CATLIN
Engineers and Scientists

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November 13, 2009

NAVFAC Mid-Atlantic
Marine Corps North Carolina IPT
Environmental Business Line
Code: OPCEV3MA
Attn: Mr. Dave Borton, P.G.
6506 Hampton Boulevard
Building C, Room 314
Norfolk, VA 23508-1278

Re: **Limited Site Assessment Addendum and No Further Action Request**
UST STC-868
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract No. N62470-05-D-6200
Delivery Order No. 0074
CATLIN Project No. 209-034

Dear Mr. Borton:

CATLIN Engineers & Scientists (CATLIN) is pleased to present you with this brief letter addendum to the Limited Site Assessment (LSA) and No Further Action Request for the UST STC-868 project site that was submitted on September 15, 2009. Upon a review of the LSA by the North Carolina Department of Environment and Natural Resources (NCDENR), concerns were raised regarding the depth of the soil samples obtained from each sidewall of the former UST basin. The Workplan proposed obtaining soil samples from the interval exhibiting the highest Photo Ionization Detector (PID) reading; however, two of the four soil samples were not collected from the interval with the highest reading. CATLIN personnel visited the subject site on October 8, 2009 to reassess the USTSTC868-HA01 through USTSTC868-HA04 borehole locations, screen borehole soil samples at one foot intervals and retain soils from the appropriate borehole interval for independent laboratory analysis. Please refer to Figure 1 for a general location map and Figure 2 for a site plan.

The original borehole locations were still evident at the site during this investigation. Utilizing a hand auger, CATLIN personnel hand augered approximately one foot from the original location down to the apparent groundwater table. Soil samples were collected in one foot intervals, were spilt, half placed in Ziploc® bags and allowed to equilibrate for approximately 15 minutes; the other half placed in Ziploc® bags and placed in a chilled cooler. With a PID, CATLIN personnel gauged the headspace in the equilibrated soil sample for potential volatile organic compounds. Soil sample intervals retained for headspace analysis and the PID readings have been summarized as follows:

Borehole Identification	Interval in Feet Below Grade	PID Reading	Comments
HA01	0-1	0.1	
	1-2	0.3	
	2-3	0.1	
	3-4	**0.7**	Addendum Sample interval
	4-5	Wet at approximately 4.5 feet	
HA02	0-1	**22.7**	Addendum Sample interval
	1-2	18.1	
	2-3	10.3	
	3-4	14.2	
	4-5	Wet at approximately 4.5 feet	
HA03	0-1	17.0	
	1-2	**25.3**	LSA sample interval
	2-3	22.8	
	3-4	Wet at approximately 3.5 feet	
HA04	0-1	17.9	
	1-2	**22.6**	LSA sample interval
	2-3	19.3	
	3-4	20.2	
	4-5	Wet at approximately 4.5 feet	

Bold figure indicates PID reading was the highest for that borehole.

For boreholes HA03 and HA04, the interval with the highest PID reading had already been sampled and analyzed as part of the LSA; therefore, no additional soil samples were obtained. For boreholes HA01 and HA02, the chilled soils from intervals 0-1 and 3-4 feet below grade were transferred from the Ziploc® bags to laboratory provided glassware, labeled and stored in chilled coolers. Soil samples were transported to SGS North America, Inc. (SGS - NC Certification #481) in Wilmington, North Carolina and analyzed for potential contamination per the following methods:

- EPA Method 8260 (including IPE and MTBE)
- EPA Method 8270
- EPA Method 6010B (Total Chromium and Lead)
- MADEP EPH/VPH

A copy of the laboratory analytical report and proper Chain-of-Custody (COC) has been provided and the results have been summarized in the attached Tables.

Ultimately, the NCDENR Division of Waste Management, Underground Storage Tank (UST) Section personnel will determine the Land Use and Risk Classification for the subject site. The following recommendations are based on CATLIN personnel evaluating site findings in accordance with the NCDENR UST Section – Guidelines for Assessment and Corrective Action for UST Releases, effective December 1, 2008. Based on the field and laboratory findings of this Phase I LSA Addendum, CATLIN concludes that the project site meets the criteria for Industrial/Commercial Land Use and a Low Risk classification.

In order to achieve an Industrial/Commercial Land Use and Low Risk classification, all soil sample analysis results must be compliant with applicable Industrial/Commercial MSCCs, all groundwater samples must be compliant with applicable Gross Contaminant Levels (GCLs), and no free-phase may be present.

Soil samples collected as part of this investigation and the original LSA investigation exhibited no contaminant concentrations in excess of established Industrial/Commercial MSCCs or the more stringent Residential MSCCs. Analysis of the groundwater samples collected as part of this investigation revealed no contaminant concentrations in excess of applicable GCLs or the more stringent 2L Groundwater Quality Standards (GWQS). No free-phase product was detected in site monitoring well USTSTC868-MW04. CATLIN recommends that the incident be reviewed and considered for No Further Action.

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

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

Sincerely,

Michael E. Mason, P.E.
Program Manager

Stephen A Tyler, P.G.
Project Manager

cc: Commanding Officer, Attn: Director I&E/EMD/EQB (w/ encl.)
Ms. Susan Tsimpinos – NAVFAC Contracts (correspondence only)

TABLES

TABLE 1 SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 8260 + IPE + MTBE

Sample ID	Contaminant of Concern →		Acetone	Benzene	cis 1,2-Dichloroethene	trans 1,2-dichloroethene	Methylene Chloride	Tetrachloroethene	Toluene	Trichloroethene	All Other 8260 Compounds
	Date Collected	Sample Depth (ft. BLS)									
Residential MSCC (mg/kg)			1,564	18	156	320	85	12	3,200	1.6	Varies
Industrial/Commercial MSCC (mg/kg)			40,880	164	4,000	8,200	763	110	82,000	14	Varies
Soil to Groundwater MSCC (mg/kg)			2.8	0.0056	0.35	0.54	0.02	0.0074	7.3	0.018	Varies
USTSTC868-HA01	6/26/2009	1-2	<0.00604	<0.00094	<0.00112	<0.00099	0.00150 J	<0.00080	<0.00087	0.00494	BMDL
USTSTC868-HA01	10/8/2009	3-4	0.00751 J	0.00101 J	<0.00114	<0.00100	<0.00106	<0.00081	0.00090 J	0.00410 J	BMDL
USTSTC868-HA02	6/26/2009	1-2	0.0108 J	<0.00101	<0.00121	<0.00106	0.00120 J	<0.00086	<0.00094	<0.00090	BMDL
USTSTC868-HA02	10/8/2009	0-1	<0.0530	<0.00082	<0.00098	<0.00087	<0.00091	<0.00070	<0.00077	<0.00073	BMDL
USTSTC868-HA03	6/26/2009	1-2	0.0101 J	<0.00097	0.00362 J	0.00396 J	0.00121 J	0.00367 J	<0.00090	**0.0365**	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.00666	<0.00103	<0.00123	<0.00109	0.00201 J	<0.00088	<0.00096	<0.00092	BMDL

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

BMDL = Below Method Detection Limit

MSCC = Maximum Soil Contaminant Concentration

J = Estimated concentration, below calibration range and above MDL

ft. BLS = feet below land surface

< = Less than method detection limit

Bold results indicate concentrations above lowest MSCC.

TABLE 2 SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern →		Bis (2-ethylhexyl) phthalate	Pyrene	All Other 8270 Compounds
	Date Collected	Sample Depth (ft. BLS)			
Residential MSCC (mg/kg)			46	469	Varies
Industrial/Commercial (mg/kg)			410	12,264	Varies
Soil to Groundwater MSCC (mg/kg)			5.6	290	Varies
USTSTC868-HA01	6/26/2009	1-2	0.133 J	0.072 J	BMDL
USTSTC868-HA01	10/8/2009	3-4	<0.055	<0.049	BMDL
USTSTC868-HA02	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA02	10/8/2009	0-1	<0.054	<0.048	BMDL
USTSTC868-HA03	6/26/2009	1-2	<0.053	<0.047	BMDL
USTSTC868-HA04	6/26/2009	1-2	<0.050	<0.044	BMDL

All results in milligrams per kilogram (mg/kg)

BMDL = Below Method Detection Limit

MSCC = Maximum Soil Contaminant Concentration

J = Estimated concentration, below calibration range and above MDL

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

ft. BLS = feet below land surface

< = Less than method detection limit

TABLE 3 SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	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
USTSTC868-HA01	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	86	<10.0
USTSTC868-HA01	10/8/20009	3-4	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA02	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA02	10/8/2009	0-1	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA03	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
USTSTC868-HA04	6/26/2009	1-2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

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

< = Less than method detection limit

TABLE 4 SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and No.: UST STC-868/Pending

Analytical Method: MADEP VPH/EPH as compared to NCDENR MSCCs

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	C_5-C_8 Aliphatics	C_9-C_{18} Aliphatics	C_{19}-C_{36} Aliphatics	C_9-C_{22} Aromatics
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3,300	##	34
USTSTC868-HA01	6/26/2009	1-2	<10.0	<10.0	86	<20.0
USTSTC868-HA01	10/8/2009	3-4	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA02	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA02	10/8/2009	0-1	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA03	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0
USTSTC868-HA04	6/26/2009	1-2	<10.0	<10.0	<10.0	<20.0

All results in milligrams per kilogram (mg/kg)

Health based level > 100%

Considered immobile

MSCC = Maximum Soil Contaminant Concentration

< = Less than method detection limit

TABLE 5 SUMMARY OF SOIL LABORATORY RESULTS

INCIDENT NAME and NO.: UST STC-868/Pending

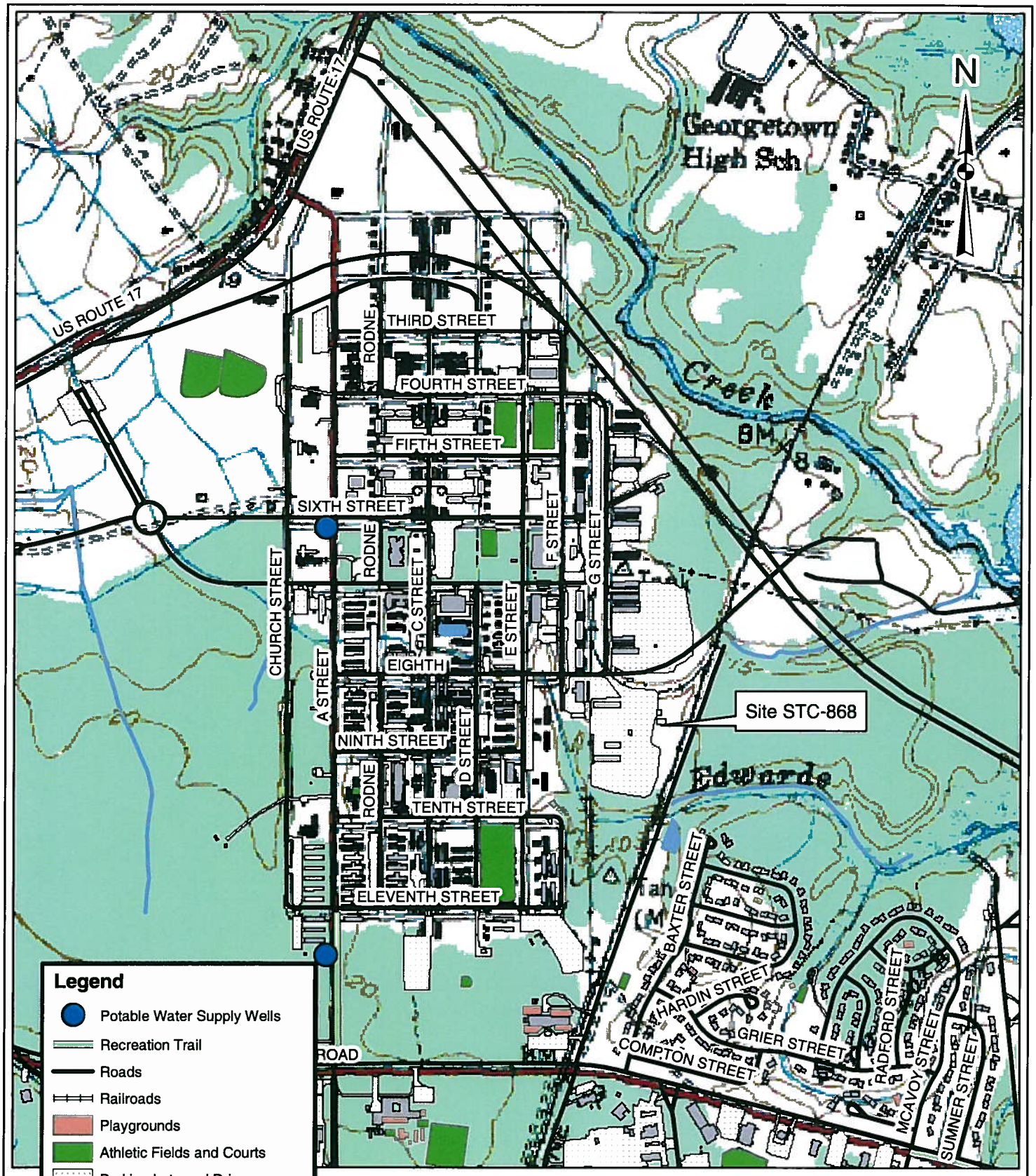
Analytical Method: EPA Method 6010B

Sample ID	Contaminant of Concern → Date Collected	Sample Depth (ft. BLS)	Chromium	Lead
Residential MSCC (mg/kg)			47	400
Industrial/Commercial MSCC (mg/kg)			1,226	400
Soil to Groundwater MSCC (mg/kg)			27	270
USTSTC868-HA01	6/26/2009	1-2	11.5	19.4
USTSTC868-HA01	10/8/2009	3-4	6.37	5.76
USTSTC868-HA02	6/26/2009	1-2	12.0	10.4
USTSTC868-HA02	10/8/2009	0-1	21.9	7.24
USTSTC868-HA03	6/26/2009	1-2	8.75	14.3
USTSTC868-HA04	6/26/2009	1-2	11.6	5.28

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

MSCC = Maximum Soil Contaminant Concentration

FIGURES

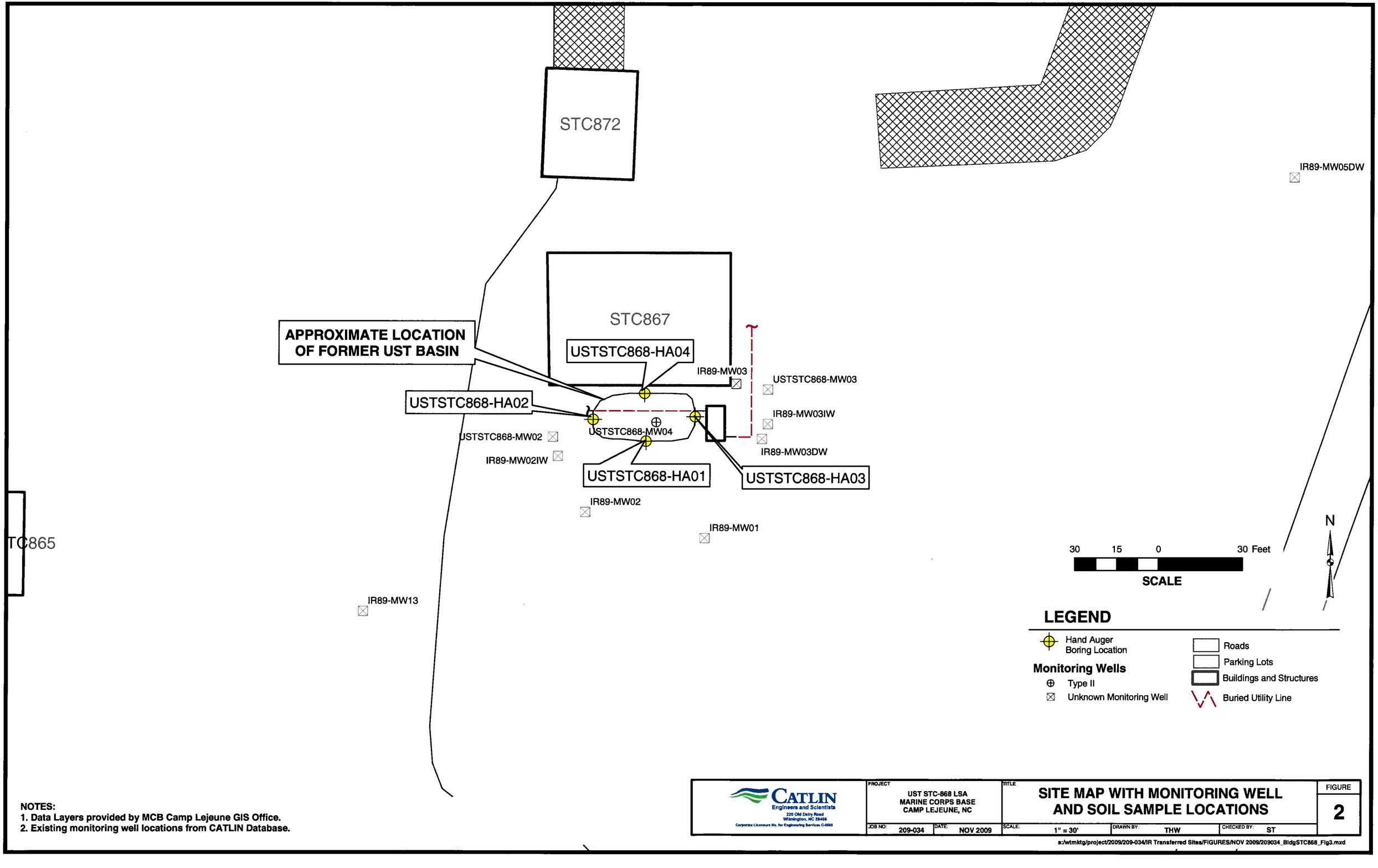


Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.

CATLIN
Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0585

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	**GENERAL LOCATION USGS TOPOGRAPHIC QUADRANGLE**	1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
209-034	NOV 2009	AS SHOWN	THW	SAT



NOTES:
1. Data Layers provided by MCB Camp Lejeune GIS Office.
2. Existing monitoring well locations from CATLIN Database.

CATLIN Engineers and Scientists
220 Old Dairy Road
Wilmington, NC 28405
Corporate Licensure No. for Engineering Services C-0665

PROJECT	TITLE	FIGURE
UST STC-868 LSA MARINE CORPS BASE CAMP LEJEUNE, NC	SITE MAP WITH MONITORING WELL AND SOIL SAMPLE LOCATIONS	2

JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
209-034	NOV 2009	1" = 30'	THW	ST

s:/wtmktg/project/2009/209-034/IR Transferred Sites/FIGURES/NOV 2009/209034_BldgSTC868_Fig3.mxd

LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

SGS

Steve Tyler
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

Report Number: G128-2450

Client Project: USTSTC-868

Dear Steve Tyler,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. 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 services performed during this project, please call Barbara Hager at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America, Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America, Inc.

Barbara Hager 10/23/2009
Project Manager Date
Barbara Hager

revised 11/10/2009

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification 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/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

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

% soilds = Percent Solids

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

MI34.021808.4

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: HA01 3-4'
Client Project ID: USTSTC-868
Lab Sample ID G128-2450-1B
Lab Project ID: G128-2450
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 10-08-2009 12:00
Date Received: 10/8/2009
Matrix: Soil
Sample Amount: 6.57 g
%Solids: 85.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	**0.00751**	0.0444	0.00614	1	10/19/2009	J
Benzene	**0.00101**	0.00444	0.00095	1	10/19/2009	J
Bromobenzene	BQL	0.00444	0.00092	1	10/19/2009	
Bromochloromethane	BQL	0.00444	0.00153	1	10/19/2009	
Bromodichloromethane	BQL	0.00444	0.00088	1	10/19/2009	
Bromoform	BQL	0.00444	0.00089	1	10/19/2009	
Bromomethane	BQL	0.00444	0.00093	1	10/19/2009	
2-Butanone	BQL	0.0222	0.00483	1	10/19/2009	
n-Butylbenzene	BQL	0.00444	0.00085	1	10/19/2009	
sec-Butylbenzene	BQL	0.00444	0.00090	1	10/19/2009	
tert-Butylbenzene	BQL	0.00444	0.00100	1	10/19/2009	
Carbon disulfide	BQL	0.00444	0.00238	1	10/19/2009	
Carbon tetrachloride	BQL	0.00444	0.00091	1	10/19/2009	
Chlorobenzene	BQL	0.00444	0.00106	1	10/19/2009	
Chloroethane	BQL	0.00444	0.00141	1	10/19/2009	
Chloroform	BQL	0.00444	0.00107	1	10/19/2009	
Chloromethane	BQL	0.00444	0.00100	1	10/19/2009	
2-Chlorotoluene	BQL	0.00444	0.00090	1	10/19/2009	
4-Chlorotoluene	BQL	0.00444	0.00111	1	10/19/2009	
Dibromochloromethane	BQL	0.00444	0.00123	1	10/19/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0222	0.00129	1	10/19/2009	
Dibromomethane	BQL	0.00444	0.00134	1	10/19/2009	
1,2-Dibromoethane (EDB)	BQL	0.00444	0.00100	1	10/19/2009	
1,2-Dichlorobenzene	BQL	0.00444	0.00115	1	10/19/2009	
1,3-Dichlorobenzene	BQL	0.00444	0.00114	1	10/19/2009	
1,4-Dichlorobenzene	BQL	0.00444	0.00093	1	10/19/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0222	0.00123	1	10/19/2009	
1,1-Dichloroethane	BQL	0.00444	0.00094	1	10/19/2009	
1,1-Dichloroethene	BQL	0.00444	0.00132	1	10/19/2009	
1,2-Dichloroethane	BQL	0.00444	0.00117	1	10/19/2009	
cis-1,2-Dichloroethene	BQL	0.00444	0.00114	1	10/19/2009	
trans-1,2-dichloroethene	BQL	0.00444	0.00100	1	10/19/2009	
1,2-Dichloropropane	BQL	0.00444	0.00105	1	10/19/2009	
1,3-Dichloropropane	BQL	0.00444	0.00100	1	10/19/2009	
2,2-Dichloropropane	BQL	0.00444	0.00107	1	10/19/2009	
1,1-Dichloropropene	BQL	0.00444	0.00140	1	10/19/2009	
cis-1,3-Dichloropropene	BQL	0.00444	0.00074	1	10/19/2009	
trans-1,3-Dichloropropene	BQL	0.00444	0.00086	1	10/19/2009	
Dichlorodifluoromethane	BQL	0.00444	0.00117	1	10/19/2009	
Diisopropyl ether (DIPE)	BQL	0.00444	0.00100	1	10/19/2009	
Ethylbenzene	BQL	0.00444	0.00077	1	10/19/2009	
Hexachlorobutadiene	BQL	0.00444	0.00087	1	10/19/2009	
2-Hexanone	BQL	0.0111	0.00288	1	10/19/2009	
Iodomethane	BQL	0.00444	0.00096	1	10/19/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: HA01 3-4'
Client Project ID: USTSTC-868
Lab Sample ID G128-2450-1B
Lab Project ID: G128-2450
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 10-08-2009 12:00
Date Received: 10/8/2009
Matrix: Soil
Sample Amount: 6.57 g
%Solids: 85.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00444	0.00079	1	10/19/2009	
4-Isopropyltoluene	BQL	0.00444	0.00095	1	10/19/2009	
Methylene chloride	BQL	0.0178	0.00106	1	10/19/2009	
4-Methyl-2-pentanone	BQL	0.0111	0.00411	1	10/19/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00444	0.00099	1	10/19/2009	
Naphthalene	BQL	0.00444	0.00076	1	10/19/2009	
n-Propyl benzene	BQL	0.00444	0.00112	1	10/19/2009	
Styrene	BQL	0.00444	0.00098	1	10/19/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00444	0.00091	1	10/19/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00444	0.00100	1	10/19/2009	
Tetrachloroethene	BQL	0.00444	0.00081	1	10/19/2009	
Toluene	**0.00090**	0.00444	0.00089	1	10/19/2009	J
1,2,3-Trichlorobenzene	BQL	0.00444	0.00092	1	10/19/2009	
1,2,4-Trichlorobenzene	BQL	0.00444	0.00092	1	10/19/2009	
Trichloroethene	**0.00410**	0.00444	0.00085	1	10/19/2009	J
1,1,1-Trichloroethane	BQL	0.00444	0.00100	1	10/19/2009	
1,1,2-Trichloroethane	BQL	0.00444	0.00146	1	10/19/2009	
Trichlorofluoromethane	BQL	0.00444	0.00092	1	10/19/2009	
1,2,3-Trichloropropane	BQL	0.00444	0.00110	1	10/19/2009	
1,2,4-Trimethylbenzene	BQL	0.00444	0.00112	1	10/19/2009	
1,3,5-Trimethylbenzene	BQL	0.00444	0.00101	1	10/19/2009	
Vinyl chloride	BQL	0.00444	0.00121	1	10/19/2009	
m-,p-Xylene	BQL	0.00889	0.00171	1	10/19/2009	
o-Xylene	BQL	0.00444	0.00086	1	10/19/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0623	125
Toluene-d8	0.05	0.0498	100
4-Bromofluorobenzene	0.05	0.0466	93

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: _____

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: HA02 0-1'
Client Project ID: USTSTC-868
Lab Sample ID G128-2450-2A
Lab Project ID: G128-2450
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 10-08-2009 11:30
Date Received: 10/8/2009
Matrix: Soil
Sample Amount: 7.67 g
%Solids: 84.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	0.0384	0.00530	1	10/14/2009	
Benzene	BQL	0.00384	0.00082	1	10/14/2009	
Bromobenzene	BQL	0.00384	0.00079	1	10/14/2009	
Bromochloromethane	BQL	0.00384	0.00132	1	10/14/2009	
Bromodichloromethane	BQL	0.00384	0.00076	1	10/14/2009	
Bromoform	BQL	0.00384	0.00077	1	10/14/2009	
Bromomethane	BQL	0.00384	0.00081	1	10/14/2009	
2-Butanone	BQL	0.0192	0.00417	1	10/14/2009	
n-Butylbenzene	BQL	0.00384	0.00073	1	10/14/2009	
sec-Butylbenzene	BQL	0.00384	0.00078	1	10/14/2009	
tert-Butylbenzene	BQL	0.00384	0.00086	1	10/14/2009	
Carbon disulfide	BQL	0.00384	0.00206	1	10/14/2009	
Carbon tetrachloride	BQL	0.00384	0.00078	1	10/14/2009	
Chlorobenzene	BQL	0.00384	0.00091	1	10/14/2009	
Chloroethane	BQL	0.00384	0.00122	1	10/14/2009	
Chloroform	BQL	0.00384	0.00092	1	10/14/2009	
Chloromethane	BQL	0.00384	0.00087	1	10/14/2009	
2-Chlorotoluene	BQL	0.00384	0.00078	1	10/14/2009	
4-Chlorotoluene	BQL	0.00384	0.00096	1	10/14/2009	
Dibromochloromethane	BQL	0.00384	0.00106	1	10/14/2009	
1,2-Dibromo-3-chloropropane	BQL	0.0192	0.00111	1	10/14/2009	
Dibromomethane	BQL	0.00384	0.00116	1	10/14/2009	
1,2-Dibromoethane (EDB)	BQL	0.00384	0.00087	1	10/14/2009	
1,2-Dichlorobenzene	BQL	0.00384	0.00099	1	10/14/2009	
1,3-Dichlorobenzene	BQL	0.00384	0.00098	1	10/14/2009	
1,4-Dichlorobenzene	BQL	0.00384	0.00081	1	10/14/2009	
trans-1,4-Dichloro-2-butene	BQL	0.0192	0.00106	1	10/14/2009	
1,1-Dichloroethane	BQL	0.00384	0.00081	1	10/14/2009	
1,1-Dichloroethene	BQL	0.00384	0.00114	1	10/14/2009	
1,2-Dichloroethane	BQL	0.00384	0.00101	1	10/14/2009	
cis-1,2-Dichloroethene	BQL	0.00384	0.00098	1	10/14/2009	
trans-1,2-dichloroethene	BQL	0.00384	0.00087	1	10/14/2009	
1,2-Dichloropropane	BQL	0.00384	0.00091	1	10/14/2009	
1,3-Dichloropropane	BQL	0.00384	0.00086	1	10/14/2009	
2,2-Dichloropropane	BQL	0.00384	0.00092	1	10/14/2009	
1,1-Dichloropropene	BQL	0.00384	0.00121	1	10/14/2009	
cis-1,3-Dichloropropene	BQL	0.00384	0.00064	1	10/14/2009	
trans-1,3-Dichloropropene	BQL	0.00384	0.00074	1	10/14/2009	
Dichlorodifluoromethane	BQL	0.00384	0.00101	1	10/14/2009	
Diisopropyl ether (DIPE)	BQL	0.00384	0.00087	1	10/14/2009	
Ethylbenzene	BQL	0.00384	0.00067	1	10/14/2009	
Hexachlorobutadiene	BQL	0.00384	0.00075	1	10/14/2009	
2-Hexanone	BQL	0.00959	0.00249	1	10/14/2009	
Iodomethane	BQL	0.00384	0.00083	1	10/14/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: HA02 0-1'
Client Project ID: USTSTC-868
Lab Sample ID G128-2450-2A
Lab Project ID: G128-2450
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 10-08-2009 11:30
Date Received: 10/8/2009
Matrix: Soil
Sample Amount: 7.67 g
%Solids: 84.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	0.00384	0.00068	1	10/14/2009	
4-Isopropyltoluene	BQL	0.00384	0.00082	1	10/14/2009	
Methylene chloride	BQL	0.0154	0.00091	1	10/14/2009	
4-Methyl-2-pentanone	BQL	0.00959	0.00355	1	10/14/2009	
Methyl-tert-butyl ether (MTBE)	BQL	0.00384	0.00085	1	10/14/2009	
Naphthalene	BQL	0.00384	0.00065	1	10/14/2009	
n-Propyl benzene	BQL	0.00384	0.00097	1	10/14/2009	
Styrene	BQL	0.00384	0.00084	1	10/14/2009	
1,1,1,2-Tetrachloroethane	BQL	0.00384	0.00078	1	10/14/2009	
1,1,2,2-Tetrachloroethane	BQL	0.00384	0.00087	1	10/14/2009	
Tetrachloroethene	BQL	0.00384	0.00070	1	10/14/2009	
Toluene	BQL	0.00384	0.00077	1	10/14/2009	
1,2,3-Trichlorobenzene	BQL	0.00384	0.00080	1	10/14/2009	
1,2,4-Trichlorobenzene	BQL	0.00384	0.00079	1	10/14/2009	
Trichloroethene	BQL	0.00384	0.00073	1	10/14/2009	
1,1,1-Trichloroethane	BQL	0.00384	0.00087	1	10/14/2009	
1,1,2-Trichloroethane	BQL	0.00384	0.00126	1	10/14/2009	
Trichlorofluoromethane	BQL	0.00384	0.00079	1	10/14/2009	
1,2,3-Trichloropropane	BQL	0.00384	0.00095	1	10/14/2009	
1,2,4-Trimethylbenzene	BQL	0.00384	0.00097	1	10/14/2009	
1,3,5-Trimethylbenzene	BQL	0.00384	0.00088	1	10/14/2009	
Vinyl chloride	BQL	0.00384	0.00104	1	10/14/2009	
m-,p-Xylene	BQL	0.00768	0.00147	1	10/14/2009	
o-Xylene	BQL	0.00384	0.00074	1	10/14/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.05	0.0646	129
Toluene-d8	0.05	0.0488	98
4-Bromofluorobenzene	0.05	0.0464	93

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO

Reviewed By: ban

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9101409B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	6.91	1	10/14/2009	
Benzene	BQL	5.00	1.07	1	10/14/2009	
Bromobenzene	BQL	5.00	1.03	1	10/14/2009	
Bromochloromethane	BQL	5.00	1.72	1	10/14/2009	
Bromodichloromethane	BQL	5.00	0.992	1	10/14/2009	
Bromoform	BQL	5.00	1.00	1	10/14/2009	
Bromomethane	BQL	5.00	1.05	1	10/14/2009	
2-Butanone	BQL	25.0	5.43	1	10/14/2009	
n-Butylbenzene	BQL	5.00	0.955	1	10/14/2009	
sec-Butylbenzene	BQL	5.00	1.01	1	10/14/2009	
tert-Butylbenzene	BQL	5.00	1.12	1	10/14/2009	
Carbon disulfide	BQL	5.00	2.68	1	10/14/2009	
Carbon tetrachloride	BQL	5.00	1.02	1	10/14/2009	
Chlorobenzene	BQL	5.00	1.19	1	10/14/2009	
Chloroethane	BQL	5.00	1.59	1	10/14/2009	
Chloroform	BQL	5.00	1.20	1	10/14/2009	
Chloromethane	BQL	5.00	1.13	1	10/14/2009	
2-Chlorotoluene	BQL	5.00	1.01	1	10/14/2009	
4-Chlorotoluene	BQL	5.00	1.25	1	10/14/2009	
Dibromochloromethane	BQL	5.00	1.38	1	10/14/2009	
1,2-Dibromo-3-chloropropane	BQL	25.0	1.45	1	10/14/2009	
Dibromomethane	BQL	5.00	1.51	1	10/14/2009	
1,2-Dibromoethane (EDB)	BQL	5.00	1.13	1	10/14/2009	
1,2-Dichlorobenzene	BQL	5.00	1.29	1	10/14/2009	
1,3-Dichlorobenzene	BQL	5.00	1.28	1	10/14/2009	
1,4-Dichlorobenzene	BQL	5.00	1.05	1	10/14/2009	
trans-1,4-Dichloro-2-butene	BQL	25.0	1.38	1	10/14/2009	
1,1-Dichloroethane	BQL	5.00	1.06	1	10/14/2009	
1,1-Dichloroethene	BQL	5.00	1.48	1	10/14/2009	
1,2-Dichloroethane	BQL	5.00	1.32	1	10/14/2009	
cis-1,2-Dichloroethene	BQL	5.00	1.28	1	10/14/2009	
trans-1,2-dichloroethene	BQL	5.00	1.13	1	10/14/2009	
1,2-Dichloropropane	BQL	5.00	1.18	1	10/14/2009	
1,3-Dichloropropane	BQL	5.00	1.12	1	10/14/2009	
2,2-Dichloropropane	BQL	5.00	1.20	1	10/14/2009	
1,1-Dichloropropene	BQL	5.00	1.57	1	10/14/2009	
cis-1,3-Dichloropropene	BQL	5.00	0.833	1	10/14/2009	
trans-1,3-Dichloropropene	BQL	5.00	0.963	1	10/14/2009	
Dichlorodifluoromethane	BQL	5.00	1.32	1	10/14/2009	
Diisopropyl ether (DIPE)	BQL	5.00	1.13	1	10/14/2009	
Ethylbenzene	BQL	5.00	0.866	1	10/14/2009	
Hexachlorobutadiene	BQL	5.00	0.975	1	10/14/2009	
2-Hexanone	BQL	12.5	3.24	1	10/14/2009	
Iodomethane	BQL	5.00	1.08	1	10/14/2009	

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9101409B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.00	0.888	1	10/14/2009	
4-Isopropyltoluene	BQL	5.00	1.07	1	10/14/2009	
Methylene chloride	BQL	20.0	1.19	1	10/14/2009	
4-Methyl-2-pentanone	BQL	12.5	4.63	1	10/14/2009	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1.11	1	10/14/2009	
Naphthalene	BQL	5.00	0.850	1	10/14/2009	
n-Propyl benzene	BQL	5.00	1.26	1	10/14/2009	
Styrene	BQL	5.00	1.10	1	10/14/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	1.02	1	10/14/2009	
1,1,2,2-Tetrachloroethane	BQL	5.00	1.13	1	10/14/2009	
Tetrachloroethene	BQL	5.00	0.916	1	10/14/2009	
Toluene	BQL	5.00	0.997	1	10/14/2009	
1,2,3-Trichlorobenzene	BQL	5.00	1.04	1	10/14/2009	
1,2,4-Trichlorobenzene	BQL	5.00	1.03	1	10/14/2009	
Trichloroethene	BQL	5.00	0.954	1	10/14/2009	
1,1,1-Trichloroethane	BQL	5.00	1.13	1	10/14/2009	
1,1,2-Trichloroethane	BQL	5.00	1.64	1	10/14/2009	
Trichlorofluoromethane	BQL	5.00	1.03	1	10/14/2009	
1,2,3-Trichloropropane	BQL	5.00	1.24	1	10/14/2009	
1,2,4-Trimethylbenzene	BQL	5.00	1.26	1	10/14/2009	
1,3,5-Trimethylbenzene	BQL	5.00	1.14	1	10/14/2009	
Vinyl chloride	BQL	5.00	1.36	1	10/14/2009	
m-,p-Xylene	BQL	10.0	1.92	1	10/14/2009	
o-Xylene	BQL	5.00	0.969	1	10/14/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	51.9	104
Toluene-d8	50	48.3	97
4-Bromofluorobenzene	50	47.8	96

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: CX

Reviewed By: DVD

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Dilution: 1

Lab Code: NC00919 — Matrix: Soil

LCS: LCS9101409A — Filename: 1014903.D — Date Analyzed: 10/14/09 10:51

LCSD: LCS9101409B — Filename: 1014904.D — Date Analyzed: 10/14/09 11:17

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
acetone	75.0	38.6	51.4	75.0	36.1	48.1	6.70	30	16.7-286
acrolein	300	389	130	300	391	130	0.502	30	16.7-226
acrylonitrile	300	253	84.2	300	250	83.2	1.28	30	13.3-201
benzene	30.0	26.6	88.8	30.0	26.5	88.5	0.338	30	68.6-132
bromobenzene	30.0	29.2	97.2	30.0	28.6	95.3	1.97	30	56.7-146
bromochloromethane	30.0	27.5	91.8	30.0	26.8	89.4	2.65	30	52.5-154
bromodichloromethane	30.0	27.0	90.0	30.0	26.6	88.7	1.49	30	65.4-137
bromoform	30.0	28.3	94.5	30.0	27.2	90.7	4.03	30	48.3-147
bromomethane	30.0	36.3	121	30.0	36.0	120	0.968	30	16.7-246
2-butanone	75.0	49.7	66.3	75.0	48.2	64.3	3.04	30	16.7-314
n-butylbenzene	30.0	30.1	100	30.0	29.3	97.6	2.83	30	58.4-135
sec-butylbenzene	30.0	30.2	100	30.0	29.7	98.9	1.67	30	57.2-136
tert-butylbenzene	30.0	29.4	98.2	30.0	29.1	96.9	1.26	30	50.8-139
Carbon disulfide	30.0	24.8	82.8	30.0	24.6	81.9	1.17	30	16.7-276
carbon tetrachloride	30.0	27.4	91.2	30.0	27.5	91.6	0.510	30	61.1-141
chlorobenzene	30.0	28.4	94.5	30.0	28.0	93.5	1.06	30	63.0-129
chloroethane	30.0	28.7	95.8	30.0	29.9	99.6	3.89	30	22.5-200
2-chloroethyl vinyl ether	300	246	82.0	300	247	82.3	0.296	30	16.7-275
chloroform	30.0	27.6	91.9	30.0	27.2	90.6	1.50	30	65.0-137
chloromethane	30.0	27.0	89.8	30.0	27.2	90.8	1.03	30	16.7-182
2-chlorotoluene	30.0	29.8	99.3	30.0	28.9	96.4	2.90	30	61.1-138
4-chlorotoluene	30.0	29.5	98.5	30.0	28.8	96.1	2.43	30	63.8-134
dibromochloromethane	30.0	28.4	94.6	30.0	28.3	94.4	0.212	30	56.0-144
1,2-dibromo-3-chloropropane	150	151	100	150	141	94.3	6.45	30	16.7-213
1,2-dibromoethane	30.0	28.0	93.5	30.0	27.4	91.5	2.23	30	58.8-139
dibromomethane	30.0	26.3	87.7	30.0	25.6	85.3	2.74	30	54.1-154
1,2-dichlorobenzene	30.0	31.4	104	30.0	30.7	102	2.06	30	61.5-138
1,3-dichlorobenzene	30.0	30.8	103	30.0	29.9	99.7	2.96	30	61.5-138
1,4-dichlorobenzene	30.0	31.0	103	30.0	30.5	102	1.63	30	61.1-138
trans-1,4-Dichloro-2-butene	150	142	95.0	150	137	91.2	4.08	30	16.7-212
dichlorodifluoromethane	30.0	29.0	96.8	30.0	29.7	99.0	2.21	30	25.4-165
1,1-dichloroethane	30.0	26.7	89.0	30.0	26.4	87.9	1.24	30	62.4-140
1,2-dichloroethane	30.0	26.6	88.6	30.0	26.1	87.1	1.71	30	55.3-152
1,1-dichloroethene	30.0	26.3	87.8	30.0	26.0	86.8	1.14	30	65.4-134
cis-1,2-dichloroethene	30.0	26.9	89.7	30.0	26.4	88.0	1.88	30	63.8-138
trans-1,2-dichloroethene	30.0	26.4	88.0	30.0	26.2	87.4	0.722	30	63.3-139
1,2-dichloropropane	30.0	26.6	88.7	30.0	26.1	87.1	1.74	30	60.0-139
1,3-dichloropropane	30.0	28.4	94.6	30.0	27.3	91.0	3.81	30	62.3-136
2,2-dichloropropane	30.0	27.1	90.4	30.0	26.8	89.4	1.08	30	62.5-140
1,1-dichloropropene	30.0	26.8	89.4	30.0	26.6	88.6	0.899	30	60.9-136
cis-1,3-dichloropropene	30.0	26.4	88.1	30.0	25.9	86.5	1.91	30	59.8-141

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

* Values outside of QC limits

COMMENTS: _____

SGS Environmental Sevices

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Dilution: 1

Lab Code: NC00919 — Matrix: Soil

LCS: LCS9101409A — Filename: 1014903.D — Date Analyzed: 10/14/09 10:51

LCSD: LCS9101409B — Filename: 1014904.D — Date Analyzed: 10/14/09 11:17

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	30.0	26.7	89.1	30.0	26.5	88.3	0.902	30	7.27-173
Diisopropyl ether	30.0	25.9	86.4	30.0	25.6	85.2	1.44	30	9.01-172
ethylbenzene	30.0	29.0	96.6	30.0	28.6	95.4	1.28	30	16.7-187
hexachlorobutadiene	30.0	33.5	112	30.0	32.3	108	3.77	30	16.7-173
2-hexanone	75.0	58.7	78.2	75.0	58.2	77.6	0.770	30	16.7-304
Iodomethane	30.0	22.0	73.3	30.0	21.9	72.9	0.501	30	16.7-200
isopropylbenzene	30.0	29.4	98.1	30.0	28.8	96.0	2.16	30	6.43-167
4-isopropyltoluene	30.0	30.1	100	30.0	29.6	98.6	1.91	30	6.97-170
Methyl-tert-butyl ether	30.0	24.9	83.0	30.0	24.3	81.0	2.48	30	10.7-173
methylene chloride	30.0	26.2	87.4	30.0	25.7	85.7	2.04	30	8.58-169
4-methyl-2-pentanone	75.0	64.6	86.1	75.0	61.8	82.5	4.32	30	16.7-293
naphthalene	30.0	27.0	90.2	30.0	26.4	88.1	2.32	30	16.7-175
n-propyl benzene	30.0	29.5	98.4	30.0	29.1	96.9	1.47	30	7.25-172
styrene	30.0	28.2	93.9	30.0	27.7	92.2	1.79	30	10.2-168
1,1,1,2-tetrachloroethane	30.0	29.6	98.7	30.0	29.4	98.0	0.746	30	5.87-177
1,1,2,2-tetrachloroethane	30.0	29.0	96.7	30.0	28.1	93.7	3.08	30	10.9-168
tetrachloroethene	30.0	30.8	102	30.0	30.2	101	1.84	30	16.7-195
toluene	30.0	26.2	87.3	30.0	26.0	86.6	0.805	30	26.6-159
1,2,3-trichlorobenzene	30.0	30.4	101	30.0	29.8	99.4	2.02	30	4.64-169
1,2,4-trichlorobenzene	30.0	30.3	101	30.0	29.6	98.6	2.57	30	6.55-165
1,1,1-trichloroethane	30.0	27.8	92.7	30.0	27.5	91.7	1.05	30	8.40-173
1,1,2-trichloroethane	30.0	28.2	94.2	30.0	27.9	93.0	1.25	30	12.2-166
trichloroethene	30.0	27.4	91.4	30.0	27.2	90.5	0.990	30	24.0-158
trichlorofluoromethane	30.0	28.8	96.0	30.0	30.3	101	5.08	30	5.64-183
1,2,3-trichloropropane	30.0	28.4	94.6	30.0	26.9	89.6	5.39	30	16.7-186
1,2,4-trimethylbenzene	30.0	29.1	97.0	30.0	28.3	94.2	2.86	30	8.60-168
1,3,5-trimethylbenzene	30.0	28.6	95.2	30.0	28.3	94.4	0.844	30	8.09-168
Vinyl acetate	75.0	62.4	83.3	75.0	60.7	81.0	2.81	30	16.7-225
vinyl chloride	30.0	28.1	93.8	30.0	28.8	96.0	2.35	30	7.56-178
m/p-xylene	60.0	56.3	93.9	60.0	55.6	92.7	1.27	30	8.91-169
o-xylene	30.0	28.3	94.4	30.0	27.7	92.3	2.21	30	9.45-167

System Monitoring Compound Results

		LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	QC LIMITS REC
460-00-4	4-Bromofluorobenzene	50	48.79	97.6	50	49.03	98.1	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	51.41	103	50	50.95	102	37.8-170
2037-26-5	Toluene-d8	50	47.54	95.1	50	48.32	96.6	58.8-144

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

* Values outside of QC limits

LCS Spike Recovery: 0 failure(s) out of 72. LCSD Spike Recovery: 0 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS: _____

Analyst: CL — Reviewed by: DVD

SGS Environmental Services

3B

SOIL VOLATILE MATRIX SPIKE RECOVERY

Lab Name: SGS Environmental Contract:

Lab Code: NC00919 Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: g128-2446-3c Dilution: 1

Filenames: 1014911.D, 1014916.D

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	Recovery Limits
acetone	BQL	24.5	48.6	198*	17.7-85.2
acrolein	BQL	245	334	136	NA-424
acrylonitrile	BQL	245	259	106	85.0-175
benzene	BQL	24.5	18.5	75.4	61.6-135
bromobenzene	BQL	24.5	18.1	74.0	65.1-125
bromochloromethane	BQL	24.5	22.2	90.6	75.5-126
bromodichloromethane	BQL	24.5	21.0	85.9	74.3-123
bromoform	BQL	24.5	21.7	88.4	52.3-122
bromomethane	BQL	24.5	24.8	101	10.0-284
2-butanone	BQL	24.5	55.8	228*	36.1-107
n-butylbenzene	BQL	24.5	16.6	67.7*	70.2-124
sec-butylbenzene	BQL	24.5	16.0	65.2	62.0-133
tert-butylbenzene	BQL	24.5	13.9	56.8*	73.5-121
Carbon disulfide	0.996	24.5	15.6	63.5*	68.8-129
carbon tetrachloride	BQL	24.5	17.3	70.6*	71.8-122
chlorobenzene	BQL	24.5	17.6	71.9*	77.2-118
chloroethane	BQL	24.5	19.2	78.6	10.0-233
2-chloroethyl vinyl ether	BQL	24.5	0.00	0.00	NA-283
chloroform	1.07	24.5	19.7	80.4	74.0-128
chloromethane	BQL	24.5	16.5	67.3*	72.0-138
2-chlorotoluene	BQL	24.5	19.0	77.5*	79.3-118
4-chlorotoluene	BQL	24.5	18.2	74.2*	76.8-120
dibromochloromethane	BQL	24.5	21.1	86.1	69.0-117
1,2-dibromo-3-chloropropane	BQL	122	177	145	20.2-171
1,2-dibromomethane	BQL	24.5	23.9	97.5	78.5-123
dibromomethane	BQL	24.5	24.3	99.2	71.3-137
1,2-dichlorobenzene	BQL	24.5	20.9	85.4	75.1-120
1,3-dichlorobenzene	BQL	24.5	19.2	78.3	73.1-121
1,4-dichlorobenzene	BQL	24.5	19.8	80.7	74.8-118
trans-1,4-Dichloro-2-butene	BQL	122	156	127	25.7-149
dichlorodifluoromethane	BQL	24.5	19.6	80.2	41.7-166
1,1-dichloroethane	BQL	24.5	18.1	73.8*	75.6-128
1,2-dichloroethane	BQL	24.5	23.3	95.1	71.1-127
1,1-dichloroethene	BQL	24.5	17.0	69.2	64.4-130
cis-1,2-dichloroethene	BQL	24.5	19.1	77.9	72.7-134
trans-1,2-dichloroethene	BQL	24.5	17.6	71.8*	74.6-124
1,2-dichloropropane	BQL	24.5	19.7	80.4	76.5-129
1,3-dichloropropane	BQL	24.5	22.3	91.1	79.1-121
2,2-dichloropropane	BQL	24.5	17.7	72.1	31.5-157
1,1-dichloropropene	BQL	24.5	17.1	69.8*	72.5-120
cis-1,3-dichloropropene	BQL	24.5	19.9	81.1	66.6-132

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

* Values outside of QC limits

RPD: 0 out of 72 outside of limits

Spike Recovery: 27 out of 144 outside of limits

COMMENTS:

Lab Name: SGS Environmental Contract:

Lab Code: NC00919 Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: G121-406-3b

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	Recovery Limits
trans-1,3-dichloropropene	BQL	24.5	22.8	93.0	44.7-144
Diisopropyl ether	BQL	24.5	19.7	80.3	79.4-122
ethylbenzene	BQL	24.5	18.0	73.4*	73.8-126
hexachlorobutadiene	BQL	24.5	13.1	53.6	51.8-134
2-hexanone	BQL	24.5	61.4	250*	41.6-111
Iodomethane	BQL	24.5	14.8	60.3	40.6-126
isopropylbenzene	BQL	24.5	17.5	71.5*	74.3-123
4-isopropyltoluene	BQL	24.5	16.5	67.2*	74.6-122
Methyl-tert-butyl ether	BQL	24.5	23.0	94.0	66.5-136
methylene chloride	BQL	98.0	19.4	19.8*	48.6-155
4-methyl-2-pentanone	BQL	24.5	78.6	321*	6.88-166
naphthalene	BQL	24.5	32.0	131	55.1-140
n-propyl benzene	BQL	24.5	17.1	69.8*	71.6-128
styrene	BQL	24.5	19.3	78.7	73.2-123
1,1,1,2-tetrachloroethane	BQL	24.5	18.9	77.0	69.4-120
1,1,2,2-tetrachloroethane	BQL	24.5	51.7	211*	75.7-136
tetrachloroethene	BQL	24.5	14.1	57.5	45.8-153
toluene	BQL	24.5	18.0	73.6	66.4-128
1,2,3-trichlorobenzene	BQL	24.5	23.1	94.3	61.0-126
1,2,4-trichlorobenzene	BQL	24.5	22.8	93.1	60.6-125
1,1,1-trichloroethane	BQL	24.5	18.1	74.0*	78.4-121
1,1,2-trichloroethane	BQL	24.5	22.9	93.5	64.8-128
trichloroethene	BQL	24.5	18.0	73.3*	84.9-136
trichlorofluoromethane	BQL	24.5	16.4	67.2*	76.8-132
1,2,3-trichloropropane	BQL	24.5	27.2	111	10.0-218
1,2,4-trimethylbenzene	BQL	24.5	18.5	75.5	31.0-172
1,3,5-trimethylbenzene	BQL	24.5	17.2	70.3	67.7-132
Vinyl acetate	BQL	61.2	56.4	92.0	NA-355
vinyl chloride	BQL	24.5	16.6	68.0*	68.1-137
m/p-xylene	BQL	49.0	35.1	71.7*	79.8-118
o-xylene	BQL	24.5	18.7	76.4*	80.0-121

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

* Values outside of QC limits

RPD: 0 out of 72 outside of limits

Spike Recovery: 27 out of 144 outside of limits

COMMENTS:

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9101909B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	6.91	1	10/19/2009	
Benzene	BQL	5.00	1.07	1	10/19/2009	
Bromobenzene	BQL	5.00	1.03	1	10/19/2009	
Bromochloromethane	BQL	5.00	1.72	1	10/19/2009	
Bromodichloromethane	BQL	5.00	0.992	1	10/19/2009	
Bromoform	BQL	5.00	1.00	1	10/19/2009	
Bromomethane	BQL	5.00	1.05	1	10/19/2009	
2-Butanone	BQL	25.0	5.43	1	10/19/2009	
n-Butylbenzene	BQL	5.00	0.955	1	10/19/2009	
sec-Butylbenzene	BQL	5.00	1.01	1	10/19/2009	
tert-Butylbenzene	BQL	5.00	1.12	1	10/19/2009	
Carbon disulfide	BQL	5.00	2.68	1	10/19/2009	
Carbon tetrachloride	BQL	5.00	1.02	1	10/19/2009	
Chlorobenzene	BQL	5.00	1.19	1	10/19/2009	
Chloroethane	BQL	5.00	1.59	1	10/19/2009	
Chloroform	BQL	5.00	1.20	1	10/19/2009	
Chloromethane	BQL	5.00	1.13	1	10/19/2009	
2-Chlorotoluene	BQL	5.00	1.01	1	10/19/2009	
4-Chlorotoluene	BQL	5.00	1.25	1	10/19/2009	
Dibromochloromethane	BQL	5.00	1.38	1	10/19/2009	
1,2-Dibromo-3-chloropropane	BQL	25.0	1.45	1	10/19/2009	
Dibromomethane	BQL	5.00	1.51	1	10/19/2009	
1,2-Dibromoethane (EDB)	BQL	5.00	1.13	1	10/19/2009	
1,2-Dichlorobenzene	BQL	5.00	1.29	1	10/19/2009	
1,3-Dichlorobenzene	BQL	5.00	1.28	1	10/19/2009	
1,4-Dichlorobenzene	BQL	5.00	1.05	1	10/19/2009	
trans-1,4-Dichloro-2-butene	BQL	25.0	1.38	1	10/19/2009	
1,1-Dichloroethane	BQL	5.00	1.06	1	10/19/2009	
1,1-Dichloroethene	BQL	5.00	1.48	1	10/19/2009	
1,2-Dichloroethane	BQL	5.00	1.32	1	10/19/2009	
cis-1,2-Dichloroethene	BQL	5.00	1.28	1	10/19/2009	
trans-1,2-dichloroethene	BQL	5.00	1.13	1	10/19/2009	
1,2-Dichloropropane	BQL	5.00	1.18	1	10/19/2009	
1,3-Dichloropropane	BQL	5.00	1.12	1	10/19/2009	
2,2-Dichloropropane	BQL	5.00	1.20	1	10/19/2009	
1,1-Dichloropropene	BQL	5.00	1.57	1	10/19/2009	
cis-1,3-Dichloropropene	BQL	5.00	0.833	1	10/19/2009	
trans-1,3-Dichloropropene	BQL	5.00	0.963	1	10/19/2009	
Dichlorodifluoromethane	BQL	5.00	1.32	1	10/19/2009	
Diisopropyl ether (DIPE)	BQL	5.00	1.13	1	10/19/2009	
Ethylbenzene	BQL	5.00	0.866	1	10/19/2009	
Hexachlorobutadiene	BQL	5.00	0.975	1	10/19/2009	
2-Hexanone	BQL	12.5	3.24	1	10/19/2009	
Iodomethane	BQL	5.00	1.08	1	10/19/2009	

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK9101909B
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected:
Date Received:
Matrix: Soil
Sample Amount: 5 g
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Isopropylbenzene	BQL	5.00	0.888	1	10/19/2009	
4-Isopropyltoluene	BQL	5.00	1.07	1	10/19/2009	
Methylene chloride	BQL	20.0	1.19	1	10/19/2009	
4-Methyl-2-pentanone	BQL	12.5	4.63	1	10/19/2009	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	1.11	1	10/19/2009	
Naphthalene	BQL	5.00	0.850	1	10/19/2009	
n-Propyl benzene	BQL	5.00	1.26	1	10/19/2009	
Styrene	BQL	5.00	1.10	1	10/19/2009	
1,1,1,2-Tetrachloroethane	BQL	5.00	1.02	1	10/19/2009	
1,1,2,2-Tetrachloroethane	BQL	5.00	1.13	1	10/19/2009	
Tetrachloroethene	BQL	5.00	0.916	1	10/19/2009	
Toluene	BQL	5.00	0.997	1	10/19/2009	
1,2,3-Trichlorobenzene	BQL	5.00	1.04	1	10/19/2009	
1,2,4-Trichlorobenzene	BQL	5.00	1.03	1	10/19/2009	
Trichloroethene	BQL	5.00	0.954	1	10/19/2009	
1,1,1-Trichloroethane	BQL	5.00	1.13	1	10/19/2009	
1,1,2-Trichloroethane	BQL	5.00	1.64	1	10/19/2009	
Trichlorofluoromethane	BQL	5.00	1.03	1	10/19/2009	
1,2,3-Trichloropropane	BQL	5.00	1.24	1	10/19/2009	
1,2,4-Trimethylbenzene	BQL	5.00	1.26	1	10/19/2009	
1,3,5-Trimethylbenzene	BQL	5.00	1.14	1	10/19/2009	
Vinyl chloride	BQL	5.00	1.36	1	10/19/2009	
m-,p-Xylene	BQL	10.0	1.92	1	10/19/2009	
o-Xylene	BQL	5.00	0.969	1	10/19/2009	

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	53.3	107
Toluene-d8	50	49.2	98
4-Bromofluorobenzene	50	48.2	96

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: _____

Reviewed By: DVO

SGS Environmental Sevices

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Dilution: 1

Lab Code: NC00919 — Matrix: Soil

LCS: LCS9101909A — Filename: 1019903.D — Date Analyzed: 10/19/09 10:09

LCSD: LCS9101909B — Filename: 1019904.D — Date Analyzed: 10/19/09 10:35

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
acetone	75.0	41.3	55.1	75.0	40.5	54.0	1.96	30	16.7-286
acrolein	300	452	151	300	468	156	3.50	30	16.7-226
acrylonitrile	300	293	97.8	300	301	100	2.56	30	13.3-201
benzene	30.0	27.2	90.8	30.0	26.8	89.2	1.78	30	68.6-132
bromobenzene	30.0	27.9	92.9	30.0	27.0	90.1	3.06	30	56.7-146
bromochloromethane	30.0	28.8	95.8	30.0	27.3	90.9	5.28	30	52.5-154
bromodichloromethane	30.0	28.9	96.2	30.0	27.8	92.8	3.60	30	65.4-137
bromoform	30.0	26.9	89.8	30.0	26.6	88.5	1.42	30	48.3-147
bromomethane	30.0	38.0	127	30.0	36.6	122	3.91	30	16.7-246
2-butanone	75.0	55.0	73.4	75.0	54.0	72.0	1.98	30	16.7-314
n-butylbenzene	30.0	28.3	94.3	30.0	27.5	91.5	2.94	30	58.4-135
sec-butylbenzene	30.0	29.7	99.1	30.0	28.7	95.5	3.70	30	57.2-136
tert-butylbenzene	30.0	29.1	97.0	30.0	28.3	94.5	2.58	30	50.8-139
Carbon disulfide	30.0	24.8	82.6	30.0	24.2	80.8	2.16	30	16.7-276
carbon tetrachloride	30.0	27.8	92.7	30.0	27.2	90.8	2.07	30	61.1-141
chlorobenzene	30.0	28.1	93.7	30.0	27.5	91.6	2.27	30	63.0-129
chloroethane	30.0	30.9	103	30.0	31.2	104	1.13	30	22.5-200
2-chloroethyl vinyl ether	300	268	89.4	300	282	94.2	5.16	30	16.7-275
chloroform	30.0	28.0	93.5	30.0	27.5	91.8	1.80	30	65.0-137
chloromethane	30.0	28.7	95.5	30.0	29.0	96.7	1.18	30	16.7-182
2-chlorotoluene	30.0	29.3	97.6	30.0	27.9	93.1	4.75	30	61.1-138
4-chlorotoluene	30.0	29.0	96.7	30.0	28.0	93.5	3.36	30	63.8-134
dibromochloromethane	30.0	28.8	96.1	30.0	28.2	94.1	2.07	30	56.0-144
1,2-dibromo-3-chloropropane	150	166	110	150	161	107	3.01	30	16.7-213
1,2-dibromoethane	30.0	29.6	98.5	30.0	28.5	95.0	3.62	30	58.8-139
dibromomethane	30.0	28.5	94.9	30.0	27.6	91.9	3.18	30	54.1-154
1,2-dichlorobenzene	30.0	30.4	101	30.0	29.9	99.6	1.69	30	61.5-138
1,3-dichlorobenzene	30.0	29.9	99.7	30.0	28.5	95.1	4.65	30	61.5-138
1,4-dichlorobenzene	30.0	29.8	99.2	30.0	28.9	96.3	3.03	30	61.1-138
trans-1,4-Dichloro-2-butene	150	159	106	150	150	99.8	6.00	30	16.7-212
dichlorodifluoromethane	30.0	33.6	112	30.0	34.4	115	2.59	30	25.4-165
1,1-dichloroethane	30.0	26.8	89.5	30.0	26.1	87.0	2.83	30	62.4-140
1,2-dichloroethane	30.0	28.1	93.6	30.0	27.4	91.3	2.52	30	55.3-152
1,1-dichloroethene	30.0	27.0	90.2	30.0	26.1	87.0	3.61	30	65.4-134
cis-1,2-dichloroethene	30.0	27.4	91.4	30.0	27.0	90.0	1.54	30	63.8-138
trans-1,2-dichloroethene	30.0	26.7	89.0	30.0	26.1	87.1	2.16	30	63.3-139
1,2-dichloropropane	30.0	27.1	90.2	30.0	26.1	87.1	3.46	30	60.0-139
1,3-dichloropropane	30.0	28.9	96.4	30.0	27.8	92.5	4.13	30	62.3-136
2,2-dichloropropane	30.0	28.0	93.2	30.0	27.2	90.6	2.86	30	62.5-140
1,1-dichloropropene	30.0	26.8	89.2	30.0	26.2	87.4	2.00	30	60.9-136
cis-1,3-dichloropropene	30.0	27.2	90.8	30.0	26.6	88.6	2.49	30	59.8-141

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

* Values outside of QC limits

COMMENTS: _____

SGS Environmental Sevices

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Dilution: 1

Lab Code: NC00919 — Matrix: Soil

LCS: LCS9101909A — Filename: 1019903.D — Date Analyzed: 10/19/09 10:09

LCSD: LCS9101909B — Filename: 1019904.D — Date Analyzed: 10/19/09 10:35

COMPOUND	LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	30.0	28.2	94.0	30.0	27.2	90.6	3.61	30	7.27-173
Diisopropyl ether	30.0	25.9	86.5	30.0	25.3	84.4	2.42	30	9.01-172
ethylbenzene	30.0	28.6	95.2	30.0	27.8	92.5	2.80	30	16.7-187
hexachlorobutadiene	30.0	28.8	95.9	30.0	28.8	95.8	0.104	30	16.7-173
2-hexanone	75.0	61.9	82.5	75.0	61.7	82.2	0.324	30	16.7-304
Iodomethane	30.0	25.9	86.3	30.0	24.3	81.0	6.38	30	16.7-200
isopropylbenzene	30.0	28.9	96.3	30.0	28.0	93.4	2.99	30	6.43-167
4-isopropyltoluene	30.0	29.3	97.8	30.0	28.4	94.6	3.33	30	6.97-170
Methyl-tert-butyl ether	30.0	25.9	86.3	30.0	25.5	85.0	1.52	30	10.7-173
methylene chloride	30.0	27.0	90.1	30.0	26.1	87.1	3.46	30	8.58-169
4-methyl-2-pentanone	75.0	69.8	93.1	75.0	69.2	92.3	0.791	30	16.7-293
naphthalene	30.0	26.8	89.4	30.0	26.3	87.8	1.84	30	16.7-175
n-propyl benzene	30.0	29.1	97.1	30.0	27.8	92.8	4.49	30	7.25-172
styrene	30.0	28.5	95.1	30.0	27.8	92.6	2.63	30	10.2-168
1,1,1,2-tetrachloroethane	30.0	28.6	95.5	30.0	28.4	94.8	0.666	30	5.87-177
1,1,2,2-tetrachloroethane	30.0	30.2	101	30.0	29.8	99.5	1.36	30	10.9-168
tetrachloroethene	30.0	27.5	91.8	30.0	27.5	91.8	0.0363	30	16.7-195
toluene	30.0	26.6	88.7	30.0	26.4	88.1	0.679	30	26.6-159
1,2,3-trichlorobenzene	30.0	26.6	88.6	30.0	26.7	89.0	0.450	30	4.64-169
1,2,4-trichlorobenzene	30.0	26.6	88.6	30.0	26.1	87.2	1.63	30	6.55-165
1,1,1-trichloroethane	30.0	28.4	94.6	30.0	28.0	93.3	1.31	30	8.40-173
1,1,2-trichloroethane	30.0	29.0	96.6	30.0	28.0	93.5	3.19	30	12.2-166
trichloroethene	30.0	28.1	93.8	30.0	27.5	91.7	2.26	30	24.0-158
trichlorofluoromethane	30.0	30.5	102	30.0	31.9	106	4.39	30	5.64-183
1,2,3-trichloropropane	30.0	29.7	99.1	30.0	29.2	97.5	1.56	30	16.7-186
1,2,4-trimethylbenzene	30.0	28.3	94.4	30.0	27.4	91.2	3.38	30	8.60-168
1,3,5-trimethylbenzene	30.0	28.3	94.4	30.0	27.2	90.7	4.00	30	8.09-168
Vinyl acetate	75.0	65.6	87.4	75.0	63.5	84.7	3.14	30	16.7-225
vinyl chloride	30.0	30.6	102	30.0	31.2	104	1.91	30	7.56-178
m/p-xylene	60.0	55.8	93.0	60.0	53.8	89.7	3.61	30	8.91-169
o-xylene	30.0	28.4	94.6	30.0	27.2	90.6	4.32	30	9.45-167

System Monitoring Compound Results		LCS SPIKE (µg/kg)	LCS CONC (µg/kg)	LCS % REC #	LCSD SPIKE (µg/kg)	LCSD CONC (µg/kg)	LCSD % REC #	QC LIMITS REC
460-00-4	4-Bromofluorobenzene	50	48.44	96.9	50	48.87	97.7	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	53.13	106	50	53.83	108	37.8-170
2037-26-5	Toluene-d8	50	48.31	96.6	50	48.49	97.0	58.8-144

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

* Values outside of QC limits

LCS Spike Recovery: 0 failure(s) out of 72. LCSD Spike Recovery: 0 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS: _____

Analyst: _____ Reviewed by: _____

SGS Environmental Services

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Lab Code: NC00919 Inst: MSD9

	EPA Sample No.:	Amt.	Filenames:	Analysis Dates:	Batch: 9101909
Sample	g296-669-18a	6.13 g	1019922.D	2009-10-19 19:16:00	Dilution: 1
MS	g296-669-18a	6.13 g	1019923.D	2009-10-19 19:42:00	Matrix: Soil
MSD	g296-669-18a	6.13 g	1019924.D	2009-10-19 20:08:00	Solids: 78.3

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
acetone	BQL	31.2	23.4	74.9	31.2	19.9	63.7	16.2	30	6.81-355
acrolein	BQL	312	280	89.7	312	291	93.3	3.86	30	0.00-6510
acrylonitrile	BQL	312	238	76.2	312	219	70.2	8.20	30	0.00-5670
benzene	BQL	31.2	22.9	73.3*	31.2	23.0	73.6*	0.408	30	74.8-133
bromobenzene	BQL	31.2	19.6	62.6*	31.2	21.1	67.7	7.83	30	66.1-140
bromochloromethane	BQL	31.2	23.5	75.4*	31.2	22.8	73.0*	3.24	30	85.1-136
bromodichloromethane	BQL	31.2	24.6	78.6	31.2	23.8	76.2*	3.06	30	77.4-140
bromoform	BQL	31.2	19.8	63.5*	31.2	19.2	61.4*	3.36	30	74.7-161
bromomethane	BQL	31.2	46.9	150*	31.2	49.3	158*	5.00	30	30.4-127
2-butanone	BQL	31.2	43.8	140	31.2	40.3	129	8.20	30	40.9-256
n-butylbenzene	BQL	31.2	18.8	60.4	31.2	20.1	64.3	6.26	30	41.2-147
sec-butylbenzene	BQL	31.2	21.2	67.8	31.2	22.8	72.9	7.15	30	56.7-138
tert-butylbenzene	BQL	31.2	19.6	62.8	31.2	20.7	66.3	5.37	30	60.5-142
Carbon disulfide	BQL	31.2	19.3	61.7*	31.2	19.9	63.8*	3.35	30	64.3-145
carbon tetrachloride	BQL	31.2	22.2	71.0	31.2	22.5	72.1	1.54	30	64.2-142
chlorobenzene	BQL	31.2	22.1	70.7	31.2	23.3	74.5	5.28	30	66.3-135
chloroethane	BQL	31.2	26.9	86.1	31.2	27.8	88.9	3.16	30	20.7-182
2-chloroethyl vinyl ether	BQL	31.2	178	569*	31.2	172	551*	3.26	30	16.7-283
chloroform	BQL	31.2	24.5	78.4	31.2	24.4	78.0	0.512	30	71.1-143
chloromethane	BQL	31.2	24.4	78.1	31.2	25.0	80.0	2.36	30	69.1-138
2-chlorotoluene	BQL	31.2	21.1	67.6	31.2	22.5	71.9	6.21	30	59.8-144
4-chlorotoluene	BQL	31.2	20.6	66.0	31.2	22.6	72.4	9.15	30	59.0-141
dibromochloromethane	BQL	31.2	23.3	74.7*	31.2	22.9	73.4*	1.71	30	78.1-141
1,2-dibromo-3-chloropropane	BQL	156	123	78.7	156	117	75.0	4.91	30	43.4-229
1,2-dibromoethane	BQL	31.2	24.2	77.6*	31.2	23.1	74.0*	4.75	30	78.3-148
dibromomethane	BQL	31.2	23.8	76.3*	31.2	22.9	73.4*	3.96	30	80.0-150
1,2-dichlorobenzene	BQL	31.2	21.1	67.6	31.2	22.7	72.7	7.22	30	57.5-148
1,3-dichlorobenzene	BQL	31.2	20.2	64.8	31.2	21.9	70.1	7.76	30	55.0-145
1,4-dichlorobenzene	BQL	31.2	20.4	65.2	31.2	21.6	69.0	5.76	30	53.4-146
trans-1,4-Dichloro-2-butene	BQL	156	113	72.6	156	112	71.9	0.978	30	48.9-211
dichlorodifluoromethane	BQL	31.2	27.0	86.3	31.2	29.3	93.8	8.29	30	81.6-130
1,1-dichloroethane	BQL	31.2	23.1	73.8	31.2	22.9	73.3	0.725	30	71.6-139
1,2-dichloroethane	BQL	31.2	24.5	78.5	31.2	23.6	75.5	3.81	30	72.9-146
1,1-dichloroethene	BQL	31.2	22.2	71.0*	31.2	22.9	73.2	3.14	30	72.0-135
cis-1,2-dichloroethene	BQL	31.2	23.7	75.9*	31.2	23.8	76.2*	0.395	30	76.9-134
trans-1,2-dichloroethene	BQL	31.2	22.8	72.9	31.2	22.9	73.2	0.411	30	72.0-135
1,2-dichloropropane	BQL	31.2	22.9	73.3*	31.2	22.5	72.1*	1.65	30	76.1-136
1,3-dichloropropane	BQL	31.2	24.1	77.1*	31.2	23.7	75.8*	1.79	30	83.2-137
2,2-dichloropropane	BQL	31.2	22.8	73.0	31.2	22.6	72.2	1.06	30	58.0-150
1,1-dichloropropene	BQL	31.2	21.4	68.4*	31.2	22.3	71.5	4.38	30	68.5-137
cis-1,3-dichloropropene	BQL	31.2	22.2	71.1*	31.2	21.7	69.4*	2.42	30	72.1-146

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

* Values outside of QC limits

COMMENTS: _____

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Inst: MSD9

Lab Code: NC00919 Batch: 9101909

EPA Sample No.: g296-669-18a, g296-669-18a, g296-669-18a Dilution: 1

Filenames: 1019922.D, 1019923.D, 1019924.D Matrix: Soil

COMPOUND	SAMPLE CONC (µg/kg)	MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	1.06	31.2	22.0	67.1	31.2	21.2	64.5	3.90	30	44.7-144
Diisopropyl ether	BQL	31.2	22.7	72.7*	31.2	21.8	69.8*	4.02	30	79.4-122
ethylbenzene	BQL	31.2	22.3	71.4*	31.2	23.4	75.1	5.05	30	73.8-126
hexachlorobutadiene	BQL	31.2	18.2	58.2	31.2	18.4	58.8	1.02	30	51.8-134
2-hexanone	BQL	31.2	49.4	158*	31.2	46.0	147*	7.07	30	41.6-111
Iodomethane	BQL	31.2	19.4	62.2	31.2	20.7	66.2	6.18	30	40.6-126
isopropylbenzene	BQL	31.2	21.8	69.9*	31.2	23.4	74.8	6.82	30	74.3-123
4-isopropyltoluene	BQL	31.2	20.8	66.4*	31.2	22.0	70.4*	5.84	30	74.6-122
Methyl-tert-butyl ether	BQL	31.2	22.4	71.7	31.2	20.8	66.6	7.32	30	66.5-136
methylene chloride	BQL	125	28.4	20.6*	125	26.9	19.4*	6.02	30	48.6-155
4-methyl-2-pentanone	BQL	31.2	59.8	187*	31.2	53.4	167*	11.6	30	6.88-166
naphthalene	BQL	31.2	14.6	46.7*	31.2	15.2	48.6*	4.06	30	55.1-140
n-propyl benzene	BQL	31.2	21.2	68.0*	31.2	22.9	73.3	7.50	30	71.6-128
styrene	BQL	31.2	21.0	67.4*	31.2	22.4	71.7*	6.23	30	73.2-123
1,1,1,2-tetrachloroethane	BQL	31.2	23.4	74.9	31.2	24.2	77.6	3.58	30	69.4-120
1,1,2,2-tetrachloroethane	BQL	31.2	25.5	81.7	31.2	24.8	79.4	2.81	30	75.7-136
tetrachloroethene	BQL	31.2	19.0	60.9	31.2	20.6	65.9	7.89	30	45.8-153
toluene	BQL	31.2	21.9	70.0	31.2	22.6	72.2	3.09	30	66.4-128
1,2,3-trichlorobenzene	BQL	31.2	15.6	49.8*	31.2	15.6	50.0*	0.334	30	61.0-126
1,2,4-trichlorobenzene	BQL	31.2	14.3	45.8*	31.2	16.2	52.0*	12.7	30	60.6-125
1,1,1-trichloroethane	BQL	31.2	23.7	75.8*	31.2	23.8	76.1*	0.351	30	78.4-121
1,1,2-trichloroethane	BQL	31.2	25.3	81.0	31.2	24.0	77.0	5.10	30	64.8-128
trichloroethene	BQL	31.2	22.8	72.9*	31.2	23.3	74.5*	2.17	30	84.9-136
trichlorofluoromethane	BQL	31.2	23.3	74.7*	31.2	24.7	79.1	5.72	30	76.8-132
1,2,3-trichloropropane	BQL	31.2	22.8	73.0	31.2	22.2	70.9	2.83	30	10.0-218
1,2,4-trimethylbenzene	BQL	31.2	20.8	66.5	31.2	21.9	70.0	5.13	30	31.0-172
1,3,5-trimethylbenzene	BQL	31.2	21.0	67.3*	31.2	22.2	71.0	5.25	30	67.7-132
Vinyl acetate	BQL	78.1	39.8	51.0	78.1	40.2	51.5	1.09	30	0.00-355
vinyl chloride	BQL	31.2	24.5	78.5	31.2	26.2	83.8	6.57	30	68.1-137
m/p-xylene	BQL	62.5	42.8	68.5*	62.5	45.0	72.1*	5.10	30	79.8-118
o-xylene	BQL	31.2	21.9	70.2*	31.2	23.2	74.2*	5.50	30	80.0-121

System Monitoring Compound Results		MS SPIKE (µg/kg)	MS CONC (µg/kg)	MS % REC #	MSD SPIKE (µg/kg)	MSD CONC (µg/kg)	MSD % REC #	QC LIMITS REC
460-00-4	4-Bromofluorobenzene	50	49.59	99.2	50	49.4	98.8	49.1-151
17060-07-0	1,2-Dichloroethane-d4	50	53.34	107	50	51.18	102	37.8-170
2037-26-5	Toluene-d8	50	49.28	98.6	50	48.78	97.6	58.8-144

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

* Values outside of QC limits

MS Spike Recovery: 34 failure(s) out of 72. MSD Spike Recovery: 27 failure(s) out of 72.

RPD: 0 out of 72 outside of limits

COMMENTS: _____

Analyst: _____ Reviewed by: DVO

Results for Semivolatiles
by GCMS 8270

Client Sample ID: HA01 3-4'
Client Project ID: USTSTC-868
Lab Sample ID: G128-2450-1I
Lab Project ID: G128-2450
Report Basis: Dry weight
Initial Weight: 32.34 g

Analyzed By: EAW
Date Collected: 10/8/2009 12:00
Date Received: 10/8/2009
Date Extracted: 10/12/2009
Matrix: Soil
% Solids: 85.5

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.362	0.055	1	10/15/2009	
Acenaphthylene	BQL	0.362	0.051	1	10/15/2009	
Anthracene	BQL	0.362	0.049	1	10/15/2009	
Benzo[a]anthracene	BQL	0.362	0.050	1	10/15/2009	
Benzo[a]pyrene	BQL	0.362	0.052	1	10/15/2009	
Benzo[b]fluoranthene	BQL	0.362	0.050	1	10/15/2009	
Benzo[g,h,i]perylene	BQL	0.362	0.063	1	10/15/2009	
Benzo[k]fluoranthene	BQL	0.362	0.051	1	10/15/2009	
Benzoic Acid	BQL	0.723	0.447	1	10/15/2009	
Bis(2-chloroethoxy)methane	BQL	0.362	0.053	1	10/15/2009	
Bis(2-chloroethyl)ether	BQL	0.362	0.073	1	10/15/2009	
Bis(2-chloroisopropyl)ether	BQL	0.362	0.058	1	10/15/2009	
Bis(2-ethylhexyl)phthalate	BQL	0.362	0.055	1	10/15/2009	
4-bromophenyl phenyl ether	BQL	0.362	0.064	1	10/15/2009	
Butylbenzylphthalate	BQL	0.362	0.054	1	10/15/2009	
2-Chloronaphthalene	BQL	0.362	0.050	1	10/15/2009	
2-Chlorophenol	BQL	0.362	0.046	1	10/15/2009	
4-Chloro-3-methylphenol	BQL	0.362	0.053	1	10/15/2009	
4-Chloroaniline	BQL	1.81	0.059	1	10/15/2009	
4-Chlorophenyl phenyl ether	BQL	0.362	0.053	1	10/15/2009	
Chrysene	BQL	0.362	0.035	1	10/15/2009	
Dibenzo[a,h]anthracene	BQL	0.362	0.046	1	10/15/2009	
Dibenzofuran	BQL	0.362	0.051	1	10/15/2009	
Di-n-Butylphthalate	BQL	0.362	0.053	1	10/15/2009	
1,2-Dichlorobenzene	BQL	0.362	0.061	1	10/15/2009	
1,3-Dichlorobenzene	BQL	0.362	0.059	1	10/15/2009	
1,4-Dichlorobenzene	BQL	0.362	0.052	1	10/15/2009	
3,3'-Dichlorobenzidine	BQL	0.723	0.060	1	10/15/2009	
2,4-Dichlorophenol	BQL	0.362	0.039	1	10/15/2009	
Diethylphthalate	BQL	0.362	0.049	1	10/15/2009	
Dimethylphthalate	BQL	0.362	0.056	1	10/15/2009	
2,4-Dimethylphenol	BQL	0.362	0.066	1	10/15/2009	
Di-n-octylphthalate	BQL	0.362	0.056	1	10/15/2009	
4,6-Dinitro-2-methylphenol	BQL	1.81	0.043	1	10/15/2009	
2,4-Dinitrophenol	BQL	1.81	0.047	1	10/15/2009	
2,4-Dinitrotoluene	BQL	0.362	0.055	1	10/15/2009	
2,6-Dinitrotoluene	BQL	0.362	0.060	1	10/15/2009	
Fluoranthene	BQL	0.362	0.058	1	10/15/2009	
Fluorene	BQL	0.362	0.056	1	10/15/2009	
Hexachlorobenzene	BQL	0.362	0.079	1	10/15/2009	
Hexachlorobutadiene	BQL	0.362	0.066	1	10/15/2009	
Hexachlorocyclopentadiene	BQL	0.723	0.071	1	10/15/2009	
Hexachloroethane	BQL	0.362	0.056	1	10/15/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.362	0.043	1	10/15/2009	
Isophorone	BQL	0.362	0.053	1	10/15/2009	
2-Methylnaphthalene	BQL	0.362	0.059	1	10/15/2009	
2-Methylphenol	BQL	0.362	0.055	1	10/15/2009	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: HA01 3-4'
Client Project ID: USTSTC-868
Lab Sample ID: G128-2450-1I
Lab Project ID: G128-2450
Report Basis: Dry weight
Initial Weight: 32.34 g

Analyzed By: EAW
Date Collected: 10/8/2009 12:00
Date Received: 10/8/2009
Date Extracted: 10/12/2009
Matrix: Soil
% Solids: 85.5

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.362	0.047	1	10/15/2009	
Naphthalene	BQL	0.362	0.051	1	10/15/2009	
2-Nitroaniline	BQL	0.362	0.049	1	10/15/2009	
3-Nitroaniline	BQL	1.81	0.053	1	10/15/2009	
4-Nitroaniline	BQL	1.81	0.049	1	10/15/2009	
Nitrobenzene	BQL	0.362	0.048	1	10/15/2009	
2-Nitrophenol	BQL	0.362	0.053	1	10/15/2009	
4-Nitrophenol	BQL	1.81	0.063	1	10/15/2009	
Diphenylamine *	BQL	0.362	0.058	1	10/15/2009	
Pentachlorophenol	BQL	1.81	0.033	1	10/15/2009	
Phenanthrene	BQL	0.362	0.051	1	10/15/2009	
Phenol	BQL	0.362	0.049	1	10/15/2009	
Pyrene	BQL	0.362	0.049	1	10/15/2009	
1,2,4-Trichlorobenzene	BQL	0.362	0.065	1	10/15/2009	
2,4,5-Trichlorophenol	BQL	0.362	0.054	1	10/15/2009	
2,4,6-Trichlorophenol	BQL	0.362	0.032	1	10/15/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	8.9	89
Nitrobenzene-d5	10	8.9	89
Phenol-d6	10	7.1	71
2,4,6-Tribromophenol	10	5.5	55
4-Terphenyl-d14	10	11	110

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

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

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: HA02 0-1'
Client Project ID: USTSTC-868
Lab Sample ID: G128-2450-2J
Lab Project ID: G128-2450
Report Basis: Dry weight
Initial Weight: 33.36 g

Analyzed By: EAW
Date Collected: 10/8/2009 11:30
Date Received: 10/8/2009
Date Extracted: 10/12/2009
Matrix: Soil
% Solids: 84.82

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.353	0.054	1	10/15/2009	
Acenaphthylene	BQL	0.353	0.050	1	10/15/2009	
Anthracene	BQL	0.353	0.048	1	10/15/2009	
Benzo[a]anthracene	BQL	0.353	0.048	1	10/15/2009	
Benzo[a]pyrene	BQL	0.353	0.051	1	10/15/2009	
Benzo[b]fluoranthene	BQL	0.353	0.049	1	10/15/2009	
Benzo[g,h,i]perylene	BQL	0.353	0.062	1	10/15/2009	
Benzo[k]fluoranthene	BQL	0.353	0.050	1	10/15/2009	
Benzoic Acid	BQL	0.707	0.436	1	10/15/2009	
Bis(2-chloroethoxy)methane	BQL	0.353	0.052	1	10/15/2009	
Bis(2-chloroethyl)ether	BQL	0.353	0.072	1	10/15/2009	
Bis(2-chloroisopropyl)ether	BQL	0.353	0.057	1	10/15/2009	
Bis(2-ethylhexyl)phthalate	BQL	0.353	0.054	1	10/15/2009	
4-bromophenyl phenyl ether	BQL	0.353	0.063	1	10/15/2009	
Butylbenzylphthalate	BQL	0.353	0.052	1	10/15/2009	
2-Chloronaphthalene	BQL	0.353	0.049	1	10/15/2009	
2-Chlorophenol	BQL	0.353	0.045	1	10/15/2009	
4-Chloro-3-methylphenol	BQL	0.353	0.052	1	10/15/2009	
4-Chloroaniline	BQL	1.77	0.058	1	10/15/2009	
4-Chlorophenyl phenyl ether	BQL	0.353	0.052	1	10/15/2009	
Chrysene	BQL	0.353	0.034	1	10/15/2009	
Dibenzo[a,h]anthracene	BQL	0.353	0.045	1	10/15/2009	
Dibenzofuran	BQL	0.353	0.050	1	10/15/2009	
Di-n-Butylphthalate	BQL	0.353	0.052	1	10/15/2009	
1,2-Dichlorobenzene	BQL	0.353	0.060	1	10/15/2009	
1,3-Dichlorobenzene	BQL	0.353	0.057	1	10/15/2009	
1,4-Dichlorobenzene	BQL	0.353	0.051	1	10/15/2009	
3,3'-Dichlorobenzidine	BQL	0.707	0.058	1	10/15/2009	
2,4-Dichlorophenol	BQL	0.353	0.039	1	10/15/2009	
Diethylphthalate	BQL	0.353	0.047	1	10/15/2009	
Dimethylphthalate	BQL	0.353	0.055	1	10/15/2009	
2,4-Dimethylphenol	BQL	0.353	0.064	1	10/15/2009	
Di-n-octylphthalate	BQL	0.353	0.054	1	10/15/2009	
4,6-Dinitro-2-methylphenol	BQL	1.77	0.042	1	10/15/2009	
2,4-Dinitrophenol	BQL	1.77	0.046	1	10/15/2009	
2,4-Dinitrotoluene	BQL	0.353	0.054	1	10/15/2009	
2,6-Dinitrotoluene	BQL	0.353	0.058	1	10/15/2009	
Fluoranthene	BQL	0.353	0.057	1	10/15/2009	
Fluorene	BQL	0.353	0.055	1	10/15/2009	
Hexachlorobenzene	BQL	0.353	0.077	1	10/15/2009	
Hexachlorobutadiene	BQL	0.353	0.064	1	10/15/2009	
Hexachlorocyclopentadiene	BQL	0.707	0.069	1	10/15/2009	
Hexachloroethane	BQL	0.353	0.055	1	10/15/2009	
Indeno(1,2,3-c,d)pyrene	BQL	0.353	0.042	1	10/15/2009	
Isophorone	BQL	0.353	0.052	1	10/15/2009	
2-Methylnaphthalene	BQL	0.353	0.058	1	10/15/2009	
2-Methylphenol	BQL	0.353	0.054	1	10/15/2009	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: HA02 0-1'
Client Project ID: USTSTC-868
Lab Sample ID: G128-2450-2J
Lab Project ID: G128-2450
Report Basis: Dry weight
Initial Weight: 33.36 g

Analyzed By: EAW
Date Collected: 10/8/2009 11:30
Date Received: 10/8/2009
Date Extracted: 10/12/2009
Matrix: Soil
% Solids: 84.82

Compound	Result mg/Kg	RL mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	0.353	0.046	1	10/15/2009	
Naphthalene	BQL	0.353	0.050	1	10/15/2009	
2-Nitroaniline	BQL	0.353	0.047	1	10/15/2009	
3-Nitroaniline	BQL	1.77	0.052	1	10/15/2009	
4-Nitroaniline	BQL	1.77	0.047	1	10/15/2009	
Nitrobenzene	BQL	0.353	0.047	1	10/15/2009	
2-Nitrophenol	BQL	0.353	0.052	1	10/15/2009	
4-Nitrophenol	BQL	1.77	0.062	1	10/15/2009	
Diphenylamine *	BQL	0.353	0.057	1	10/15/2009	
Pentachlorophenol	BQL	1.77	0.033	1	10/15/2009	
Phenanthrene	BQL	0.353	0.050	1	10/15/2009	
Phenol	BQL	0.353	0.048	1	10/15/2009	
Pyrene	BQL	0.353	0.048	1	10/15/2009	
1,2,4-Trichlorobenzene	BQL	0.353	0.064	1	10/15/2009	
2,4,5-Trichlorophenol	BQL	0.353	0.053	1	10/15/2009	
2,4,6-Trichlorophenol	BQL	0.353	0.032	1	10/15/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	8.4	84
Nitrobenzene-d5	10	8.6	86
Phenol-d6	10	6.8	68
2,4,6-Tribromophenol	10	5.3	53
4-Terphenyl-d14	10	11.3	113

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

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

Reviewed By: bdl

SGS North America, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB15296
Lab Project ID:
Report Basis: Dry Weight
Initial Weight: 32 g

Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 10/12/2009
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	313	47.8	1	10/14/2009	
Acenaphthylene	BQL	313	43.7	1	10/14/2009	
Anthracene	BQL	313	42.5	1	10/14/2009	
Benzo[a]anthracene	BQL	313	42.8	1	10/14/2009	
Benzo[a]pyrene	BQL	313	45.0	1	10/14/2009	
Benzo[b]fluoranthene	BQL	313	43.4	1	10/14/2009	
Benzo[g,h,i]perylene	BQL	313	54.4	1	10/14/2009	
Benzo[k]fluoranthene	BQL	313	44.4	1	10/14/2009	
Benzoic Acid	BQL	625	386	1	10/14/2009	
Bis(2-chloroethoxy)methane	BQL	313	45.9	1	10/14/2009	
Bis(2-chloroethyl)ether	BQL	313	63.4	1	10/14/2009	
Bis(2-chloroisopropyl)ether	BQL	313	50.3	1	10/14/2009	
Bis(2-ethylhexyl)phthalate	BQL	313	47.8	1	10/14/2009	
4-bromophenyl phenyl ether	BQL	313	55.3	1	10/14/2009	
Butylbenzylphthalate	BQL	313	46.2	1	10/14/2009	
2-Chloronaphthalene	BQL	313	43.4	1	10/14/2009	
2-Chlorophenol	BQL	313	39.7	1	10/14/2009	
4-Chloro-3-methylphenol	BQL	313	45.6	1	10/14/2009	
4-Chloroaniline	BQL	1560	50.9	1	10/14/2009	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	10/14/2009	
Chrysene	BQL	313	30.0	1	10/14/2009	
Dibenzo[a,h]anthracene	BQL	313	40.0	1	10/14/2009	
Dibenzofuran	BQL	313	44.1	1	10/14/2009	
Di-n-Butylphthalate	BQL	313	45.6	1	10/14/2009	
1,2-Dichlorobenzene	BQL	313	52.8	1	10/14/2009	
1,3-Dichlorobenzene	BQL	313	50.6	1	10/14/2009	
1,4-Dichlorobenzene	BQL	313	45.3	1	10/14/2009	
3,3'-Dichlorobenzidine	BQL	625	51.6	1	10/14/2009	
2,4-Dichlorophenol	BQL	313	34.1	1	10/14/2009	
Diethylphthalate	BQL	313	41.9	1	10/14/2009	
Dimethylphthalate	BQL	313	48.4	1	10/14/2009	
2,4-Dimethylphenol	BQL	313	56.6	1	10/14/2009	
Di-n-octylphthalate	BQL	313	48.1	1	10/14/2009	
4,6-Dinitro-2-methylphenol	BQL	1560	37.2	1	10/14/2009	
2,4-Dinitrophenol	BQL	1560	40.6	1	10/14/2009	
2,4-Dinitrotoluene	BQL	313	47.5	1	10/14/2009	
2,6-Dinitrotoluene	BQL	313	51.6	1	10/14/2009	
Fluoranthene	BQL	313	50.3	1	10/14/2009	
Fluorene	BQL	313	48.8	1	10/14/2009	
Hexachlorobenzene	BQL	313	67.8	1	10/14/2009	
Hexachlorobutadiene	BQL	313	56.9	1	10/14/2009	
Hexachlorocyclopentadiene	BQL	625	60.9	1	10/14/2009	
Hexachloroethane	BQL	313	48.8	1	10/14/2009	
Indeno(1,2,3-c,d)pyrene	BQL	313	36.9	1	10/14/2009	
Isophorone	BQL	313	45.6	1	10/14/2009	
2-Methylnaphthalene	BQL	313	50.9	1	10/14/2009	
2-Methylphenol	BQL	313	47.8	1	10/14/2009	

SGS North America, Inc.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB15296
Lab Project ID:
Report Basis: Dry Weight
Initial Weight: 32 g

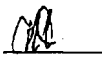
Analyzed By: EAW
Date Collected:
Date Received:
Date Extracted: 10/12/2009
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	RL ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
3- & 4-Methylphenol	BQL	313	40.6	1	10/14/2009	
Naphthalene	BQL	313	43.7	1	10/14/2009	
2-Nitroaniline	BQL	313	41.9	1	10/14/2009	
3-Nitroaniline	BQL	1560	45.9	1	10/14/2009	
4-Nitroaniline	BQL	1560	41.9	1	10/14/2009	
Nitrobenzene	BQL	313	41.6	1	10/14/2009	
2-Nitrophenol	BQL	313	45.6	1	10/14/2009	
4-Nitrophenol	BQL	1560	54.4	1	10/14/2009	
Diphenylamine *	BQL	313	50.3	1	10/14/2009	
Pentachlorophenol	BQL	1560	28.8	1	10/14/2009	
Phenanthrene	BQL	313	43.7	1	10/14/2009	
Phenol	BQL	313	42.5	1	10/14/2009	
Pyrene	BQL	313	42.5	1	10/14/2009	
1,2,4-Trichlorobenzene	BQL	313	56.3	1	10/14/2009	
2,4,5-Trichlorophenol	BQL	313	46.6	1	10/14/2009	
2,4,6-Trichlorophenol	BQL	313	27.8	1	10/14/2009	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.3	93
2-Fluorophenol	10	8.5	85
Nitrobenzene-d5	10	9.9	99
Phenol-d6	10	6.7	67
2,4,6-Tribromophenol	10	6.9	69
4-Terphenyl-d14	10	12.8	128

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

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

Reviewed By: 

LABORATORY CONTROL SAMPLE SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919 Case No.: SAS No.: SDG No:

Matrix: (soil/water) SOIL Lab Sample ID: LCS15296

Sample wt/vol: 32 (g) Lab File ID: 1014A30.D

Level: (low/med) LOW

% Moisture: 0% Decanted:(Y/N) N Date Analyzed: 10/14/09 21:13

Concentrated Extract Volume: 10000 (µL) Dilution Factor: 1

Injection Volume: 1 (µL) Extraction: (Type) SOXH

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
83-32-9	Acenaphthene	3125	2700	86.5	73.3-108
208-96-8	Acenaphthylene	3125	2630	84.2	76.0-113
120-12-7	Anthracene	3125	2760	88.4	67.6-104
56-55-3	Benzo[a]anthracene	3125	2690	86.1	71.6-113
50-32-8	Benzo[a]pyrene	3125	2590	82.9	68.1-116
205-99-2	Benzo[b]fluoranthene	3125	2220	71.1	61.3-129
191-24-2	Benzo[g,h,i]perylene	3125	2300	73.7	62.4-136
207-08-9	Benzo[k]fluoranthene	3125	2830	90.6	72.8-117
65-85-0	Benzoic Acid	3125	2920	93.5*	9.27-93.0
100-51-6	Benzyl Alcohol	3125	2920	93.5	71.8-108
111-91-1	Bis(2-chloroethoxy)methane	3125	2880	92.0	72.8-110
111-44-4	Bis(2-chloroethyl)ether	3125	2580	82.5	72.1-110
108-60-1	Bis(2-chloroisopropyl)ether	3125	2490	79.6	68.4-107
117-81-7	Bis(2-ethylhexyl)phthalate	3125	3210	103	71.1-120
101-55-3	4-bromophenyl phenyl ether	3125	2730	87.4	68.1-107
85-68-7	Butylbenzylphthalate	3125	2690	86.1	70.3-120
106-47-8	4-Chloroaniline	3125	2000	64.1	43.7-101
59-50-7	4-Chloro-3-methylphenol	3125	2650	84.7	76.4-125
91-58-7	2-Chloronaphthalene	3125	2020	64.6	61.2-88.4
95-57-8	2-Chlorophenol	3125	2580	82.7	72.5-108
7005-72-3	4-Chlorophenyl phenyl ether	3125	2690	86.2	69.8-111
218-01-9	Chrysene	3125	3030	96.8	70.0-111
84-74-2	Di-n-Butylphthalate	3125	3280	105	72.1-111
117-84-0	Di-n-octylphthalate	3125	3010	96.4	70.4-126
53-70-3	Dibenzo[a,h]anthracene	3125	2560	82.0	64.9-133
132-64-9	Dibenzofuran	3125	2780	89.1	73.7-111
95-50-1	1,2-Dichlorobenzene	3125	2600	83.3	71.0-103
541-73-1	1,3-Dichlorobenzene	3125	2650	84.9	70.0-102
106-46-7	1,4-Dichlorobenzene	3125	2640	84.6	72.2-103
91-94-1	3,3'-Dichlorobenzidine	3125	2210	70.6	64.9-110
120-83-2	2,4-Dichlorophenol	3125	2400	76.8	74.6-115
84-66-2	Diethylphthalate	3125	2940	94.0	63.6-117
105-67-9	2,4-Dimethylphenol	3125	2590	82.8	71.2-112
131-11-3	Dimethylphthalate	3125	2870	91.7	72.9-111
534-52-1	4,6-Dinitro-2-methylphenol	3125	1760	56.4	33.0-122
51-28-5	2,4-Dinitrophenol	3125	1050	33.6	11.2-121
121-14-2	2,4-Dinitrotoluene	3125	2530	81.0	69.5-117
606-20-2	2,6-Dinitrotoluene	3125	2780	89.0	67.2-116
206-44-0	Fluoranthene	3125	2950	94.4	71.2-109
86-73-7	Fluorene	3125	2980	95.4	72.4-112
118-74-1	Hexachlorobenzene	3125	3100	99.1	68.8-109

LABORATORY CONTROL SAMPLE SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919 Case No.: SAS No.: SDG No:

Matrix: (soil/water) SOIL Lab Sample ID: LCS15296

Sample wt/vol: 32 (g) Lab File ID: 1014A30.D

Level: (low/med) LOW

% Moisture: 0% Decanted:(Y/N) N Date Analyzed: 10/14/09 21:13

Concentrated Extract Volume: 10000 (µL) Dilution Factor: 1

Injection Volume: 1 (µL) Extraction: (Type) SOXH

GPC Cleanup: N

CAS NO.	COMPOUND	SPIKE AMT (µg/kg)	SAMP CONC (µg/kg)	% REC #	QC LIMITS
87-68-3	Hexachlorobutadiene	3125	2580	82.6	73.1-114
77-47-4	Hexachlorocyclopentadiene	3125	5210	167	0.00-854
67-72-1	Hexachloroethane	3125	2610	83.4	70.9-106
193-39-5	Indeno(1,2,3-c,d)pyrene	3125	2350	75.3	65.2-135
78-59-1	Isophorone	3125	2850	91.1	76.7-116
90-12-0	1-Methylnaphthalene	3125	2700	86.3	73.1-108
91-57-6	2-Methylnaphthalene	3125	2790	89.4	75.3-113
95-48-7	2-Methylphenol	3125	2570	82.2	69.4-110
108-39-4	4-Methylphenol	6250	4530	72.6	70.0-116
621-64-7	N-Nitrosodi-n-propylamine	3125	2820	90.3	69.7-117
86-30-6	Diphenylamine	3125	2970	95.0	69.1-105
91-20-3	Naphthalene	3125	2660	85.1	78.4-115
88-74-4	2-Nitroaniline	3125	2350	75.2	65.0-109
99-09-2	3-Nitroaniline	3125	2010	64.3	57.4-102
100-01-6	4-Nitroaniline	3125	2260	72.3	62.8-113
98-95-3	Nitrobenzene	3125	2780	89.0	72.7-113
88-75-5	2-Nitrophenol	3125	2600	83.2	71.8-113
100-02-7	4-Nitrophenol	3125	1290	41.3	39.6-116
87-86-5	Pentachlorophenol	3125	2200	70.5	49.8-106
85-01-8	Phenanthrene	3125	2810	89.9	70.9-110
108-95-2	Phenol	3125	2530	81.1	72.1-106
129-00-0	Pyrene	3125	2630	84.1	71.9-112
110-86-1	Pyridine	3125	2640	84.4	31.1-97.3
120-82-1	1,2,4-Trichlorobenzene	3125	2560	82.0	73.6-107
95-95-4	2,4,5-Trichlorophenol	3125	2210	70.8	69.1-114
88-06-2	2,4,6-Trichlorophenol	3125	2230	71.3	71.2-112

System Monitoring Compound Results		Spike Added (µg/kg)	Spike Result (µg/kg)	Percent Rec. (%)	Percent Recovery (%)
118-79-6	2,4,6-Tribromophenol	3125	2540	81.2	41.1-129
321-60-8	2-Fluorobiphenyl	3125	2990	95.6	56.4-116
367-12-4	2-Fluorophenol	3125	2670	85.3	41.8-123
1718-51-0	4-Terphenyl-d14	3125	2980	95.4	43.8-140
4165-60-0	Nitrobenzene-d5	3125	2940	94.0	46.1-117
13127-88-3	Phenol-d6	3125	2650	84.7	47.9-125

LCS Spike Recovery: 1 out of 67 outside of limits.

Analyst: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: USTSTC-868

Sample Information	
Sample Identification	HA01 3-4'
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	10/08/09 12:00
Date Received	10/08/09
Date Extracted	10/08/09
Date Analyzed	10/15/09 05:05 - 10/15/09 05:05
Dry Weight	85.5
Dilution Factor	1 - 1

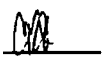
Analytical Results			
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags
C_5-C_8 Aliphatics**	BQL	10.0	
C_9-C_{12} Aliphatics**	BQL	10.0	
C_9-C_{10} Aromatics**	BQL	10.0	

	Percent Recovery	Flags	Limits Lower	Limits Upper
Surrogate % Recovery - PID	85.5		70	130
Surrogate % Recovery - FID	107		70	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 and are unadjusted for individual analytes.

Lab Info:	g128-2450-1d	Lab Info:	g128-2450-1d
FID Info:	VP101409/049F0101.D	PID Info:	VP101409/049R0101.D

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: USTSTC-868

Sample Information	
Sample Identification	HA02 0-1'
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	10/08/09 11:30
Date Received	10/08/09
Date Extracted	10/08/09
Date Analyzed	10/15/09 05:32 - 10/15/09 05:32
Dry Weight	84.8
Dilution Factor	1 - 1

Analytical Results			
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags
C_5-C_8 Aliphatics**	BQL	10.0	
C_9-C_{12} Aliphatics**	BQL	10.0	
C_9-C_{10} Aromatics**	BQL	10.0	

	Percent Recovery	Flags	Limits Lower	Limits Upper
Surrogate % Recovery - PID	88.0		70	130
Surrogate % Recovery - FID	112		70	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 and are unadjusted for individual analytes.

Lab Info: g128-2450-2d	Lab Info: g128-2450-2d
FID Info: VP101409/050F0101.D	PID Info: VP101409/050R0101.D

Reviewed By: bab

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: _____

Project Name: _____

Sample Information	
Sample Identification	vblk4101409a
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	
Date Received	
Date Extracted	
Date Analyzed	10/14/09 15:56 - 10/14/09 15:56
Dry Weight	100
Dilution Factor	1 - 1

Analytical Results			
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags
C_5-C_8 Aliphatics**	BQL	10.0	
C_9-C_{12} Aliphatics**	BQL	10.0	
C_9-C_{10} Aromatics**	BQL	10.0	

	Percent Recovery	Flags	Limits Lower	Limits Upper
Surrogate % Recovery - PID	86.3		70	130
Surrogate % Recovery - FID	110		70	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 and are unadjusted for individual analytes.

Lab Info:	vblk4101409a	Lab Info:	vblk4101409a
FID Info:	VP101409/019F0101.D	PID Info:	VP101409/019R0101.D

Reviewed By: _____

LABORATORY CONTROL SPIKE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	LCS4101409A	Analyzed By:		
Lab Project ID:	Batch QC	Matrix:	Soil	
Report Basis:	Dry	Percent Solids:	100	%

Analytical QC Results Summary

Analyte	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics		11.2				
C9-C12 Aliphatics		5.64				
C9-C10 Aromatics		1.53				
Total VPH	16.0	18.4	115	70.0	130	

Surrogate Standards	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
Surrogate - PID	100	86.5	86.5	70.0	130	
Surrogate - FID	100	108	108	70.0	130	

Reviewed By: 

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS
by Method VPH

SGS Environmental Services, Inc.

Lab Sample ID:	g122-3441-5a	Analyzed By:	DVO	
MS Sample ID:	g122-3441-5a	Matrix:	Soil	
MSD Sample ID:	g122-3441-5a	Percent Solids:	79.0	%
Lab Project ID:	Batch QC for VP101409			
Report Basis:	Dry			

Matrix Spike Results Summary

Analyte	Sample Amount mg/Kg	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics	3.48	-	15.20	-	-	-	
C9-C12 Aliphatics	39.20	-	41.30	-	-	-	
C9-C10 Aromatics	23.4000	-	26.70	-	-	-	
Total VPH	66	15.0	83.2	115.0	70	130	

Matrix Spike Duplicate Results Summary

Analyte	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C5-C8 Aliphatics	-	14.60	-	-	-	
C9-C12 Aliphatics	-	39.90	-	-	-	
C9-C10 Aromatics	-	25.70	-	-	-	
Total VPH	15.0	80.1	93.9	70	130	

Analyte	MS Amount mg/Kg	MSD Amount mg/Kg	RPD Value (%)	RPD Limit (%)	Qualifier
C5-C8 Aliphatics	-	-	-	-	
C9-C12 Aliphatics	-	-	-	-	
C9-C10 Aromatics	-	-	-	-	
Total VPH	83.2	80.1	4	20	

Reviewed By: _____

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/28/09 PID Initial Calibration Date: 09/28/09

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	2.02	0.175	6.42	0.557	100	10
C_9-C_{12} Aliphatics	1.51	0.118	4.80	0.375	100	10
C_9-C_{10} Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C_5-C_8 Aliphatics	10	0.8	3.16	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C_9-C_{12} Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C_9-C_{10} Aromatics	10	0.8	19.51	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 10/14/09 Filename: VP101409/002F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	17.7	±25%
C_9-C_{12} Aliphatics	200	16	10.6	±25%
C_9-C_{10} Aromatics	200	16	5.1	±25%

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: 09/28/09 PID Initial Calibration Date: 09/28/09

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	2.02	0.175	6.42	0.557	100	10
C_9-C_{12} Aliphatics	1.51	0.118	4.80	0.375	100	10
C_9-C_{10} Aromatics	0.902	0.132	2.87	0.420	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C_5-C_8 Aliphatics	10	0.8	3.16	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C_9-C_{12} Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C_9-C_{10} Aromatics	10	0.8	19.51	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 10/14/09 Filename: VP101409/052F0101.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C_5-C_8 Aliphatics	200	16	14.7	±25%
C_9-C_{12} Aliphatics	200	16	18.5	±25%
C_9-C_{10} Aromatics	200	16	5.5	±25%

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) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: USTSTC-868

Sample Information	
Sample Identification	HA01 3-4'
Sample Matrix	Soil
Date Collected	10/08/09 12:00
Date Received	10/08/09
Date Extracted	10/15/09
Date Analyzed	10/16/09 18:48 - 10/16/09 19:16
Dry Weight	85.5
Dilution Factor	1 - 1
Initial weight (g)	12.26
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	104		40	140
Aromatic (ortho-terphenyl)	88.3		40	140
Fractionation 1 (2-bromonaphthalene)	95.1		40	140
Fractionation 2 (2-fluorobiphenyl)	97.4		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G128-2450-1J	Lab Info: G128-2450-1J
Aliphatic: EP101609/007F0501.D	Aromatic: EP101609/008F0601.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: _____

Project Name: _____

Sample Information	
Sample Identification	PB15337
Sample Matrix	SOIL
Date Collected	
Date Received	
Date Extracted	10/15/09
Date Analyzed	10/16/09 16:53 - 10/16/09 17:22
Dry Weight	100
Dilution Factor	1 - 1
Initial weight (g)	12.0
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	92.7		40	140
Aromatic (ortho-terphenyl)	84.9		40	140
Fractionation 1 (2-bromonaphthalene)	72.1		40	140
Fractionation 2 (2-fluorobiphenyl)	74.8		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: PB15337	Lab Info: PB15337
Aliphatic: EP101609/003F0101.D	Aromatic: EP101609/004F0201.D

Reviewed By: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: USTSTC-868

Sample Information	
Sample Identification	HA02 0-1'
Sample Matrix	Soil
Date Collected	10/08/09 11:30
Date Received	10/08/09
Date Extracted	10/15/09
Date Analyzed	10/16/09 19:45 - 10/16/09 20:13
Dry Weight	84.8
Dilution Factor	1 - 1
Initial weight (g)	12.34
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	105		40	140
Aromatic (ortho-terphenyl)	96.3		40	140
Fractionation 1 (2-bromonaphthalene)	102		40	140
Fractionation 2 (2-fluorobiphenyl)	109		40	140

** = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G128-2450-2K	Lab Info: G128-2450-2K
Aliphatic: EP101609/009F0701.D	Aromatic: EP101609/010F0801.D

Reviewed By: bdw

LABORATORY CONTROL SPIKE RESULTS
by Method EPH

SGS Environmental Services, Inc.

Lab Sample ID:	LCS15337	Analyzed By:	BWS	
Lab Project ID:	Batch QC	Matrix:	SOIL	
Report Basis:	Dry	Percent Solids:	100	%
		Initial Amount:	12.0	g
		Final Volume:	10.0	mL

Analytical QC Results Summary

Analyte	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	8.33	5.20	62.4	40.0	140	
C19-C36 Aliphatics	8.33	7.35	88.2	40.0	140	
C11-C22 Aromatics	8.33	4.31	51.7	40.0	140	

Surrogate Standards	Expected Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
Aliphatic (COD)	40.0	35.7	89.3	40.0	140	
Aromatic (OTP)	40.0	37.8	94.5	40.0	140	
Frac1 (2-BRN)	100	102	102	40.0	140	
Frac2 (2-FBP)	100	109	109	40.0	140	

Fractionation Breakthrough	Aliphatic Fraction area	Aromatic Fraction area	Break through (%)	Limit (%)	Qualifier
Naphthalene	0	590	0.00	≤5	

Reviewed By: _____

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULTS
by Method EPH

SGS Environmental Services, Inc.

Lab Sample ID:	G838-9-1G	Analyzed By:	BWS	
MS Sample ID:	G838-9-1h	Matrix:	Soil	
MSD Sample ID:	G838-9-1i	Percent Solids:	32.8	%
Report Basis:	Dry	Batch ID:	15337	

Matrix Spike Results Summary

Analyte*	Sample Amount mg/Kg	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	0.152	24.6	18.2	73.4	40.0	140	
C19-C36 Aliphatics	0.00	24.6	23.0	93.5	40.0	140	
C11-C22 Aromatics	0.176	24.6	12.2	48.9	40.0	140	

Matrix Spike Duplicate Results Summary

Analyte*	Spiked Amount mg/Kg	Measured Amount mg/Kg	Percent Recovery (%)	Lower Limit (%)	Upper Limit (%)	Qualifier
C9-C18 Aliphatics	23.6	17.7	74.3	40.0	140	
C19-C36 Aliphatics	23.6	21.5	91.0	40.0	140	
C11-C22 Aromatics	23.6	11.3	47.1	40.0	140	

Analyte*	MS Amount mg/Kg	MSD Amount mg/Kg	RPD Value (%)	RPD Limit (%)	Qualifier
C9-C18 Aliphatics	18.2	17.7	2.79	≤50	
C19-C36 Aliphatics	23.0	21.5	6.74	≤50	
C11-C22 Aromatics	12.2	11.3	7.66	≤50	

* = Range value from spiked compounds only.

Reviewed By: _____

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 10/06/09

Calibration Ranges and Limits

Range	MDL (02/15/08) (µg/L)	MDL (02/11/08) (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C_9-C_{18} Aliphatics	200	33.3	12.22	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	8.95	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	3.21	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 10/16/09 / 10/16/09

Filenames: ep101609/001f0101.d / ep101609/002f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	2.1	≤±25%
C19-C36 Aliphatics	100	16.7	1.8	≤±25%
C11-C22 Aromatics	100	16.7	1.2	≤±25%

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: 10/06/09

Calibration Ranges and Limits

Range	MDL (02/15/08) (µg/L)	MDL (02/11/08) (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C_9-C_{18} Aliphatics	200	33.3	12.22	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{19}-C_{36} Aliphatics	200	33.3	8.95	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C_{11}-C_{22} Aromatics	200	33.3	3.21	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		

Calibration Check Date: 10/16/09, 10/17/09

Filenames: ep101609/017f1501.d, ep101609/018f1601.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR	Limits
C9-C18 Aliphatics	100	16.7	5.6	≤±25%
C19-C36 Aliphatics	100	16.7	6.4	≤±25%
C11-C22 Aromatics	100	16.7	3.5	≤±25%

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 Metals

Client Sample ID:	HA01 3-4'			Analyzed By:	PSW
Client Project ID:	USTSTC-868			Date Collected:	10/8/09 12:00
Lab Sample ID:	G128-2450-1			Date Received:	10/8/09
Lab Project ID:	G128-2450			Matrix:	SOIL
ICP InitWt/Vol:	0.53 g	Final Vol:	50 mL	Solids	85.50
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	15291				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**6.37**	1.10	0.131	1	MG/KG	6010B	10/14/09	B
Lead	**5.76**	1.10	0.683	1	MG/KG	6010B	10/14/09	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
Metals

Results for Metals

Client Sample ID:	HA02 0-1'			Analyzed By:	PSW
Client Project ID:	USTSTC-868			Date Collected:	10/8/2009 11:30
Lab Sample ID:	G128-2450-2			Date Received:	10/8/2009
Lab Project ID:	G128-2450			Matrix:	SOIL
ICP InitWt/Vol:	0.53 g	Final Vol:	50 mL	Solids	84.82
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	15291				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**21.9**	1.11	0.132	1	MG/KG	6010B	10/14/2009	B
Lead	**7.24**	1.11	0.688	1	MG/KG	6010B	10/14/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: bah
METALS.XLS

Results for Metals

Client Sample ID:	Lab Blank			Analyzed By:	PSW
Client Project ID:				Date Collected:	
Lab Sample ID:	pb15291			Date Received:	
Lab Project ID:				Matrix:	SOIL
ICP InitWt/Vol:	0.57 g	Final Vol:	50 mL	Solids	100.00
Hg InitWt/Vol:		Final Vol:		Report Basis:	Dry
Prep Batch:	15291				

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Chromium	**0.253**	0.877	0.104	1	MG/KG	6010B	10/14/2009	JB
Lead	BQL	0.877	0.543	1	MG/KG	6010B	10/14/2009	

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

METALS Results for LCS/LCD

ICP Batch: 15291
HG Batch:
Other:

Matrix: SOIL
Units: MG/KG

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit Lower	Limit Upper	RPD	RPD Limit
Chromium	37.0	34.2	92.4	34.5	93.2	80	120	0.873	20
Lead	37.0	33.6	90.8	33.6	90.8	80	120	0	20

Comments

*=Out of Limits
NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: _____

SGS North America, Inc.

MS/MSD Results for METALS

Lab ID: G1053-10-3
MS Lab ID: G1053-10-3
MSD Lab ID: G1053-10-3
ICP Batch: 15291
HG Batch: 15322
Other:

Analyzed By: PSW
Matrix: Soil
Units: MG/KG
Solids: 83.54

Analyte	Sample Result	SA MS	MS Result	MS %REC	SA MSD	MSD Result	MSD %REC	Limit Lower	Limit Upper	RPD	RPD Limit
Chromium	12.7	43.5	51.7	89.6	42.8	49.6	86.2	75	125	4.15	20
Lead	11.1	43.5	49.5	88.2	42.8	51.2	93.7	75	125	3.38	20

Comments

*=Out of Limits
NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: GPD

CHAIN OF CUSTODY RECORD
SGS North America Inc.

Locations Nationwide
- Alaska
- New Jersey
- North Carolina
- Maryland
- New York
- Ohio

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096174

(1)
CLIENT: CATLIN Engg & Sci
CONTACT: STEVE TYLER PHONE NO:(910 452-5861
PROJECT: UST STC-868 SITE/PWSID# :
REPORTS TO: STEVE TYLER FAX NO.:( )
INVOICE TO: SHEILA SMITH QUOTE #:
P.O. NUMBER: 291008-11

SGS Reference: G128-2450

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE (C=COMP G=GRAB)	Preservatives Used	Analysis Required (3) EPA 8260	EPA 8270	MADEP EPH	MADEP VPH	Cr/Pb Combs	REMARKS
	HA01 3-4'	10-8-09	1200	soil	7			✓	✓	✓	✓	✓	
0-1	HA02 1-2'	"	1130	"	"			✓	✓	✓	✓	✓	o Summary EDD Format
													o Pkg. Report Low Rums

(5)

Collected/Relinquished By:(1)	Date 10-8-09	Time 1608	Received By:
Relinquished By: (2)	Date 10-8-09	Time 1608	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Shipping Carrier:
Shipping Ticket No:
Samples Received Cold? (Circle) YES NO
Temperature°C: 4.2
Special Deliverable Requirements:
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Special Instructions:
Requested Turnaround Time:
☐ RUSH _____ Date Needed ☒ STD

N.C. Certification #481

SGS North America, Inc.

❑ 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

White - Retained by Lab
Pink - Retained by Client