



June 19, 2006

Commanding Officer
I&E/EMD/EQB (Attn.: Mr. Andrew Smith)
PSC Box 20004
Marine Corps Base
Camp Lejeune, North Carolina 28542-0004

**Re: FINAL – Annual Monitoring Report, S-2633
NCDENR Incident #20385
Gauging and Groundwater Sampling Event, October 2005 – April 2006
Marine Corps Base, Camp Lejeune, North Carolina**

Dear Mr. Smith:

Sovereign Consulting Inc. (Sovereign) is pleased to submit this monitoring report for gauging and sampling work performed at S-2633. Sovereign was authorized to perform this work by Naval Facilities Engineering Command Mid-Atlantic under Navy Contract N62470-04-D-0205, Task Order No. 0008. Gauging and sampling activities at the project site show groundwater contamination persists. This report presents the data collected during Sovereign's field activities from October 2005 through April 2006.

Background

The subject site, NCDENR Incident #20385, was identified as a result of tank removal actions in 1996. The former 150 gallon gasoline tank was removed by Rubeck Engineering and Construction, Inc. on January 24, 1996. The tank was described to be in poor condition, and field personnel noted product in the groundwater filled excavation. Groundwater analytical tests indicated the presence of ethylbenzene, toluene, xylenes, naphthalene, and lead above applicable groundwater standards. Approximately 2.21 tons of impacted soil was removed from the tank basin. One soil sample was taken in the tank basin and one was taken from the stockpiled soils. Only the stockpiled soil sample exhibited total petroleum hydrocarbon contamination.

CATLIN Engineers and Scientists (CATLIN) subsequently performed a Comprehensive Site Assessment (CSA), dated May 29, 1998. Free product and groundwater contaminants were identified during the investigation. No soil contamination was identified in this investigation. The CSA recommended that MCB Camp Lejeune gauge well USTS2633-MW01 for free product. CATLIN did not specify the length of time for the well to be gauged.

The site has been gauged and monitored by various environmental contractors since the CSA. Engineering and Environment, Inc. (EEI) provided the most recent annual report, dated January 11, 2006, for the site. This report detailed gauging and sampling activities

from February through November 2005. No free product was detected. Groundwater contaminants were observed to be above the North Carolina groundwater quality standards (NCGWQSs), but below gross contaminant levels (GCLs).

Field Activities and Discussion

Sovereign gauged monitoring well USTS2633-MW01 three times and sampled the well once as a part of this tasking. Gauging events were conducted on October 27, 2005, January 19, 2006, and April 3, 2006, and sampling of the well was performed during the January event. Table 1 summarizes gauging data from the three events. Sovereign personnel gauged USTS2633-MW01 using an oil-water interface probe. No measurable free product was detected during any of the gauging events. Groundwater elevation contours could not be generated since only one well was monitored. Historical groundwater data, however, shows that the general groundwater flow is toward the west.

Field personnel sampled groundwater at the site on January 19, 2006. The sample was sent under chain of custody for analysis to SGS/Paradigm Analytical Laboratories Inc. (SGS) in Wilmington, North Carolina (NC Certification Number 481). The lab tested the groundwater sample for volatiles via EPA method 602, semivolatiles using EPA method 625, and volatile and extractable petroleum hydrocarbons with the MADEP methods. Laboratory reports and chain of custody documentation are attached.

Three VOCs were detected above NCGWQSs – benzene, toluene, and total xylenes. Concentrations, however, were below established GCLs. Bis(2-ethylhexyl)phthalate and naphthalene were also present in the groundwater above their 2L standards. One tentatively identified compound (TIC) was reported, 2-methylnaphthalene, with a 98% match probability. Its concentration was 14.6 µg/L, as compared to its groundwater quality standard of 14 µg/L. No VOCs or semiVOCs were present above their established GCLs.

MADEP constituents were also present in the groundwater sample. The C₅-C₈ aliphatics were reported at a concentration of 17,000 µg/L, as compared to the standard of 420 µg/L. C₉-C₁₈ aliphatics and C₉-C₂₂ aromatics concentrations were also present at concentrations of 7,190 µg/L and 2,530 µg/L, respectively. Each of these concentrations have shown a slight decrease since the EEI February 2005 groundwater sampling event. GCLS have not been established for these petroleum hydrocarbon fractions.

Summary and Conclusions

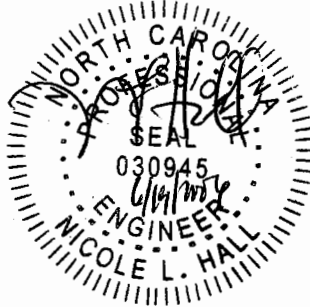
Sovereign did not detect free product at the site in USTS2633-MW01 during the 2005-2006 monitoring period. Including EEI data, there have been seven consecutive quarters without the presence of product. Groundwater contamination exists above NCGWQSs; however, it does not approach applicable GCLs. Sovereign recommends continuing gauging and sampling of well USTS2633-MW01 on a semi-annual and biennial basis, respectively. This recommendation is based upon site discussions during the February

2006 UST partnering meeting. The next groundwater monitoring report should be submitted June 2008. If you have further questions or need additional information, please feel free to contact us at your convenience.

Sincerely,
Sovereign Consulting Inc.



Nicole L. Hall, P.E.
Senior Engineer



Attachments: Figures 1-2, Tables 1-5, Laboratory Analytical Reports

Cc: Mr. David. T. Cleland, P.G. (NAVFAC)
Mr. Chris Murray (Sovereign)

Table 1
Summary of Groundwater Gauging for 2005-2006

Well ID	Depth to Water from TOC (feet)		
	10/27/2005	1/19/2006	4/3/2006
USTS2633-MW01	2.12	2.70	2.61

Table 2
Analytical Method: EPA Method 602

Contaminant of Concern →			Benzene	Diisopropyl ether (DIPE)	Ethylbenzene	Methyl-tert butyl ether (MTBE)	Toluene	Total Xylenes
Well ID	Sample ID	Date Collected						
USTS2633-MW01	USTS2633-MW01	1/19/2006	2,850	BQL	374	BQL	2,380	3,560
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

Table 3
Analytical Method: EPA Method 625

Contaminant of Concern →			Bis(2-ethylhexyl)phthalate	2,4-Dimethylphenol	Naphthalene	Phenol	All Other Compounds
Well ID	Sample ID	Date Collected					
USTS2633-MW01	USTS2633-MW01	1/19/2006	2.70	32.2	117	64.2	BQL
2L Standard (µg/l)			2.5	140	21	300	Varies
GCL (µg/l)			2,500	140,000	15,500	300,000	Varies

- One TIC identified with 98% match probability: 2-methylnaphthalene at 14.6 µg/l.
- All results reported in µg/l
- µg/L = micrograms per liter
- GCL = Gross Contaminant Level
- NE = Not Established
- BOLD and SHADED = concentration above 2L standard

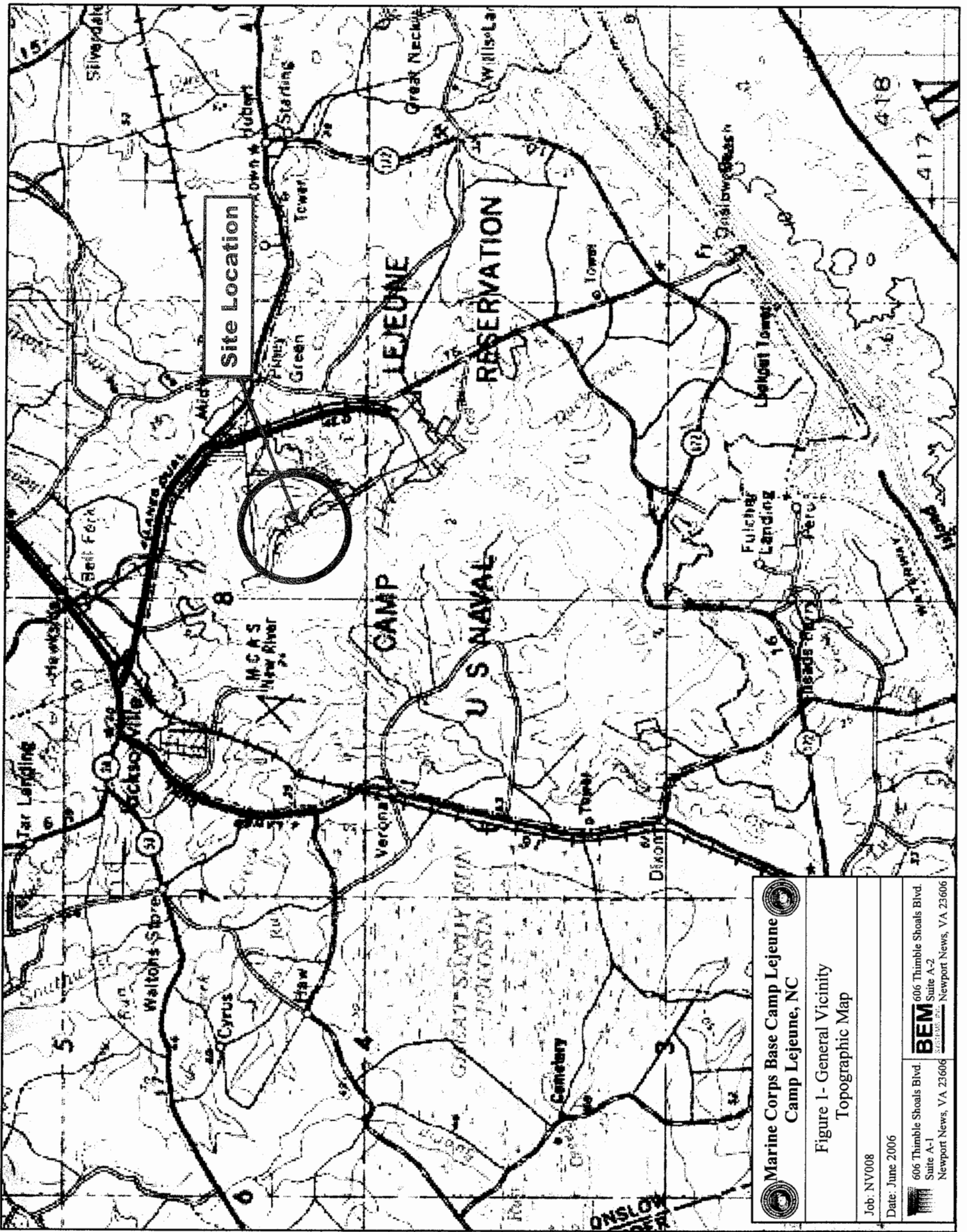
Table 4
Analytical Method: MADEP Method VPH/EPH

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
Well ID	Sample ID	Date Collected						
USTS2633-MW01	USTS2633-MW01	1/19/2006	17,000	6,700	2,400	490	<100	130

Table 5
Analytical Method: MADEP Method VPH/EPH as compared to NCDENR 2L Interim GWQS

Contaminant of Concern →			C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
Well ID	Sample ID	Date Collected				
USTS2633-MW01	USTS2633-MW01	1/19/2006	17,000	7,190	<100	2,530
2L Interim Standard (µg/l)			420	4,200	42,000	210
GCL (µg/l)			NE	NE	NE	NE

- All results reported in µg/l
- µg/L = micrograms per liter
- GCL = Gross Contaminant Level
- NE = Not Established
- BOLD and SHADED = concentration above 2L standard





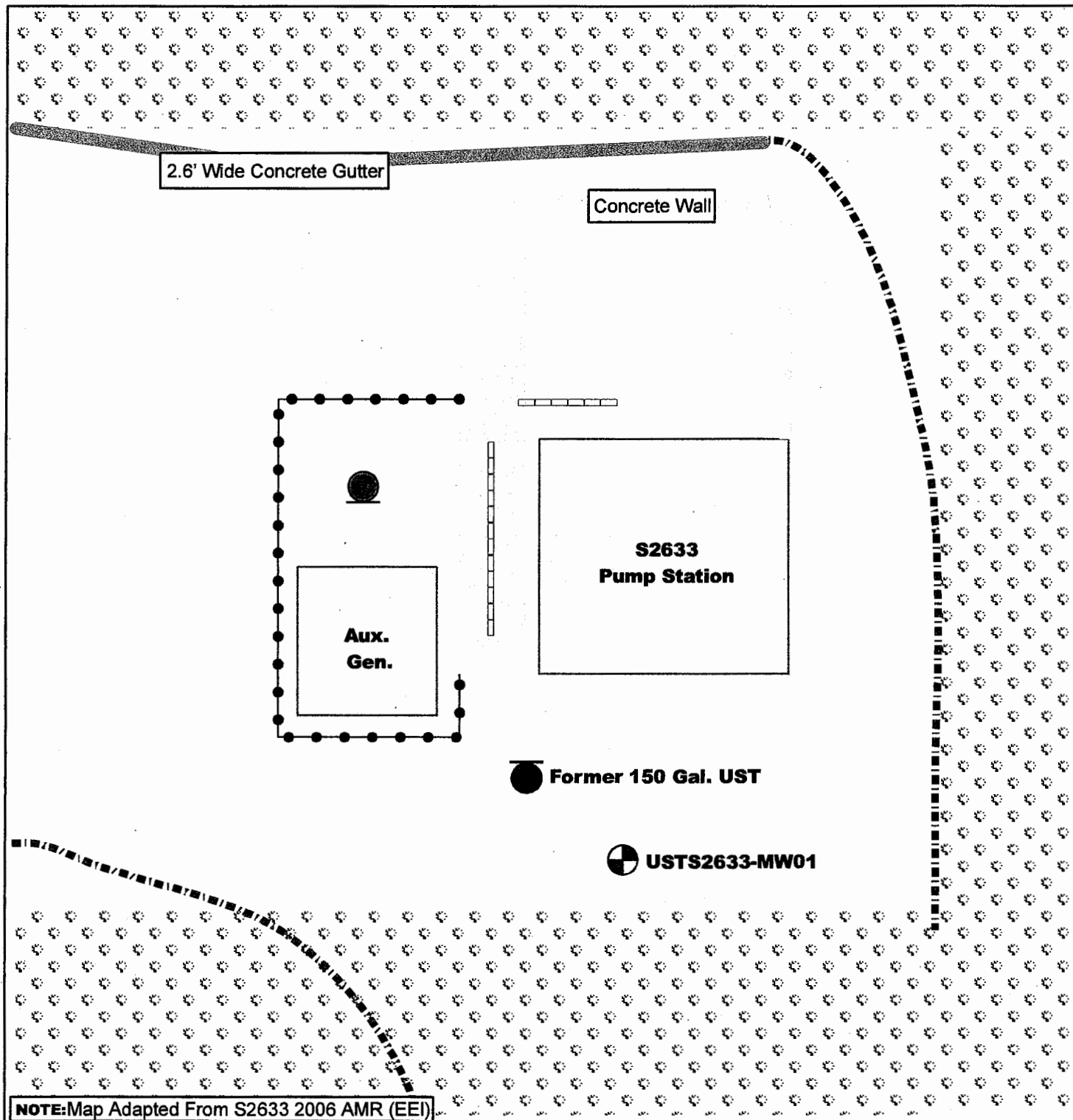

Marine Corps Base Camp Lejeune
 Camp Lejeune, NC

Figure 1 - General Vicinity Topographic Map









Job: NV008
 Date: June 2006


BEM
 606 Thimble Shoals Blvd.
 Suite A-1
 Newport News, VA 23606



NOTE: Map Adapted From S2633 2006 AMR (EEI)

Legend

-  UST
-  AST
-  Monitoring Wells
-  Existing Structures
-  Dense Woods
-  Drainage Ditch
-  Chain Link Fence
-  Stairs



1 inch = approximately 10 feet



Marine Corps Base Camp Lejeune
Camp Lejeune, NC



Figure 2: Site Map With Monitoring Well Location

Project No. NV008

Date: June 2006



606 Thimble Shoals Blvd.
Suite A-1
Newport News, VA 23606



606 Thimble Shoals Blvd.
Suite A-2
Newport News, VA 23606

Mr. Chris Murray
Sovereign Consulting
606 Thimble Shoals Rd.
Suite A1
Newport-News VA 23606
Report Number: G650-22
Client Project: NV008 S2633

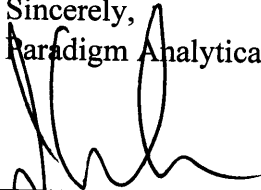
Dear Mr. Murray:

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

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

Sincerely,
Paradigm Analytical Laboratories, Inc.



Laboratory Director
J. Patrick Weaver

1/31/06

Date

Results for Volatiles

by GC 602

Client Sample ID: USTS2633-MW01

Analyzed By: MJC

Client Project ID: NV008 S2633

Date Collected: 1/19/06 17:12

Lab Sample ID: G650-22-1A

Date Received: 1/20/06

Lab Project ID: G650-22

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	2850	250	79	250	1/25/06	
Diisopropyl ether (DIPE)	BQL	250	73.5	250	1/25/06	
Ethylbenzene	374	250	74.8	250	1/25/06	
Methyl-tert butyl ether (MTBE)	BQL	500	147	250	1/25/06	
Toluene	2380	250	75.5	250	1/25/06	
m/p-Xylene	2530	500	152	250	1/25/06	
o-Xylene	1030	500	149	250	1/25/06	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.7	102

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Results for Volatiles

by GC 602

Client Sample ID: Method Blank

Analyzed By: MJC

Client Project ID:

Date Collected:

Lab Sample ID: VBLK3012506A

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	0.316	1	1/25/06	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	1/25/06	
Ethylbenzene	BQL	1.00	0.299	1	1/25/06	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	1/25/06	
Toluene	BQL	1.00	0.302	1	1/25/06	
m/p-Xylene	BQL	2.00	0.608	1	1/25/06	
o-Xylene	BQL	2.00	0.596	1	1/25/06	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	40.9	102

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Control Limits for QC Check / Laboratory Control Spike

Method: **602** Spike[ppb]: **10**
 Instrument : gc3
 Filename : 012506\004r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	9.9	98.6	77.0	123.0	99	39	150
Chlorobenzene	9.5	95.0	80.5	119.5	95	55	135
1,2-Dichlorobenzene	9.7	97.2	68.0	132.0	97	37	154
1,3-Dichlorobenzene	9.3	93.1	72.5	127.5	93	50	141
1,4-Dichlorobenzene	9.5	95.0	69.5	130.5	95	42	143
• Diisopropyl ether	9.0	89.9	43.1	156.9	90	30	170
Ethylbenzene	10.1	101.1	63.0	137.0	101	32	160
• MTBE	9.5	94.7	46.8	153.2	95	35	165
Toluene	9.8	98.4	77.5	127.0	98	46	148
• m,p-Xylene	20.2	101.1	11.2	188.8	101	D	239
• o-Xylene	9.6	96.2	47.6	152.4	96	36	164

Flags :

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

Reviewed by: MC

Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10

Instrument : gc3

Sample : 012506\020r0101.txt

MS : 012506\021r0101.txt

MSD : 012506\022r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	11.4	20.9	21.0	95	96	39	160
Chlorobenzene	ND	9.4	9.4	94	94	55	135
1,2-Dichlorobenzene	ND	9.3	9.6	90	93	37	154
1,3-Dichlorobenzene	ND	8.9	9.1	87	89	50	141
1,4-Dichlorobenzene	ND	8.7	8.8	79	80	42	143
• Diisopropyl ether	ND	9.9	9.9	94	95	30	170
Ethylbenzene	1.5	11.7	11.7	102	102	32	160
• MTBE	ND	9.4	9.5	94	95	35	165
Toluene	9.5	19.2	19.2	97	97	46	148
• m,p-Xylene	10.1	30.4	30.5	102	102	D	239
• o-Xylene	2.1	11.6	11.6	95	95	36	164

Flags :

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

Reviewed by: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Sovereign ConsultingProject Name: NV008 S2633


Sample Information and Analytical Results	
Sample Identification	USTS2633-MW01
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	01/19/06
Date Received	01/20/06
Date Extracted	01/27/06
Date Analyzed	01/27/06
Dry Weight	
Dilution Factor	5
C ₅ -C ₈ Aliphatics**	17000 (µg/L)
C ₉ -C ₁₂ Aliphatics**	6700 (µg/L)
C ₉ -C ₁₀ Aromatics**	2400 (µg/L)
Surrogate % Recovery - PID	170***
Surrogate % Recovery - FID	130

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

** = Excludes any surrogates or internal standards.

***= High surrogate recovery due to matrix interference

Lab Info: g650-22-1e

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 10/31/05

PID Initial Calibration Date: 10/31/05

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	7.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	1.00	Linear Regression
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	16.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 01/27/06

Calibration Check

Range	Levels (µg/L)		RPD
	(mg/Kg)		
C ₅ -C ₈ Aliphatics	2000	200	5.0
C ₉ -C ₁₂ Aliphatics	500	50	-2.9
C ₉ -C ₁₀ Aromatics	500	50	18.4

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

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

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Sovereign ConsultingProject Name: NV008 S2633

Sample Information and Analytical Results	
Sample Identification	USTS2633-MW01
Sample Matrix	Water
Date Collected	01/19/06
Date Received	01/20/06
Date Extracted	01/23/06
Date Analyzed	01/27/06
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	490 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	130 (ug/L)
Aliphatic Surrogate % Recovery	72
Aromatic Surrogate % Recovery	60
Fractionation Surrogate 1 % Recovery	110

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G650-22-1J

Reviewed By: ml

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information
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Initial Calibration Date: 12/28/05**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	24.90	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	15.4	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	9.8	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 01/26/06**Calibration Check**

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	12.5
C ₁₉ -C ₃₆ Aliphatics	160	4.5
C ₁₁ -C ₂₂ Aromatics	340	10.4

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTS2633-MW01
Client Project ID: NV008 S2633
Lab Sample ID: G650-22-1H
Lab Project ID: G650-22

Analyzed By: MRC
Date Collected: 1/19/2006 17:12
Date Received: 1/20/2006
Date Extracted: 1/23/2006
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2006	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2006	
Anthracene	BQL	10.0	1.75	1	1/25/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2006	
Bis(2-ethylhexyl)phthalate	2.70	10.0	1.33	1	1/25/2006	J
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2006	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2006	
Chrysene	BQL	10.0	1.11	1	1/25/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2006	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2006	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2006	
2,4-Dimethylphenol	32.2	10.0	9.25	1	1/25/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2006	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2006	
Fluoranthene	BQL	10.0	1.41	1	1/25/2006	
Fluorene	BQL	10.0	1.22	1	1/25/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2006	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2006	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: USTS2633-MW01
 Client Project ID: NV008 S2633
 Lab Sample ID: G650-22-1H
 Lab Project ID: G650-22

Analyzed By: MRC
 Date Collected: 1/19/2006 17:12
 Date Received: 1/20/2006
 Date Extracted: 1/23/2006
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	1/25/2006	
Naphthalene	117	10.0	1.08	1	1/25/2006	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2006	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2006	
4-Nitrophenol	BQL	50.0	3.17	1	1/25/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/25/2006	
Pentachlorophenol	BQL	50.0	2.83	1	1/25/2006	
Phenanthrene	BQL	10.0	1.38	1	1/25/2006	
Phenol	64.2	10.0	3.38	1	1/25/2006	
Pyrene	BQL	10.0	2.08	1	1/25/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
2-Fluorophenol	10	7.5	75
Nitrobenzene-d5	10	9.6	96
Phenol-d6	10	8.3	83
2,4,6-Tribromophenol	10	9.4	94
4-Terphenyl-d14	10	8.1	81

Comments:

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

Flags:

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

Reviewed By: mc

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: USTS2633-MW01

Client Project ID: NV008 S2633

Lab Sample ID: G650-22-1H

Lab Project ID: G650-22

Sample Wt/Vol: 500 ML

Dilution: 1

Analyzed By: MRC

Date Collected: 1/19/2006 17:12

Date Received: 1/20/2006

Date Extracted: 1/23/2006

Date Analyzed: 1/25/2006

Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	Dimethylbenzene, Isomer of	5.37			76.3
2	Trimethylbenzene, Isomer of	6.62			75.7
3	Methylphenol, Isomer of	7.28			48.7
4	Ethylmethylbenzene, Isomer of	6.22			40.3
5	Ethylmethylbenzene, Isomer of	6.95			40
6	Unknown	8.38			40
7	Aromatic, Unknown	7.11			25
8	Unknown	14.06			18.2
9	2-Methylnaphthalene	9.89	000091-57-6	98	14.6
10	Methylphenol, Isomer of	7.28			13.6

Comment:

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

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

Reviewed by: ml

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank

Client Project ID:

Lab Sample ID: PB4365

Lab Project ID:

Analyzed By: MRC

Date Collected:

Date Received:

Date Extracted: 1/23/2006

Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/25/2006	
Acenaphthylene	BQL	10.0	1.12	1	1/25/2006	
Anthracene	BQL	10.0	1.75	1	1/25/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/25/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/25/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/25/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/25/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/25/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/25/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/25/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/25/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/25/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/25/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/25/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/25/2006	
2-Chlorophenol	BQL	10.0	4.22	1	1/25/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/25/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/25/2006	
Chrysene	BQL	10.0	1.11	1	1/25/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/25/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/25/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/25/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/25/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/25/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/25/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/25/2006	
Diethylphthalate	BQL	10.0	1.48	1	1/25/2006	
Dimethylphthalate	BQL	10.0	1.04	1	1/25/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/25/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/25/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/25/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/25/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/25/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/25/2006	
Diphenylamine *	BQL	10.0	1.53	1	1/25/2006	
Fluoranthene	BQL	10.0	1.41	1	1/25/2006	
Fluorene	BQL	10.0	1.22	1	1/25/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	1/25/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/25/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/25/2006	
Hexachloroethane	BQL	10.0	1.58	1	1/25/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/25/2006	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB4365
Lab Project ID:

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 1/23/2006
Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	1/25/2006	
Naphthalene	BQL	10.0	1.08	1	1/25/2006	
Nitrobenzene	BQL	10.0	1.32	1	1/25/2006	
2-Nitrophenol	BQL	10.0	3.52	1	1/25/2006	
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Phenanthrene	BQL	10.0	1.38	1	1/25/2006	
Phenol	BQL	10.0	3.38	1	1/25/2006	
Pyrene	BQL	10.0	2.08	1	1/25/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/25/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/25/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
2-Fluorophenol	10	7.4	74
Nitrobenzene-d5	10	7.7	77
Phenol-d6	10	7.7	77
2,4,6-Tribromophenol	10	7	70
4-Terphenyl-d14	10	9.3	93

Comments:

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

Flags:

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

Reviewed By: rc

List of Reporting Abbreviations and Data Qualifiers

- B = Compound also detected in batch blank
- BQL = Below Quantitation Limit
- 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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PAGE 1 OF 1

1 CLIENT: Sweeten Consulting Inc
 CONTACT: THESSA ELKMAN PHONE NO: (910) 526-3944
 PROJECT: NV008 SITE/PWSID#: S2633
 REPORTS TO: Chris Murray (757) 717-8882
cmurray@svcon.com FAX NO.: (757) 794-9227
 INVOICE TO: Chris Murray QUOTE #
601 A-1 HUMBLE SHEDS BLD
NEUPLET NEWS, VA 23066 P.O. NUMBER

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
	UST S2633-MWD1	1/19/06	1712	W

Collected/Relinquished By: (1)	Date	Time	Received By:
<u>[Signature]</u>	1/29/06	1110	<u>[Signature]</u>
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

No	CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required				REMARKS
				HCL	HCL	HCL	NEWZ	
7				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	#625 plus 10 largest non target DEBRIS

SGS Reference: G650-22

Shipping Carrier: N/A

Shipping Ticket No: N/A

Special Deliverable Requirements:

Requested Turnaround Time and Special Instructions: STANDARD TURN - Email RESULTS in "EDD" format

Samples Received Cold? (Circle) YES NO

Temperature (C): 5.6°C

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
 1258 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

