								

* Samples collected in August 2006 for VPH analyses were extracted and analyzed out of holding time. They were recollected on September 18, 2006 and sampled within holding time on September 20, 2006. See laboratory reports for additional information.

Legend

- Buildings and Structures
- Clean Excavation
- Former UST
- Parking Lots
- Type II Monitoring Well
- Fence
- Driveway
- Gate
- Pad
- Sanitary Sewer
- Underground Electrical
- Walkway

NOTE:
1. DATA LAYERS ADAPTED FROM CAMP LEJEUNE GIS DEPARTMENT.
2. NS = NOT SAMPLED

SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA	PROJECT BUILDING H28 MARINE CORPS BASE CAMP LEJEUNE, NC		TITLE SITE MAP WITH 2006-2007 GROUNDWATER RESULTS - MADEP METHOD VPH/EPH			FIGURE 9
	JOB NO: 206-063	DATE: MAY 2007	SCALE: 1" = 20'	DRAWN BY: KAWS	CHECKED BY: JAC	

APPENDIX A

HISTORICAL DATA

EPA Method 602 or 6210 (ug/L)	NCGWQS	GCL	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6														MW-7					MW-8					MW-9										MW-10	MW-11																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			May 1992	May 1992	May 1992	May 1992	May 1992	May 1992	May 1992	January 1998	April 1998	July 1998	August 1999	October 2000	April 2001	June 2004	December Primary	2004 Dup	June 2005	December 2005	August 2006	January 2007	May 1992	January 1998	April 1998	July 1998	August 1999	May 1992	October 2000	April 2001	June 2005	December 2005	August 2006	January 2007	May 1992	January 1998	October 1999	October 2000	April 2001	June Primary	2004 Dup	December 2004	June 2005	December 2005	August 2006	January 2007	May 1992	August 1999 (1)	December 2004	June Primary	2005 Dup	December 2005	August 2006	January 2007																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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J:Estimated concentration below reporting limits or estimated concentration for TIC quantitations
na: Not Analyzed; compound not quantitated in the analytic suite specified for the sample
nr: Not Reported; compound not reported in source document summary table (either not analyzed or not detected)
ns: Not Sampled
ND: Not Detected; compound quantitated and not detected; detectin limit not specified in source document summary table
<tr: Not detected at the indicated detection limit
None: TIC analysis conducted, no TICs detected
GCL: Gross Contamination Level
NE: Not Established: a GCL has not been established for the analyte
NCGWQS: North Carolina Groundwater Quality Standard
TICs (total): Tentatively Identified Compound: sum of all TICs; all TIC concentrations are estimated ug/L; micrograms per liter
Bold type indicated analyte detection
Shaded area in bold indicated analyte detection at a concentration above the NCGWQS

PRODUCT THICKNESS OVER TIME
H-28

Date	MW01	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11
5/12/1992	ni	ni	ni	ni	ni	ni	ni	NP	NP	NP	ni
5/20/1992	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	ni
1/29/1998	NP	NP	NP	nl	NP	NP	NP	nm	NP	nl	ni
4/3/1998	nm	nm	nm	nl	nm	NP	NP	nm	nm	nm	ni
7/7/1998	nm	nm	nm	nl	nm	NP	NP	nm	nm	nm	ni
8/13/1999	nm	nm	nm	nl	nm	NP	NP	nm	NP	nm	NP
8/20/1999	nm	nm	nm	nl	nm	NP	NP	nm	NP	nm	0.27
10/22/1999	nm	nm	nm	nl	nm	nm	nm	nm	NP	nm	0.85
7/20/2000	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	0.30
10/17/2000	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	0.33
1/16/2001	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	0.02
4/12/2001	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	0.02
10/21/2002	nm	nm	nm	nl	nm	nm	nm	nm	nm	nm	NP ⁽¹⁾
1/30/2003	nm	nm	nm	nl	nm	nm	nm	nm	nm	nm	NP
4/30/2003	nm	nm	nm	nl	nm	nm	nm	nm	nm	nm	NP ⁽¹⁾
8/21/2003	nm	nm	nm	nl	nm	nm	nm	nm	nm	nm	NP
6/15/2004	NP	NP	NP	nl	NP	NP	NP	0.05	NP	NP	NP ⁽¹⁾
9/30/2004	NP	NP	NP	nl	NP	NP	NP	0.01	NP	NP	0.10
12/14/2004	NP	NP	NP	nl	NP	NP	NP	0.01	NP	NP	NP
3/18/2005	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP
6/3/2005	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP
9/8/2005	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP
12/13/2005	NP	NP	NP	nl	NP	NP	0.01	NP	NP	NP	NP
1/3/2006	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	no data
8/22/2006	NP	NP	NP	nl	NP	NP	NP	NP ⁽²⁾	NP	NP	NP
11/2/2006	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP
1/17/2007	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP
4/4/2007	NP	NP	NP	nl	NP	NP	NP	NP	NP	NP	NP

Table and information up to 1/3/2006 adapted from EEI AMR 1/2006

⁽¹⁾ Sorbent sock present in well immediately prior to gauging; product thickness data is considered compromised.

⁽²⁾ Sheen noted in the well.

Product thickness data expressed in feet.

ni - Not Installed; well not installed at the time gauging was conducted.

nl - Not Located; well not located.

nm - Not Measured; well not measured during the gauging event.

NP - Not Present; no measureable thickness of free product present in the well.

APPENDIX B

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION FROM 2006 AND 2007 SAMPLING EVENTS



Mr. Chris Murray
Sovereign Consulting
405 Oakmeads Crescent
Suite 1
Virginia Beach VA 23462
Report Number: G650-75
Client Project: NV015

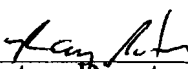
Dear Mr. Murray:

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

9/14/2006

Date



Results for Volatiles

by GC 602

Client Sample ID: USTH28-MW06

Client Project ID: NV015

Lab Sample ID: G650-75-1A

Lab Project ID: G650-75

Analyzed By: CLP

Date Collected: 8/22/2006 10:15

Date Received: 8/23/2006

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	0.473	1.00	0.159	1	8/31/2006	
m/p-Xylene	BQL	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	37.5	93.8

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-75-2A
Lab Project ID: G650-75

Analyzed By: CLP
Date Collected: 8/22/2006 10:55
Date Received: 8/23/2006
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	0.401	1.00	0.159	1	8/31/2006	
m/p-Xylene	BQL	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	38.7	96.6

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-75-3A
Lab Project ID: G650-75

Analyzed By: CLP
Date Collected: 8/22/2006 11:55
Date Received: 8/23/2006
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	BQL	1.00	0.159	1	8/31/2006	
m/p-Xylene	BQL	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	36.7	91.9

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-75-4A
Lab Project ID: G650-75

Analyzed By: CLP
Date Collected: 8/22/2006 11:20
Date Received: 8/23/2006
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	2.00	0.396	2	8/31/2006	
Diisopropyl ether (DIPE)	BQL	2.00	0.314	2	8/31/2006	
Ethylbenzene	29.9	2.00	0.344	2	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	4.00	0.81	2	8/31/2006	
Toluene	1.41	2.00	0.318	2	8/31/2006	
m/p-Xylene	74.0	4.00	0.652	2	8/31/2006	
o-Xylene	67.4	4.00	0.57	2	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	42.1	105

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-75-5A
Lab Project ID: G650-75

Analyzed By: CLP
Date Collected: 8/22/2006 0:00
Date Received: 8/23/2006
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	0.238	1.00	0.159	1	8/31/2006	
m/p-Xylene	BQL	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	37.4	93.6

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: Trip Blank
Client Project ID: NV015
Lab Sample ID: G650-75-6A
Lab Project ID: G650-75

Analyzed By: CLP
Date Collected: 8/22/2006 0:00
Date Received: 8/23/2006
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	1.58	1.00	0.159	1	8/31/2006	
m/p-Xylene	0.333	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	37.4	93.5

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK1083106A
Lab Project ID:

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

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	8/31/2006	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	8/31/2006	
Ethylbenzene	BQL	1.00	0.172	1	8/31/2006	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	8/31/2006	
Toluene	BQL	1.00	0.159	1	8/31/2006	
m/p-Xylene	BQL	2.00	0.326	1	8/31/2006	
o-Xylene	BQL	2.00	0.285	1	8/31/2006	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	37.4	93.6

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Control Limits for QC Check / Laboratory Control Spike

Instrument : gc1
 Filename : 083106\005f0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Bromodichloromethane	10.7	106.8	76.0	124.0	107	42	172
Bromoform	9.4	93.5	73.5	126.5	94	13	159
Bromomethane	10.1	100.9	58.5	141.5	101	D	144
Carbon tetrachloride	10.7	107.5	68.5	131.5	107	43	143
Chlorobenzene	11.2	112.0	72.0	128.0	112	38	150
Chloroethane	10.2	102.2	77.0	123.0	102	46	137
Chloroform	10.4	103.8	75.0	125.0	104	49	133
Chloromethane	10.5	105.0	59.5	140.5	105	D	193
Dibromochloromethane	11.5	115.1	65.5	134.5	115	24	191
• 1,2-Dibromoethane	11.1	111.5	13.6	186.4	111	D	206
1,2-Dichlorobenzene	10.7	106.5	70.0	130.0	107	D	208
1,3-Dichlorobenzene	10.6	105.9	49.5	150.5	106	7	187
1,4-Dichlorobenzene	10.7	107.0	69.5	130.5	107	42	143
1,1-Dichloroethane	10.7	107.4	84.0	116.0	107	47	132
1,2-Dichloroethane	10.4	104.3	71.5	128.5	104	51	147
1,1-Dichloroethene	11.1	110.6	63.0	137.0	111	28	167
• cis-1,2-Dichloroethene	10.9	108.7	34.4	180.6	109	19	181
trans-1,2-Dichloroethene	10.7	107.0	64.0	136.0	107	38	155
1,2-Dichloropropane	10.9	109.1	74.0	126.0	109	44	156
cis-1,3-Dichloropropene	11.1	110.8	64.0	136.0	111	22	178
trans-1,3-Dichloropropene	11.2	111.9	64.0	136.0	112	22	178
Methylene Chloride	10.9	109.1	77.5	122.5	109	25	162
1,1,2,2-Tetrachloroethane	6.0	60.4	49.0	151.0	60	8	184
Tetrachloroethane	11.1	111.4	70.0	130.0	111	26	162
1,1,1-Trichloroethane	10.3	103.4	71.0	129.0	103	41	138
1,1,2-Trichloroethane	11.6	115.5	78.5	121.5	116	39	136
Trichloroethene	10.7	107.2	77.0	123.0	107	35	146
Trichlorofluoromethane	10.7	106.9	66.5	133.5	107	21	156
Vinyl Chloride	10.4	104.3	68.5	131.5	104	28	163

Method: 602 Spike[ppb]: 10
 Instrument : gc1
 Filename : 083106\005r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	11.3	112.9	77.0	123.0	113	39	150
Chlorobenzene	10.9	109.2	80.5	119.5	109	55	135
1,2-Dichlorobenzene	11.0	109.6	68.0	132.0	110	37	154
1,3-Dichlorobenzene	11.1	111.1	72.5	127.5	111	50	141
1,4-Dichlorobenzene	11.1	111.1	69.5	130.5	111	42	143
• Diisopropyl ether	11.5	114.6	43.1	156.9	115	30	170
Ethylbenzene	11.1	111.3	63.0	137.0	111	32	160
• MTBE	11.4	113.8	46.8	153.2	114	35	165
Toluene	11.0	110.4	77.5	127.0	110	46	148
• m,p-Xylene	22.2	111.1	11.2	188.8	111	D	239
• o-Xylene	10.9	108.8	47.6	152.4	109	36	164

Flags :

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

Reviewed by: g



Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10
Instrument: gc1
Sample: 083106\008r0101.txt
MS: 083106\019r0101.txt
MSD: 083106\020r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	19.7	35.7	36.3	160 +	166 +	39	150
Chlorobenzene	ND	10.6	11.0	106	110	55	135
1,2-Dichlorobenzene	ND	10.6	11.0	105	109	37	154
1,3-Dichlorobenzene	ND	10.6	11.0	106	110	50	141
1,4-Dichlorobenzene	ND	10.1	10.6	94	98	42	143
• Diisopropyl ether	ND	12.3	12.7	116	120	30	170
Ethylbenzene	4.0	16.3	16.8	123	128	32	160
• MTBE	27.8	45.6	46.6	178 +	189 +	35	165
Toluene	6.7	19.3	19.9	125	132	46	148
• m,p-Xylene	6.3	29.9	30.8	118	123	D	239
• o-Xylene	1.1	12.4	12.7	112	116	36	164

Flags :

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

Reviewed by: SW



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-75-1B
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 10:15
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	9/6/2006	
Acenaphthylene	BQL	10.0	1.12	1	9/6/2006	
Anthracene	BQL	10.0	1.75	1	9/6/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/6/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/6/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/6/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/6/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/6/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/6/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/6/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/6/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/6/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/6/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/6/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/6/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/6/2006	
Chrysene	BQL	10.0	1.11	1	9/6/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/6/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/6/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/6/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/6/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/6/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/6/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/6/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/6/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/6/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/6/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/6/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/6/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/6/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/6/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/6/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/6/2006	
Fluoranthene	BQL	10.0	1.41	1	9/6/2006	
Fluorene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/6/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/6/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/6/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/6/2006	
Isophorone	BQL	10.0	1.27	1	9/6/2006	
Naphthalene	BQL	10.0	1.08	1	9/6/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-75-1B
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 10:15
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/6/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/6/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/6/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/6/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/6/2006	
Phenanthrene	BQL	10.0	1.38	1	9/6/2006	
Phenol	BQL	10.0	3.38	1	9/6/2006	
Pyrene	BQL	10.0	2.08	1	9/6/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/6/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/6/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	8.3	83
Nitrobenzene-d5	10	11.5	115
Phenol-d6	10	8.6	86
2,4,6-Tribromophenol	10	10.5	105
4-Terphenyl-d14	10	12.4	124

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: *EW*



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-75-1B
Lab Project ID: G650-75
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 8/22/2006 10:15
Date Received: 8/23/2006
Date Extracted: 8/23/2006
Date Analyzed: 9/6/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	12.29			8.06
2	Unknown	5.40			7.07
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: *gnd*



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-75-2H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 10:55
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	2.70	10.0	1.22	1	9/6/2006	J
Acenaphthylene	BQL	10.0	1.12	1	9/6/2006	
Anthracene	BQL	10.0	1.75	1	9/6/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/6/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/6/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/6/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/6/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/6/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/6/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/6/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/6/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/6/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/6/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/6/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/6/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/6/2006	
Chrysene	BQL	10.0	1.11	1	9/6/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/6/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/6/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/6/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/6/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/6/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/6/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/6/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/6/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/6/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/6/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/6/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/6/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/6/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/6/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/6/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/6/2006	
Fluoranthene	BQL	10.0	1.41	1	9/6/2006	
Fluorene	4.00	10.0	1.22	1	9/6/2006	J
Hexachlorobenzene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/6/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/6/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/6/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/6/2006	
Isophorone	BQL	10.0	1.27	1	9/6/2006	
Naphthalene	BQL	10.0	1.08	1	9/6/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-75-2H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 10:55
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/6/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/6/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/6/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/6/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/6/2006	
Phenanthrene	2.80	10.0	1.38	1	9/6/2006	J
Phenol	BQL	10.0	3.38	1	9/6/2006	
Pyrene	BQL	10.0	2.08	1	9/6/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/6/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/6/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	9	90
Nitrobenzene-d5	10	11.9	119 #
Phenol-d6	10	8.8	88
2,4,6-Tribromophenol	10	10.9	109
4-Terphenyl-d14	10	11.7	117

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

= Surrogate recovery outside In-House statistical limits.

Reviewed By:



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-75-2H
Lab Project ID: G650-75
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 8/22/2006 10:55
Date Received: 8/23/2006
Date Extracted: 8/23/2006
Date Analyzed: 9/6/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	21.36			101
2	Unknown	20.63			94.2
3	Unknown	19.99			78.2
4	Unknown	23.29			75.3
5	Unknown	24.58			55.9
6	Unknown	19.42			53.1
7	Aromatic, Unknown	8.49			24.8
8	Naphthalene, 1,3-dimethyl-	11.11	000575-41-7	97	18.2
9	Unknown	12.29			17.2
10	Unknown	18.87			15.3

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: 22



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-75-3H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 11:55
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	9/6/2006	
Acenaphthylene	BQL	10.0	1.12	1	9/6/2006	
Anthracene	BQL	10.0	1.75	1	9/6/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/6/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/6/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/6/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/6/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/6/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/6/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/6/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/6/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/6/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/6/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/6/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/6/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/6/2006	
Chrysene	BQL	10.0	1.11	1	9/6/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/6/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/6/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/6/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/6/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/6/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/6/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/6/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/6/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/6/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/6/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/6/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/6/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/6/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/6/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/6/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/6/2006	
Fluoranthene	BQL	10.0	1.41	1	9/6/2006	
Fluorene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/6/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/6/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/6/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/6/2006	
Isophorone	BQL	10.0	1.27	1	9/6/2006	
Naphthalene	BQL	10.0	1.08	1	9/6/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-75-3H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 11:55
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/6/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/6/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/6/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/6/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/6/2006	
Phenanthrene	BQL	10.0	1.38	1	9/6/2006	
Phenol	BQL	10.0	3.38	1	9/6/2006	
Pyrene	BQL	10.0	2.08	1	9/6/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/6/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/6/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
2-Fluorophenol	10	8.4	84
Nitrobenzene-d5	10	11.3	113
Phenol-d6	10	8.5	85
2,4,6-Tribromophenol	10	10.2	102
4-Terphenyl-d14	10	13	130

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: cm



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-75-3H
Lab Project ID: G650-75
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 8/22/2006 11:55
Date Received: 8/23/2006
Date Extracted: 8/23/2006
Date Analyzed: 9/6/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	20.20			9.39
2	Unknown	12.29			5.7
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: *EW*



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-75-4H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 11:20
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	6.40	10.0	1.22	1	9/6/2006	J
Acenaphthylene	BQL	10.0	1.12	1	9/6/2006	
Anthracene	BQL	10.0	1.75	1	9/6/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/6/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/6/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/6/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/6/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/6/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/6/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/6/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/6/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/6/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/6/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/6/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/6/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/6/2006	
Chrysene	BQL	10.0	1.11	1	9/6/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/6/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/6/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/6/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/6/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/6/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/6/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/6/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/6/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/6/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/6/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/6/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/6/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/6/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/6/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/6/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/6/2006	
Fluoranthene	BQL	10.0	1.41	1	9/6/2006	
Fluorene	8.20	10.0	1.22	1	9/6/2006	J
Hexachlorobenzene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/6/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/6/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/6/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/6/2006	
Isophorone	BQL	10.0	1.27	1	9/6/2006	
Naphthalene	150	10.0	1.08	1	9/6/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-75-4H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 11:20
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/6/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/6/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/6/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/6/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/6/2006	
Phenanthrene	7.40	10.0	1.38	1	9/6/2006	J
Phenol	BQL	10.0	3.38	1	9/6/2006	
Pyrene	BQL	10.0	2.08	1	9/6/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/6/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/6/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	11.5	115
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	10	10.6	106
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: EW



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-75-4H
Lab Project ID: G650-75
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 8/22/2006 11:20
Date Received: 8/23/2006
Date Extracted: 8/23/2006
Date Analyzed: 9/6/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Benzene, 1,2,3-trimethyl-	7.06	000526-73-8	94	104
2	(E)-1-Phenyl-1-butene	8.49	001005-64-7	95	94.9
3	Benzene, 1,3-dimethyl-	5.17	000108-38-3	94	65.8
4	Benzene, 1-ethyl-4-methyl-	6.54	000622-96-8	97	62.2
5	1,2,4-Trimethylbenzene	6.41	000095-36-3	96	55.6
6	Unknown	7.24			54.4
7	Naphthalene, 1,2,3,4-tetrahydro-	8.64	000119-64-2	94	53.9
8	Aromatic, Unknown	7.75			53.5
9	Benzene, 1,3-dimethyl-	5.47	000108-38-3	95	50.7
10	1,3,8-p-Menthatriene	7.44	021195-59-5	87	50.5

Comment:

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

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

Reviewed by:



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-75-5H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 0:00
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	9/6/2006	
Acenaphthylene	BQL	10.0	1.12	1	9/6/2006	
Anthracene	BQL	10.0	1.75	1	9/6/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/6/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/6/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/6/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/6/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/6/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/6/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/6/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/6/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/6/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/6/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/6/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/6/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/6/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/6/2006	
Chrysene	BQL	10.0	1.11	1	9/6/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/6/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/6/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/6/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/6/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/6/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/6/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/6/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/6/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/6/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/6/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/6/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/6/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/6/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/6/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/6/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/6/2006	
Fluoranthene	BQL	10.0	1.41	1	9/6/2006	
Fluorene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	9/6/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/6/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/6/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/6/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/6/2006	
Isophorone	BQL	10.0	1.27	1	9/6/2006	
Naphthalene	BQL	10.0	1.08	1	9/6/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-75-5H
Lab Project ID: G650-75

Analyzed By: EAW
Date Collected: 8/22/2006 0:00
Date Received: 8/23/2006
Date Extracted: 8/29/2006
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/6/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/6/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/6/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/6/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/6/2006	
Phenanthrene	BQL	10.0	1.38	1	9/6/2006	
Phenol	BQL	10.0	3.38	1	9/6/2006	
Pyrene	BQL	10.0	2.08	1	9/6/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/6/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/6/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
2-Fluorophenol	10	8.5	85
Nitrobenzene-d5	10	11.6	116
Phenol-d6	10	8.5	85
2,4,6-Tribromophenol	10	10.2	102
4-Terphenyl-d14	10	12.6	126

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: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-75-5H
Lab Project ID: G650-75
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 8/22/2006 0:00
Date Received: 8/23/2006
Date Extracted: 8/23/2006
Date Analyzed: 9/6/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	12.29			9.45
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by:



Results for Semivolatiles
by GCMS 625

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB6091
Lab Project ID:

Analyzed By: DCS
Date Collected:
Date Received:
Date Extracted: 8/29/2006
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	9/9/2006	
Acenaphthylene	BQL	10.0	1.12	1	9/9/2006	
Anthracene	BQL	10.0	1.75	1	9/9/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	9/9/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	9/9/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	9/9/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	9/9/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	9/9/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	9/9/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	9/9/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	9/9/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	9/9/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	9/9/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	9/9/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	9/9/2006	
2-Chlorophenol	BQL	10.0	4.22	1	9/9/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	9/9/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	9/9/2006	
Chrysene	BQL	10.0	1.11	1	9/9/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	9/9/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	9/9/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	9/9/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	9/9/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	9/9/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	9/9/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	9/9/2006	
Diethylphthalate	BQL	10.0	1.48	1	9/9/2006	
Dimethylphthalate	BQL	10.0	1.04	1	9/9/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	9/9/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	9/9/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	9/9/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	9/9/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	9/9/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	9/9/2006	
Diphenylamine *	BQL	10.0	1.53	1	9/9/2006	
Fluoranthene	BQL	10.0	1.41	1	9/9/2006	
Fluorene	BQL	10.0	1.22	1	9/9/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	9/9/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	9/9/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	9/9/2006	
Hexachloroethane	BQL	10.0	1.58	1	9/9/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	9/9/2006	
Isophorone	BQL	10.0	1.27	1	9/9/2006	
Naphthalene	BQL	10.0	1.08	1	9/9/2006	



Results for Semivolatiles
by GCMS 625

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB6091
Lab Project ID:

Analyzed By: DCS
Date Collected:
Date Received:
Date Extracted: 8/29/2006
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	9/9/2006	
2-Nitrophenol	BQL	10.0	3.52	1	9/9/2006	
4-Nitrophenol	BQL	50.0	3.17	1	9/9/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	9/9/2006	
Pentachlorophenol	BQL	50.0	2.83	1	9/9/2006	
Phenanthrene	BQL	10.0	1.38	1	9/9/2006	
Phenol	BQL	10.0	3.38	1	9/9/2006	
Pyrene	BQL	10.0	2.08	1	9/9/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	9/9/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	9/9/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.8	68
2-Fluorophenol	10	7.5	75
Nitrobenzene-d5	10	7.2	72
Phenol-d6	10	7.2	72
2,4,6-Tribromophenol	10	6.4	64
4-Terphenyl-d14	10	9	90

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

= Surrogate recovery outside In-House statistical limits.

Reviewed By: 32



**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-6091-MS/MSD/LCS

Lab Project ID:

Matrix: WATER

Prep Method: 3520

Date Collected:

Date Received:

Date Extracted: 09/09/06

Date Analyzed: 09/06/06

Analyzed By: MRC

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	244	223	91.6	244	200	82.1	10.9	30	62.0-119
4-Chloro-3-methylphenol	BQL	244	231	94.9	244	215	88.1	7.43	30	67.0-109
2-Chlorophenol	BQL	244	214	87.9	244	192	78.9	10.8	30	59.0-95.0
1,4-Dichlorobenzene	BQL	244	140	57.2	244	107	43.7	26.8	30	29.0-86.0
2,4-Dinitrotoluene	BQL	244	225	92.4	244	211	86.6	6.48	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	244	215	88.3	244	199	81.4	8.13	30	67.0-107
4-Nitrophenol	BQL	244	245	100	244	235	96.3	4.07	30	49.0-146
Pentachlorophenol	BQL	244	193	79.0	244	177	72.7	8.31	30	43.0-106
Phenol	BQL	244	210	86.0	244	191	78.2	9.50	30	61.0-100
Pyrene	BQL	244	206	84.6	244	214	87.6	3.48	30	41.0-123
1,2,4-Trichlorobenzene	BQL	244	191	78.4	244	155	63.6	20.8	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits
				% Rec.
Acenaphthylene	100	79.1	79.1	72.9-127
4-Chloro-3-methylphenol	100	87.4	87.4	61.6-113
2-Chlorophenol	100	79.9	79.9	52.3-104
1,4-Dichlorobenzene	100	41.7	41.7	27.3-85.0
2,4-Dinitrotoluene	100	84.3	84.3	66.5-117
N-Nitrosodi-n-propylamine	100	82.3	82.3	54.4-119
4-Nitrophenol	100	69.3	69.3	32.4-150
Pentachlorophenol	100	55.2	55.2	23.9-115
Phenol	100	78.4	78.4	54.5-106
Pyrene	100	89.0	89.0	63.5-126
1,2,4-Trichlorobenzene	100	59.3	59.3	49.1-98.5

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: RJL



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW06
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	09/07/06
Date Analyzed	09/07/06
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	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.

Note: Sample analyzed outside of 14 day holding time.

Lab Info: g650-75-1e

Reviewed By: 21



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW08
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	09/07/06
Date Analyzed	09/07/06
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	180 (µg/L)
C ₉ -C ₁₀ Aromatics**	110 (µg/L)
Surrogate % Recovery - PID	120
Surrogate % Recovery - FID	120

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

** = Excludes any surrogates or internal standards.

Note: Sample analyzed outside of 14 day holding time.

Lab Info: g650-75-2e

Reviewed By: en



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW09
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	09/07/06
Date Analyzed	09/07/06
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	110
Surrogate % Recovery - FID	120

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

** = Excludes any surrogates or internal standards.

Note: Sample analyzed outside of 14 day holding time.

Lab Info: g650-75-3e

Reviewed By: WJ



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW11
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	09/07/06
Date Analyzed	09/07/06
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	970 (µg/L)
C ₉ -C ₁₀ Aromatics**	620 (µg/L)
Surrogate % Recovery - PID	120
Surrogate % Recovery - FID	120

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

** = Excludes any surrogates or internal standards.

Note: Sample analyzed outside of 14 day holding time.

Lab Info: g650-75-4e

Reviewed By: cm



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-Duplicate
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	09/07/06
Date Analyzed	09/07/06
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	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.

Note: Sample analyzed outside of 14 day holding time.

Lab Info: g650-75-5e

Reviewed By: SH



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/01/06PID Initial Calibration Date: 09/01/06

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

Calibration Check Date: 09/06/06

Calibration Check

Range	Levels (µg/L)		RPD
	(mg/Kg)		
C ₅ -C ₈ Aliphatics	2000	200	-6.5
C ₉ -C ₁₂ Aliphatics	500	50	-23.3
C ₉ -C ₁₀ Aromatics	500	50	-17.1

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW06
Sample Matrix	Water
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	08/31/06
Date Analyzed	09/08/06
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	77
Aromatic Surrogate % Recovery	67

Comments:

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

Lab info: G650-75-1J

Reviewed By: PL



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW08
Sample Matrix	Water
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	08/31/06
Date Analyzed	09/12/06
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	270 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	130 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	280 (ug/L)
Aliphatic Surrogate % Recovery	84
Aromatic Surrogate % Recovery	78
Fractionation Surrogate 1 % Recovery	69

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-75-21

Reviewed By: rye



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW09
Sample Matrix	Water
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	08/31/06
Date Analyzed	09/08/06
Dry Weight	
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	92
Aromatic Surrogate % Recovery	87

Comments:

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

Lab info: G650-75-3I

Reviewed By: PR



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW11
Sample Matrix	Water
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	08/31/06
Date Analyzed	09/12/06
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*	990 (ug/L)
Aliphatic Surrogate % Recovery	81
Aromatic Surrogate % Recovery	79
Fractionation Surrogate 1 % Recovery	70

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-75-4I

Reviewed By: gnd



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-Duplicate
Sample Matrix	Water
Date Collected	08/22/06
Date Received	08/23/06
Date Extracted	08/31/06
Date Analyzed	09/08/06
Dry Weight	
Dilution Factor	1
C ₈ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	90
Aromatic Surrogate % Recovery	85

Comments:

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

Lab info: G650-75-5I

Reviewed By: RM



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date:

05/31/06

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	5.30	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	6.4	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	10.4	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date:

09/08/06

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-13.8
C ₁₉ -C ₃₆ Aliphatics	160	-12.7
C ₁₁ -C ₂₂ Aromatics	340	-4.8

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 05/31/06

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	5.30	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	6.4	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	10.4	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 09/12/06

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-21.5
C ₁₉ -C ₃₆ Aliphatics	160	-19.9
C ₁₁ -C ₂₂ Aromatics	340	-6.7

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: 05/31/06

Calibration Ranges and Limits

Range	MDL (2/2004) ($\mu\text{g/L}$)	ML ($\mu\text{g/L}$)	RL ($\mu\text{g/L}$)	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 ($\mu\text{g/mL}$)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	5.30	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	6.4	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	10.4	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 09/13/06

Calibration Check

Range	Levels ($\mu\text{g/mL}$)	RPD
C ₉ -C ₁₈ Aliphatics	120	-22.7
C ₁₉ -C ₃₆ Aliphatics	160	-15.3
C ₁₁ -C ₂₂ Aromatics	340	-4.2

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date:

05/31/06

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	5.30	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	6.4	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	10.4	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date:

09/12/06

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-21.5
C ₁₉ -C ₃₆ Aliphatics	160	-19.9
C ₁₁ -C ₂₂ Aromatics	340	-6.7

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



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050003



1 CLIENT: SOVEREIGN CONSULTING
CONTACT: Theresa Elmore PHONE NO.: (910) 526-3941
PROJECT: NV015 SITE/PWSID#: H28
REPORTS TO: Chris Murray FAX NO.: 757 456-5895
INVOICE TO: Chris Murray QUOTE # 4050AKMEARS CREDIT STE 1
VIRGINIA BEACH VA 23060 PO. NUMBER NV015

SGS Reference: G650-75 PAGE 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	C= COMP	G= GRAB	REMARKS
	UST H28- MW06	8/22/06	1015	W	7		HC	3			
	UST H28- MW08	8/22/06	1055	W	7		HC	2			
	UST H28- MW09	8/22/06	1155	W	7		HC	1			
	UST H28- MW11	8/22/06	1120	W	7		HC	1			
	UST H28- Duplicate	8/22/06	-	W	7		HC	1			
	UST TRIP BLANKS	LAB	LAB	W	2		HC	1			

5 Collected/Relinquished By: (1) [Signature] Date 8/22/06 Time 1530
Relinquished By: (2) [Signature] Date 8/23/06 Time 9:45
Relinquished By: (3) _____ Date _____ Time _____
Relinquished By: (4) _____ Date _____ Time _____

4 Shipping Carrier: FEDEX Samples Received Cold? (Circle) YES NO
8567 9712 9299
Shipping Ticket No: 9303 Temperature (C): 4.8
Special Deliverable Requirements: Standard EDD Format Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Requested Turnaround Time and Special Instructions: Standard Turnaround
Email results in "EDD Format" to
thall@sovercon.com + cmurray@sovercon.com



Mr. Chris Murray
Sovereign Consulting
405 Oakmeads Crescent
Suite 1
Virginia Beach VA 23462
Report Number: G650-83
Client Project: NV015

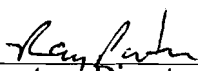
Dear Mr. Murray:

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

9/21/2006

Date



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW06
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
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	90
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: g650-83-1a

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

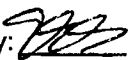
Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW08
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
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	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: g650-83-2a

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW09
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
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	92
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: g650-83-3a

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

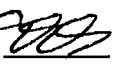
Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW-11
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	910 (µg/L)
C ₉ -C ₁₀ Aromatics**	540 (µg/L)
Surrogate % Recovery - PID	98
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: g650-83-4a

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

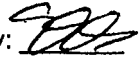
Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-Duplicate
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
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	93
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: g650-83-5a

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

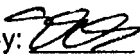
Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	Trip Blank
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/18/06
Date Received	09/20/06
Date Extracted	09/20/06
Date Analyzed	09/20/06
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	93
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: g650-83-6a

Reviewed By: 

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/01/06

PID Initial Calibration Date: 09/01/06

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

Calibration Check Date: 09/20/06

Calibration Check

Range	Levels (mg/Kg)	(µg/L)	RPD
C ₅ -C ₈ Aliphatics	2000	200	10.2
C ₉ -C ₁₂ Aliphatics	500	50	-5.3
C ₉ -C ₁₀ Aromatics	500	50	-0.4

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



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.



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1 CLIENT: <u>SOVEREIGN CONSULTING</u>					SGS Reference: <u>G650-877</u>					PAGE <u>1</u> OF <u>1</u>				
CONTACT: <u>TERESA ELLERMAN</u> PHONE NO: <u>(910) 526-9941</u>					CONTAINERS No SAMPLE TYPE Preservatives Used Analysis Required C= COMP G= GRAB <u>(3)</u> <u>MADEP VPH</u>									
PROJECT: <u>NVOIS</u> SITE/PWSID#: <u>H28</u>														
REPORTS TO: <u>Chris Murray</u> E-MAIL: <u>cmurray@sovercon.com</u>														
INVOICE TO: <u>C. Murray</u> QUOTE # <u>40500K Means Crescent St</u>														
2 <u>VIRGINIA BEACH VA 23462</u> FAX NO: <u>(757) 456-5045</u> PC NUMBER														
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX										REMARKS
	USTH28-MN06	9/18/06	1135	W	2									
	UST H28-MW08	9/18/06	1205	W	2									
	UST H28-MW09	9/18/06	1335	W	2									
	USTH28-MW11	9/18/06	1310	W	2									
	USTH28-DUPPLICATE	9/18/06	—	W	2									
	TRIP BLANK	LAB	LAB	W	1									
5 Collected/Relinquished By: (1) <u>1530</u> Date <u>9/19/06</u> Time <u>1000</u> Received By: <u>John Allen</u>					4 Shipping Carrier: <u>FEDEX</u> Samples Received Cold? (Circle) YES NO <u>8557 9300</u> Shipping Ticket No: <u>1207</u> Temperature (C): <u>31°C</u>									
Relinquished By: (2)					Special Deliverable Requirements: <u>EOD FORMAT</u>					Chain of Custody Seal: (Circle) INTACT BROKEN <u>ABSENT</u>				
Relinquished By: (3)					Requested Turnaround Time and Special Instructions: <u>4 HOUR TA (FREE SERVICE)</u>									
Relinquished By: (4)					Email RESULTS in EOD Format to: <u>nhall@sovercon.com + cmurray@sovercon.com</u>									



Mr. Chris Murray
Sovereign Consulting
405 Oakmeads Crescent
Suite 1
Virginia Beach VA 23462
Report Number: G650-100
Client Project: NV015

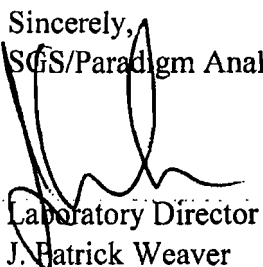
Dear Mr. Murray:

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

1/30/2007
Date



Results for Volatiles
by GC 602

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-100-1A
Lab Project ID: G650-100

Analyzed By: RSB
Date Collected: 1/17/2007 11:15
Date Received: 1/18/2007
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/22/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/22/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/22/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/22/2007	
Toluene	0.802	1.00	0.159	1	1/22/2007	J
m/p-Xylene	BQL	2.00	0.326	1	1/22/2007	
o-Xylene	BQL	2.00	0.285	1	1/22/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.1	100

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles

by GC 602

Client Sample ID: USTH28-MW08

Analyzed By: RSB

Client Project ID: NV015

Date Collected: 1/17/2007 10:25

Lab Sample ID: G650-100-2A

Date Received: 1/18/2007

Lab Project ID: G650-100

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/22/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/22/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/22/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/22/2007	
Toluene	0.783	1.00	0.159	1	1/22/2007	J
m/p-Xylene	BQL	2.00	0.326	1	1/22/2007	
o-Xylene	BQL	2.00	0.285	1	1/22/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.3	101

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.



Results for Volatiles
by GC 602

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-100-3A
Lab Project ID: G650-100

Analyzed By: RSB
Date Collected: 1/17/2007 10:57
Date Received: 1/18/2007
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/22/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/22/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/22/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/22/2007	
Toluene	0.447	1.00	0.159	1	1/22/2007	J
m/p-Xylene	BQL	2.00	0.326	1	1/22/2007	
o-Xylene	BQL	2.00	0.285	1	1/22/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.2	100

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles

by GC 602

Client Sample ID: USTH28-MW11

Client Project ID: NV015

Lab Sample ID: G650-100-4A

Lab Project ID: G650-100

Analyzed By: RSB

Date Collected: 1/17/2007 9:00

Date Received: 1/18/2007

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/22/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/22/2007	
Ethylbenzene	33.0	1.00	0.172	1	1/22/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/22/2007	
Toluene	2.62	1.00	0.159	1	1/22/2007	
m/p-Xylene	92.4	2.00	0.326	1	1/22/2007	
o-Xylene	66.2	2.00	0.285	1	1/22/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	41.1	103

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: RSB

GC-VOA-WA



Results for Volatiles

by GC 602

Client Sample ID: USTH28-Duplicate

Analyzed By: RSB

Client Project ID: NV015

Date Collected: 1/17/2007 0:00

Lab Sample ID: G650-100-5A

Date Received: 1/18/2007

Lab Project ID: G650-100

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/23/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/23/2007	
Ethylbenzene	34.0	1.00	0.172	1	1/23/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/23/2007	
Toluene	2.73	1.00	0.159	1	1/23/2007	
m/p-Xylene	95.4	2.00	0.326	1	1/23/2007	
o-Xylene	68.0	2.00	0.285	1	1/23/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	41.6	104

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: me

GC-VOA_WA



Results for Volatiles
by GC 602

Client Sample ID: Trip Blanks
Client Project ID: NV015
Lab Sample ID: G650-100-6A
Lab Project ID: G650-100

Analyzed By: RSB
Date Collected: 1/17/2007 0:00
Date Received: 1/18/2007
Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/23/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/23/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/23/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/23/2007	
Toluene	BQL	1.00	0.159	1	1/23/2007	
m/p-Xylene	BQL	2.00	0.326	1	1/23/2007	
o-Xylene	BQL	2.00	0.285	1	1/23/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.4	101

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles

by GC 602

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK1012307A
Lab Project ID:

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

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/23/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/23/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/23/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/23/2007	
Toluene	BQL	1.00	0.159	1	1/23/2007	
m/p-Xylene	BQL	2.00	0.326	1	1/23/2007	
o-Xylene	BQL	2.00	0.285	1	1/23/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.4	101

Comments:

All values corrected for dilution.
BQL = Below quantitation limit.



Results for Volatiles

by GC 602

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK1012207A
Lab Project ID:

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

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.198	1	1/22/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/22/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/22/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/22/2007	
Toluene	BQL	1.00	0.159	1	1/22/2007	
m/p-Xylene	BQL	2.00	0.326	1	1/22/2007	
o-Xylene	BQL	2.00	0.285	1	1/22/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.6	102

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: VBLK1012307A

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	0.198	1	1/23/2007	
Diisopropyl ether (DIPE)	BQL	1.00	0.157	1	1/23/2007	
Ethylbenzene	BQL	1.00	0.172	1	1/23/2007	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.405	1	1/23/2007	
Toluene	BQL	1.00	0.159	1	1/23/2007	
m/p-Xylene	BQL	2.00	0.326	1	1/23/2007	
o-Xylene	BQL	2.00	0.285	1	1/23/2007	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.6	101

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: lme

GC-VOA-WA



Summary Results for MS-MSD

Method: 602

File: 012207/017F::012207/017R

MS: 012207/019F::012207/019R

MSD: 012207/020F::012207/020R

Compound	SA	µg/L			REC(%)		REC Limits	
		Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	10.0	18.0	10.4	11.0	104	104	39	150
Chlorobenzene	10.0	ND	10.2	10.1	102	102	55	135
1,2-Dichlorobenzene	10.0	ND	20.9	20.8	209 +	209 +	37	154
1,3-Dichlorobenzene	10.0	ND	6.7	6.7	67	67	50	141
1,4-Dichlorobenzene	10.0	ND	20.5	20.3	205 +	205 +	42	143
• Diisopropyl ether	10.0	ND	11.3	11.1	113	113	30	170
Ethylbenzene	10.0	9.7	10.6	11.0	106	106	32	160
• MTBE	20.0	ND	20.3	19.9	102	102	35	165
Toluene	10.0	ND	10.6	10.4	106	106	46	148
• m,p-Xylene	20.0	ND	21.6	21.5	108	108	D	239
• o-Xylene	20.0	ND	20.9	20.7	104	104	36	164

Flags :

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



Summary Results for Laboratory Control Spike

Method: 602

Filename: 012207/004R

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	10.7	106.7	39	150
Chlorobenzene	10.0	10.4	104.0	55	135
1,2-Dichlorobenzene	20.0	21.3	106.5	37	154
1,3-Dichlorobenzene	10.0	10.6	106.2	50	141
1,4-Dichlorobenzene	20.0	21.3	106.3	42	143
• Diisopropyl ether	10.0	10.6	105.7	30	170
Ethylbenzene	10.0	10.7	106.9	32	160
• MTBE	20.0	20.8	104.0	35	165
Toluene	10.0	10.6	105.7	46	148
• m,p-Xylene	20.0	21.3	106.4	0	239
• o-Xylene	20.0	21.1	105.7	36	164

Flags :

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



Summary Results for Laboratory Control Spike

Method: 602

Filename : 012207/005r

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	11.9	119.0	39	150
Chlorobenzene	10.0	11.8	117.6	55	135
1,2-Dichlorobenzene	20.0	23.7	118.4	37	154
1,3-Dichlorobenzene	10.0	11.8	118.5	50	141
1,4-Dichlorobenzene	20.0	23.6	118.2	42	143
• Diisopropyl ether	10.0	11.9	118.7	30	170
Ethylbenzene	10.0	12.1	121.0	32	160
• MTBE	20.0	23.4	116.8	35	165
Toluene	10.0	11.9	118.9	46	148
• m,p-Xylene	20.0	23.9	119.6	0	239
• o-Xylene	20.0	23.9	119.3	36	164

Flags :

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



Summary Results for MS-MSD

tho 602

012307/016F::012307/016R

MS : 012307/018F::012307/018R

MSD : 012307/019F::012307/019R

Compound	SA	µg/L			REC(%)		REC Limits	
		Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	10.0	28.4	11.3	11.1	113	113	39	150
Chlorobenzene	10.0	ND	11.2	10.1	112	112	55	135
1,2-Dichlorobenzene	10.0	1.2	22.6	20.3	226 +	226 +	37	154
1,3-Dichlorobenzene	10.0	ND	11.3	10.2	113	113	50	141
1,4-Dichlorobenzene	10.0	3.2	18.5	16.3	185 +	185 +	42	143
• Diisopropyl ether	10.0	1.1	12.4	11.3	124	124	30	170
Ethylbenzene	10.0	15.1	11.4	10.6	114	114	32	160
• MTBE	20.0	ND	22.8	20.8	114	114	35	165
Toluene	10.0	3.4	11.5	10.5	115	115	46	148
• m,p-Xylene	20.0	12.2	23.2	20.9	116	116	D	239
• o-Xylene	20.0	ND	23.8	21.1	119	119	36	164

Flags :

+ = out of QC limits.

♦ = lab generated limits.

D = Detected

ND = None Detected

SA= Spike Added



Summary Results for Laboratory Control Spike

Method: 602

Filename : 012307/004R

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	10.4	103.8	39	150
Chlorobenzene	10.0	10.3	102.6	55	135
1,2-Dichlorobenzene	20.0	21.3	106.4	37	154
1,3-Dichlorobenzene	10.0	10.6	105.6	50	141
1,4-Dichlorobenzene	20.0	21.3	106.4	42	143
• Diisopropyl ether	10.0	10.2	102.4	30	170
Ethylbenzene	10.0	10.6	105.7	32	160
• MTBE	20.0	20.3	101.4	35	165
Toluene	10.0	10.4	103.6	46	148
• m,p-Xylene	20.0	21.0	104.8	0	239
• o-Xylene	20.0	21.0	104.9	36	164

Flags :

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



Summary Results for Laboratory Control Spike

Method: 602

Filename : 012307/005R

Compound	SA	Result	Rec	LCS Limits	
	ug/L	ug/L	(%)	Lower	Upper
Benzene	10.0	10.6	106.4	39	150
Chlorobenzene	10.0	10.5	104.8	55	135
1,2-Dichlorobenzene	20.0	21.6	108.2	37	154
1,3-Dichlorobenzene	10.0	10.7	106.7	50	141
1,4-Dichlorobenzene	20.0	21.4	106.9	42	143
• Diisopropyl ether	10.0	10.5	105.5	30	170
Ethylbenzene	10.0	10.8	107.9	32	160
• MTBE	20.0	20.8	104.2	35	165
Toluene	10.0	10.6	105.8	46	148
• m,p-Xylene	20.0	21.4	107.2	0	239
• o-Xylene	20.0	21.3	106.4	36	164

Flags :

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



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW06
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/19/07
Date Analyzed	01/19/07
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	98
Surrogate % Recovery - FID	96

* = 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: g650-100-1d

Reviewed By: Rue



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW08
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/19/07
Date Analyzed	01/19/07
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	93
Surrogate % Recovery - FID	92

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

** = Excludes any surrogates or internal standards.

Lab Info: g650-100-2d

Reviewed By: RM



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW09
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/19/07
Date Analyzed	01/19/07
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	93
Surrogate % Recovery - FID	91

* = 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: g650-100-3d

Reviewed By: RM



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW11
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/19/07
Date Analyzed	01/19/07
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	1200 (µg/L)
C ₉ -C ₁₀ Aromatics**	630 (µg/L)
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: g650-100-4d

Reviewed By: lme



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-Duplicate
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/22/07
Date Analyzed	01/22/07
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	1200 (µg/L)
C ₉ -C ₁₀ Aromatics**	630 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

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

** = Excludes any surrogates or internal standards.

Lab Info: g650-100-5e

Reviewed By: im



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date:

01/03/07

PID Initial Calibration Date:

01/03/07

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	9.7	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	15.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	23.10	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date:

01/19/07

Calibration Check

Range	Levels (mg/Kg) (µg/L)		RPD
C ₅ -C ₈ Aliphatics	2000	200	1.3
C ₉ -C ₁₂ Aliphatics	500	50	-5.4
C ₉ -C ₁₀ Aromatics	500	50	0.1

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date:

01/03/07

PID Initial Calibration Date:

01/03/07

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	9.7	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	15.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	23.10	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date:

01/22/07

Calibration Check

Range	Levels (mg/Kg) (µg/L)		RPD
C ₅ -C ₈ Aliphatics	2000	200	-3.0
C ₉ -C ₁₂ Aliphatics	500	50	-12.0
C ₉ -C ₁₀ Aromatics	500	50	-4.8

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW06
Sample Matrix	Water
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/24/07
Date Analyzed	01/25/07
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	81
Aromatic Surrogate % Recovery	73

Comments:

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

Lab info: G650-100-11

Reviewed By: me



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW08
Sample Matrix	Water
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/24/07
Date Analyzed	01/29/07
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*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	65
Aromatic Surrogate % Recovery	60
Fractionation Surrogate 1 % Recovery	65

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-100-2I

Reviewed By: lme



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW09
Sample Matrix	Water
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/24/07
Date Analyzed	01/25/07
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	79
Aromatic Surrogate % Recovery	74

Comments:

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

Lab info: G650-100-3I

Reviewed By: lur



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-MW11
Sample Matrix	Water
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/24/07
Date Analyzed	01/29/07
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*	570 (ug/L)
Aliphatic Surrogate % Recovery	75
Aromatic Surrogate % Recovery	72
Fractionation Surrogate 1 % Recovery	70

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-100-41

Reviewed By: ime



EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign Consulting

Project Name: NV015

Sample Information and Analytical Results	
Sample Identification	USTH28-Duplicate
Sample Matrix	Water
Date Collected	01/17/07
Date Received	01/18/07
Date Extracted	01/24/07
Date Analyzed	01/29/07
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	600 (ug/L)
Aliphatic Surrogate % Recovery	65
Aromatic Surrogate % Recovery	68
Fractionation Surrogate 1 % Recovery	72

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-100-5K

Reviewed By: luc



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 12/14/06

Calibration Ranges and Limits

Range	MDL (2/2004) ($\mu\text{g/L}$)	ML ($\mu\text{g/L}$)	RL ($\mu\text{g/L}$)	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 ($\mu\text{g/mL}$)	%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: 01/25/07

Calibration Check

Range	Levels ($\mu\text{g/mL}$)	RPD
C ₉ -C ₁₈ Aliphatics	120	3.4
C ₁₉ -C ₃₆ Aliphatics	160	1.4
C ₁₁ -C ₂₂ Aromatics	340	-11.5

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



Attachment 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) (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: 01/29/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-0.1
C ₁₉ -C ₃₆ Aliphatics	160	0.6
C ₁₁ -C ₂₂ Aromatics	340	-6.0

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

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



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-100-1H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 11:15
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2007	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2007	
Anthracene	BQL	10.0	1.75	1	1/25/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2007	
Chrysene	BQL	10.0	1.11	1	1/25/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2007	
Fluoranthene	BQL	10.0	1.41	1	1/25/2007	
Fluorene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2007	
Isophorone	BQL	10.0	1.27	1	1/25/2007	
Naphthalene	BQL	10.0	1.08	1	1/25/2007	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-100-1H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 11:15
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2007	
Phenanthrene	BQL	10.0	1.38	1	1/25/2007	
Phenol	BQL	10.0	3.38	1	1/25/2007	
Pyrene	BQL	10.0	2.08	1	1/25/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
2-Fluorophenol	10	7.6	76
Nitrobenzene-d5	10	8	80
Phenol-d6	10	7.9	79
2,4,6-Tribromophenol	10	6.8	68
4-Terphenyl-d14	10	11.9	119

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 of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW06
Client Project ID: NV015
Lab Sample ID: G650-100-1H
Lab Project ID: G650-100
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 1/17/2007 11:15
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Date Analyzed: 1/25/2007
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Cyclohexane, 1,2-dichloro-, trans-	6.95	000822-86-6	90	6.26
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

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

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

Reviewed by: me



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-100-2H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 10:25
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2007	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2007	
Anthracene	BQL	10.0	1.75	1	1/25/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2007	
Chrysene	BQL	10.0	1.11	1	1/25/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2007	
Fluoranthene	BQL	10.0	1.41	1	1/25/2007	
Fluorene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2007	
Isophorone	BQL	10.0	1.27	1	1/25/2007	
Naphthalene	BQL	10.0	1.08	1	1/25/2007	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-100-2H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 10:25
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2007	
Phenanthrene	BQL	10.0	1.38	1	1/25/2007	
Phenol	BQL	10.0	3.38	1	1/25/2007	
Pyrene	BQL	10.0	2.08	1	1/25/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	7.7	78		
2-Fluorophenol		10	8.2	82		
Nitrobenzene-d5		10	8.1	81		
Phenol-d6		10	8.2	82		
2,4,6-Tribromophenol		10	7.7	77		
4-Terphenyl-d14		10	12	120		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: me



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW08
Client Project ID: NV015
Lab Sample ID: G650-100-2H
Lab Project ID: G650-100
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 1/17/2007 10:25
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Date Analyzed: 1/25/2007
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Amine, Unknown	8.75			5.99
2	Unknown	11.52			5.31
3	Cyclohexane, 1,2-dichloro-, trans-	6.95	000822-86-6	90	4.89
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: hmc



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-100-3H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 10:57
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2007	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2007	
Anthracene	BQL	10.0	1.75	1	1/25/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2007	
Chrysene	BQL	10.0	1.11	1	1/25/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2007	
Fluoranthene	BQL	10.0	1.41	1	1/25/2007	
Fluorene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2007	
Isophorone	BQL	10.0	1.27	1	1/25/2007	
Naphthalene	BQL	10.0	1.08	1	1/25/2007	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-100-3H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 10:57
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2007	
Phenanthrene	BQL	10.0	1.38	1	1/25/2007	
Phenol	BQL	10.0	3.38	1	1/25/2007	
Pyrene	BQL	10.0	2.08	1	1/25/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
2-Fluorophenol	10	6.9	69
Nitrobenzene-d5	10	7.3	73
Phenol-d6	10	7.4	74
2,4,6-Tribromophenol	10	6.3	63
4-Terphenyl-d14	10	12	120

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: Sm



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW09
Client Project ID: NV015
Lab Sample ID: G650-100-3H
Lab Project ID: G650-100
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 1/17/2007 10:57
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Date Analyzed: 1/25/2007
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Unknown	5.46			11.8
2	Unknown	6.95			6.13
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: ime



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-100-4H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 9:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	5.30	10.0	1.22	1	1/25/2007	J
Acenaphthylene	BQL	10.0	1.12	1	1/25/2007	
Anthracene	BQL	10.0	1.75	1	1/25/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2007	
Chrysene	BQL	10.0	1.11	1	1/25/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2007	
Fluoranthene	BQL	10.0	1.41	1	1/25/2007	
Fluorene	5.90	10.0	1.22	1	1/25/2007	J
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2007	
Isophorone	BQL	10.0	1.27	1	1/25/2007	
Naphthalene	107	10.0	1.08	1	1/25/2007	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-100-4H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 9:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2007	
Phenanthrene	5.20	10.0	1.38	1	1/25/2007	J
Phenol	BQL	10.0	3.38	1	1/25/2007	
Pyrene	BQL	10.0	2.08	1	1/25/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
2-Fluorophenol	10	7.6	76
Nitrobenzene-d5	10	7.8	78
Phenol-d6	10	7.8	78
2,4,6-Tribromophenol	10	8.5	85
4-Terphenyl-d14	10	10.6	106

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 of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-MW11
Client Project ID: NV015
Lab Sample ID: G650-100-4H
Lab Project ID: G650-100
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 1/17/2007 9:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Date Analyzed: 1/25/2007
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Benzene, 1,3,5-trimethyl-	6.04	000108-67-8	95	83.9
2	Benzene, 1,3,5-trimethyl-	6.37	000108-67-8	97	67.4
3	Naphthalene, 2,7-dimethyl-	10.42	000582-16-1	96	64
4	Indan, 1-methyl-	7.79	000767-58-8	91	56.9
5	Naphthalene, 1,6-dimethyl-	10.31	000575-43-9	93	50.6
6	Aromatic, Unknown	6.53			34.9
7	Naphthalene, 1,2,3,4-tetrahydro-	7.94	000119-64-2	91	34.1
8	Benzene, 2-ethyl-1,4-dimethyl-	6.77	001758-88-9	93	29.7
9	Benzene, 1,2,3-trimethyl-	5.74	000526-73-8	97	28.7
10	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	9.23	001680-51-9	96	23.9

Comment:

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

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

Reviewed by: me



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-100-5H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 0:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	5.30	10.0	1.22	1	1/24/2007	J
Acenaphthylene	BQL	10.0	1.12	1	1/24/2007	
Anthracene	BQL	10.0	1.75	1	1/24/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/24/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/24/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/24/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/24/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/24/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/24/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/24/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/24/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/24/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/24/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/24/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/24/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/24/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/24/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/24/2007	
Chrysene	BQL	10.0	1.11	1	1/24/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/24/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/24/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/24/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/24/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/24/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/24/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/24/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/24/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/24/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/24/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/24/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/24/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/24/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/24/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/24/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/24/2007	
Fluoranthene	BQL	10.0	1.41	1	1/24/2007	
Fluorene	5.60	10.0	1.22	1	1/24/2007	J
Hexachlorobenzene	BQL	10.0	1.22	1	1/24/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/24/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/24/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/24/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/24/2007	
Isophorone	BQL	10.0	1.27	1	1/24/2007	
Naphthalene	105	10.0	1.08	1	1/24/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-100-5H
Lab Project ID: G650-100

Analyzed By: EAW
Date Collected: 1/17/2007 0:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Matrix: Water

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Nitrobenzene	BQL	10.0	1.32	1	1/24/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/24/2007	
4-Nitrophenol	BQL	50.0	3.17	1	1/24/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/24/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/24/2007	
Phenanthrene	5.00	10.0	1.38	1	1/24/2007	J
Phenol	BQL	10.0	3.38	1	1/24/2007	
Pyrene	BQL	10.0	2.08	1	1/24/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/24/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/24/2007	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
2-Fluorophenol	10	7.9	79
Nitrobenzene-d5	10	7.9	79
Phenol-d6	10	8.2	82
2,4,6-Tribromophenol	10	9	90
4-Terphenyl-d14	10	8.9	89

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: fwl



Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: USTH28-Duplicate
Client Project ID: NV015
Lab Sample ID: G650-100-5H
Lab Project ID: G650-100
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: EAW
Date Collected: 1/17/2007 0:00
Date Received: 1/18/2007
Date Extracted: 1/23/2007
Date Analyzed: 1/24/2005
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Naphthalene, 2,6-dimethyl-	10.42	000581-42-0	93	90.1
2	Benzene, 1,2,3-trimethyl-	6.05	000526-73-8	95	82
3	1,2,4-Trimethylbenzene	6.37	000095-36-3	97	66.4
4	2,3-Dihydro-1-methylindene	7.80	027133-93-3	95	51.5
5	Aromatic, Unknown	10.31			43.2
6	Aromatic, Unknown	6.53			34.1
7	Naphthalene, 1,2,3,4-tetrahydro-	7.94	000119-64-2	91	31.1
8	Benzene, 2-ethyl-1,4-dimethyl-	6.77	001758-88-9	90	30.7
9	Benzene, 1,3,5-trimethyl-	5.75	000108-67-8	95	29.2
10	Naphthalene, 2,7-dimethyl-	10.45	000582-16-1	94	27.8

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: sm



Results for Semivolatiles
by GCMS 625

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7152
Lab Project ID:

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 1/23/2007
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2007	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2007	
Anthracene	BQL	10.0	1.75	1	1/25/2007	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2007	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2007	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2007	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2007	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2007	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2007	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2007	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2007	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2007	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2007	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2007	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2007	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2007	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2007	
Chrysene	BQL	10.0	1.11	1	1/25/2007	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2007	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2007	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2007	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2007	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2007	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2007	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2007	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2007	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2007	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2007	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2007	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2007	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2007	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2007	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2007	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2007	
Fluoranthene	BQL	10.0	1.41	1	1/25/2007	
Fluorene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2007	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2007	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2007	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2007	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2007	
Isophorone	BQL	10.0	1.27	1	1/25/2007	
Naphthalene	BQL	10.0	1.08	1	1/25/2007	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2007	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2007	



Results for Semivolatiles
by GCMS 625

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB7152
Lab Project ID:

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 1/23/2007
Matrix: WATER

Compound	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2007	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2007	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2007	
Phenanthrene	BQL	10.0	1.38	1	1/25/2007	
Phenol	BQL	10.0	3.38	1	1/25/2007	
Pyrene	BQL	10.0	2.08	1	1/25/2007	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2007	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2007	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	7.3	74		
2-Fluorophenol		10	7.6	76		
Nitrobenzene-d5		10	7.7	77		
Phenol-d6		10	8.1	81		
2,4,6-Tribromophenol		10	7.4	74		
4-Terphenyl-d14		10	10.1	101		

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: luc



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-7152-MS/MSD/LCS

Lab Project ID: G650-100-5

Matrix: WATER

Prep Method: 3520

Date Collected:

Date Received:

Date Extracted: 01/23/07

Date Analyzed: 01/24/07

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	% Rec.
Acenaphthylene	BQL	222	206	92.6	222	192	86.6	6.70	30	62.0-119
4-Chloro-3-methylphenol	BQL	222	187	84.3	222	179	80.6	4.49	30	67.0-109
2-Chlorophenol	BQL	222	180	81.1	222	176	79.1	2.50	30	59.0-95.0
1,4-Dichlorobenzene	BQL	222	122	54.9	222	123	55.3	0.726	30	29.0-86.0
2,4-Dinitrotoluene	BQL	222	197	88.8	222	190	85.3	4.02	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	222	205	92.2	222	200	89.9	2.53	30	67.0-107
4-Nitrophenol	BQL	222	185	83.3	222	179	80.4	3.54	30	49.0-146
Pentachlorophenol	BQL	222	197	88.6	222	194	87.5	1.25	30	43.0-106
Phenol	BQL	222	175	78.7	222	168	75.8	3.75	30	61.0-100
Pyrene	BQL	222	206	92.9	222	201	90.6	2.51	30	41.0-123
1,2,4-Trichlorobenzene	BQL	222	163	73.2	222	160	72.2	1.38	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits
				% Rec.
Acenaphthylene	100	90.7	90.7	72.9-127
4-Chloro-3-methylphenol	100	80.9	80.9	61.6-113
2-Chlorophenol	100	77.2	77.2	52.3-104
1,4-Dichlorobenzene	100	50.2	50.2	27.3-85.0
2,4-Dinitrotoluene	100	86.9	86.9	66.5-117
N-Nitrosodi-n-propylamine	100	92.3	92.3	54.4-119
4-Nitrophenol	100	69.3	69.3	32.4-150
Pentachlorophenol	100	70.5	70.5	23.9-115
Phenol	100	72.5	72.5	54.5-106
Pyrene	100	97.6	97.6	63.5-126
1,2,4-Trichlorobenzene	100	69.8	69.8	49.1-98.5

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: fm



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.



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1 CLIENT: SOVEREIGN CONSULTING INC
CONTACT: Theresa Elliott PHONE NO: 910 526-3941
PROJECT: NVOIS SITE/PWSID#: H28
REPORTS TO: Chris Murray E-MAIL: cmurray@sovercon.com
INVOICE TO: Chris Murray QUOTE #
405 Oak NICHES Crescent St
Virginia Beach VA 23462 P.O. NUMBER

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	C= COMP	G= GRAB	REMARKS
	UST H28-MW06	1/17/07	1115	W	7		HCl HCl HCl HCl				
	UST H28-MW08	1/17/07	1025	W	7						
	UST H28-MW09	1/17/07	1057	W	7						
	UST H28-MW11	1/17/07	0900	W	7						
	UST H28-Duplicate	1/17/07	—	W	7						
	TRIP BLANKS	1/17/07	LAB	W	2						

3

4

5

Collected/Relinquished By: (1) [Signature] Date: 1/17/07 Time: 1530 Received By: Shipping Carrier: FEDEX 8600 1563 5126 Shipping Ticket No: 5137 Samples Received Cold? (Circle) YES NO Temperature (C): 18

Relinquished By: (2) [Signature] Date: 1/18/07 Time: 1000 Received By: Amy DeLaney Special Deliverable Requirements: EDD FORMAT Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Relinquished By: (3) Date: Time: Received By: Requested Turnaround Time and Special Instructions: Standard Turnaround Email results "EDD Format" to: nhall@sovercon.com + cmurray@sovercon.com

Relinquished By: (4) Date: Time: Received By:

APPENDIX C

FIELD DATA

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

SITE: H28
Date: 1/17/20
Gauged By: TE

[illegible]

[illegible]

* Duplicate sample on MW11

Date: 04 April 2007

MCB Camp LeJeune and New River MCAS

Gauged By: SF

[illegible]

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

SITE: H28
Date: 8/22/2006
Gauged By: TE

[illegible]

Project Number: NV015

Project Name: H28

Date: 8/22/2006

Weather: Upper 80's

Well ID: MW06
Sample ID: USTH28- MW06
Well Condition: good

Protective Casing Diameter (inch):	<u>N/A</u>
Inner Casing Diameter (inch):	<u>2" (0.163)</u>
Depth to Product from TOC (feet):	<u>N/A</u>
Initial Depth to Water from TOC (feet):	<u>9.40</u>
Product Thickness (feet):	<u>N/A</u>
Total Depth from TOC (feet):	<u>16.16</u>

Water Column (feet):	6.76
Casing Volume (gal):	1.10
Purge/Sample Method:	Low Flow Method
Start Purge Date/Time:	0948
Total Volume Purged (gal):	~~110~~ 3
Sample Time/Date	1015
Sampler Name:	TE

[illegible]

Note: Duplicate sample on MW06.

[illegible]

Project Number:	NV015
Project Name:	H28
Date:	8/22/2006
Weather:	Upper 80's

Well ID: MW11

Sample ID: USTH2B- MW11

Well Condition: good

Protective Casing Diameter (inch):	N/A
Inner Casing Diameter (inch):	2" (0.163)
Depth to Product from TOC (feet):	N/A
Initial Depth to Water from TOC (feet):	9.55
Product Thickness (feet):	N/A
Total Depth from TOC (feet):	13.54

Water Column (feet):	4.81
Casing Volume (gal):	0.653
Purge/Sample Method:	Low Flow Method
Start Purge Date/Time:	1058
Total Volume Purged (gal):	2
Sample Time/Date	1120
Sampler Name:	TE

[illegible]

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

SITE: H28
Date: 11/2/06
Gauged By: TE

[illegible]