

Report Date:
21-Nov-11 11:07



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Abby Albano

Project: 88-90 South Maple St - Westfield, MA
Project #: 01-214474.01

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB39268-01	Comp	Soil	14-Nov-11 15:00	15-Nov-11 12:09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 29 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.			Project #: 01-214474.01		
Project Location: 88-90 South Maple St - Westfield, MA			RTN:		
This form provides certifications for the following data set:			SB39268-01		
Matrices: Soil					
CAM Protocol					
✓	8260 VOC CAM II A	✓	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B
	8270 SVOC CAM II B		7010 Metals CAM III C	MassDEP EPH CAM IV B	7196 Hex Cr CAM VI B
✓	6010 Metals CAM III A		6020 Metals CAM III D	✓	8082 PCB CAM V A
				9012 Total Cyanide/PAC CAM VI A	8330 Explosives CAM VIII A
				9014 Total Cyanide/PAC CAM VI A	MassDEP APH CAM IX A
					TO-15 VOC CAM IX B
					6860 Perchlorate CAM VIII B
Affirmative responses to questions A through F are required for "Presumptive Certainty" status					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
Responses to questions G, H and I below are required for "Presumptive Certainty" status					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
All negative responses are addressed in a case narrative on the cover page of this report.					
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i>  Nicole Leja Laboratory Director Date: 11/21/2011					

CASE NARRATIVE:

The samples were received 5.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

These samples do not exhibit the characteristics of reactivity as defined in 40 CFR 261.23, sections (1), (2), (4), and (5); however, Spectrum Analytical, Inc. does not test for detonation, explosive reaction or potential, or forbidden explosives as defined in 40 CFR 261.23, sections (3), (6), (7) and (8).

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Additional dilution factors may be required to keep analyte concentration within instrument calibration.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

Lloyd Kahn

Samples:

SB39268-01 *Comp*

This sample was analyzed in quadruplicate. The % RSD is 17.1144.

Total Organic Carbon

SW846 8260C

Calibration:

1111003

Analyte quantified by quadratic equation type calibration.

1,2-Dibromo-3-chloropropane
Bromodichloromethane
Bromoform
Carbon disulfide
cis-1,3-Dichloropropene
Dibromochloromethane
Hexachlorobutadiene
trans-1,3-Dichloropropene

Calibration:

1111003

This affected the following samples:

1124067-BLK1
1124067-BS1
1124067-BSD1
Comp
S110088-ICV1
S110713-CCV1

1111004

Analyte quantified by quadratic equation type calibration.

Naphthalene
trans-1,4-Dichloro-2-butene

This affected the following samples:

1123829-BLK1
1123829-BS1
1123829-BSD1
Comp
S110100-ICV1
S110640-CCV1

Laboratory Control Samples:

1123829 BS/BSD

2,2-Dichloropropane percent recoveries (70/68) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

Comp

1124067 BS/BSD

Vinyl chloride percent recoveries (129/134) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

Comp

Samples:

S110640-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,2-Trichlorotrifluoroethane (Freon 113) (-24.1%)
2,2-Dichloropropane (-20.4%)
Carbon tetrachloride (-23.5%)
Chloromethane (-21.4%)
Dichlorodifluoromethane (Freon12) (-37.9%)
Trichlorofluoromethane (Freon 11) (-30.7%)
Vinyl chloride (-20.7%)

This affected the following samples:

1123829-BLK1
1123829-BS1
1123829-BSD1
Comp

S110713-CCV1

Samples:

S110713-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,4-Dioxane (21.0%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Vinyl chloride (39.7%)

This affected the following samples:

1124067-BLK1

1124067-BS1

1124067-BSD1

Comp

SB39268-01 *Comp*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

1,2,4-Trimethylbenzene

SB39268-01RE1 *Comp*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Identification

Comp

SB39268-01

Client Project

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

Received

15-Nov-11

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	Field extracted		N/A			1	VOC Soil Extraction	15-Nov-11	15-Nov-11	BD	1123773	
Volatile Organic Compounds													
Prepared by method SW846 5035A Soil (low level)						Initial weight: 9.05 g							
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.2		µg/kg dry	5.2	3.5	1	SW846 8260C	16-Nov-11	16-Nov-11	JRO	1123829	
67-64-1	Acetone	< 52.2		µg/kg dry	52.2	39.2	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.2		µg/kg dry	5.2	4.7	1	"	"	"	"	"	
71-43-2	Benzene	< 5.2		µg/kg dry	5.2	2.7	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.2		µg/kg dry	5.2	3.3	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.2		µg/kg dry	5.2	1.7	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.2		µg/kg dry	5.2	2.0	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.2		µg/kg dry	5.2	3.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.4		µg/kg dry	10.4	9.4	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 52.2		µg/kg dry	52.2	44.8	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.2		µg/kg dry	5.2	2.6	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.2		µg/kg dry	5.2	5.1	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.2		µg/kg dry	5.2	3.8	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.4		µg/kg dry	10.4	7.5	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.2		µg/kg dry	5.2	5.2	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.2		µg/kg dry	5.2	2.9	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.4		µg/kg dry	10.4	7.4	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.2		µg/kg dry	5.2	2.6	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.4		µg/kg dry	10.4	2.6	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.2		µg/kg dry	5.2	3.2	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.2		µg/kg dry	5.2	4.7	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.4		µg/kg dry	10.4	9.9	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.2		µg/kg dry	5.2	2.5	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.2		µg/kg dry	5.2	3.2	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.2		µg/kg dry	5.2	5.2	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.2		µg/kg dry	5.2	4.2	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.2		µg/kg dry	5.2	5.2	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.2		µg/kg dry	5.2	3.5	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.4		µg/kg dry	10.4	8.8	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.2		µg/kg dry	5.2	4.8	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.2		µg/kg dry	5.2	2.9	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.2		µg/kg dry	5.2	2.6	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.2		µg/kg dry	5.2	2.2	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.2		µg/kg dry	5.2	4.3	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.2		µg/kg dry	5.2	2.7	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.2		µg/kg dry	5.2	2.6	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.2		µg/kg dry	5.2	2.1	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.2		µg/kg dry	5.2	3.2	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.2		µg/kg dry	5.2	2.8	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.2		µg/kg dry	5.2	1.5	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.2		µg/kg dry	5.2	3.2	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.2		µg/kg dry	5.2	4.5	1	"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification**Comp**

SB39268-01

Client Project #

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

Received

15-Nov-11

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Volatile Organic CompoundsVolatile Organic CompoundsPrepared by method SW846 5035A Soil (low level)Initial weight: 9.05 g

591-78-6	2-Hexanone (MBK)	< 52.2		µg/kg dry	52.2	13.3	1	SW846 8260C	16-Nov-11	16-Nov-11	JRO	1123829	
98-82-8	Isopropylbenzene	< 5.2		µg/kg dry	5.2	2.6	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 5.2		µg/kg dry	5.2	2.2	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.2		µg/kg dry	5.2	3.8	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 52.2		µg/kg dry	52.2	17.0	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.4		µg/kg dry	10.4	2.7	1	"	"	"	"	"	
91-20-3	Naphthalene	98.6		µg/kg dry	5.2	3.2	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.2		µg/kg dry	5.2	3.1	1	"	"	"	"	"	
100-42-5	Styrene	< 5.2		µg/kg dry	5.2	3.9	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.2		µg/kg dry	5.2	5.0	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.2		µg/kg dry	5.2	4.0	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.2		µg/kg dry	5.2	3.0	1	"	"	"	"	"	
108-88-3	Toluene	10.2		µg/kg dry	5.2	4.7	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.2		µg/kg dry	5.2	4.5	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.2		µg/kg dry	5.2	3.9	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.2		µg/kg dry	5.2	3.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.2		µg/kg dry	5.2	4.2	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.2		µg/kg dry	5.2	4.5	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.2		µg/kg dry	5.2	4.0	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.2		µg/kg dry	5.2	2.1	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.2		µg/kg dry	5.2	2.4	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	333	E	µg/kg dry	5.2	1.7	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	137		µg/kg dry	5.2	5.2	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.2		µg/kg dry	5.2	4.9	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	106		µg/kg dry	10.4	10.1	1	"	"	"	"	"	
95-47-6	o-Xylene	104		µg/kg dry	5.2	3.6	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.4		µg/kg dry	10.4	9.7	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.2		µg/kg dry	5.2	4.9	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.2		µg/kg dry	5.2	4.1	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.2		µg/kg dry	5.2	1.8	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.2		µg/kg dry	5.2	1.7	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	136		µg/kg dry	52.2	29.5	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 104		µg/kg dry	104	85.5	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 26.1		µg/kg dry	26.1	13.4	1	"	"	"	"	"	
64-17-5	Ethanol	< 2090		µg/kg dry	2090	437	1	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	96			70-130 %		"	"	"	"	"	"	
2037-26-5	Toluene-d8	98			70-130 %		"	"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	100			70-130 %		"	"	"	"	"	"	
1868-53-7	Dibromofluoromethane	97			70-130 %		"	"	"	"	"	"	

Re-analysis of Volatile Organic Compounds

GS1

Prepared by method SW846 5030 Soil (high level)Initial weight: 15.68 g*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification**Comp**

SB39268-01

Client Project #

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

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15-Nov-11

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds				GS1									
Prepared by method SW846 5030 Soil (high level)				Initial weight: 15.68 g									
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 78.8		µg/kg dry	78.8	52.6	50	SW846 8260C	18-Nov-11	18-Nov-11	naa	1124067	
67-64-1	Acetone	< 788		µg/kg dry	788	592	50	"	"	"	"	"	
107-13-1	Acrylonitrile	< 78.8		µg/kg dry	78.8	70.5	50	"	"	"	"	"	
71-43-2	Benzene	< 78.8		µg/kg dry	78.8	41.4	50	"	"	"	"	"	
108-86-1	Bromobenzene	< 78.8		µg/kg dry	78.8	50.3	50	"	"	"	"	"	
74-97-5	Bromochloromethane	< 78.8		µg/kg dry	78.8	25.9	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 78.8		µg/kg dry	78.8	29.8	50	"	"	"	"	"	
75-25-2	Bromoform	< 78.8		µg/kg dry	78.8	54.5	50	"	"	"	"	"	
74-83-9	Bromomethane	< 158		µg/kg dry	158	142	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 788		µg/kg dry	788	676	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	109		µg/kg dry	78.8	39.3	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 78.8		µg/kg dry	78.8	76.4	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 78.8		µg/kg dry	78.8	57.0	50	"	"	"	"	"	
75-15-0	Carbon disulfide	< 158		µg/kg dry	158	113	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 78.8		µg/kg dry	78.8	78.3	50	"	"	"	"	"	
108-90-7	Chlorobenzene	< 78.8		µg/kg dry	78.8	44.1	50	"	"	"	"	"	
75-00-3	Chloroethane	< 158		µg/kg dry	158	112	50	"	"	"	"	"	
67-66-3	Chloroform	< 78.8		µg/kg dry	78.8	38.5	50	"	"	"	"	"	
74-87-3	Chloromethane	< 158		µg/kg dry	158	39.6	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 78.8		µg/kg dry	78.8	48.0	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 78.8		µg/kg dry	78.8	70.5	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 158		µg/kg dry	158	149	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 78.8		µg/kg dry	78.8	37.8	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 78.8		µg/kg dry	78.8	48.9	50	"	"	"	"	"	
74-95-3	Dibromomethane	< 78.8		µg/kg dry	78.8	78.7	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 78.8		µg/kg dry	78.8	63.4	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 78.8		µg/kg dry	78.8	78.4	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 78.8		µg/kg dry	78.8	53.2	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 158		µg/kg dry	158	133	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 78.8		µg/kg dry	78.8	72.0	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 78.8		µg/kg dry	78.8	44.1	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 78.8		µg/kg dry	78.8	39.1	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 78.8		µg/kg dry	78.8	33.1	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 78.8		µg/kg dry	78.8	65.4	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 78.8		µg/kg dry	78.8	40.1	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 78.8		µg/kg dry	78.8	39.6	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 78.8		µg/kg dry	78.8	31.8	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 78.8		µg/kg dry	78.8	48.6	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 78.8		µg/kg dry	78.8	43.0	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 78.8		µg/kg dry	78.8	22.2	50	"	"	"	"	"	
100-41-4	Ethylbenzene	117		µg/kg dry	78.8	48.0	50	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 78.8		µg/kg dry	78.8	67.9	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 788		µg/kg dry	788	201	50	"	"	"	"	"	

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Sample Identification**Comp**

SB39268-01

Client Project #

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

Received

15-Nov-11

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Volatile Organic CompoundsRe-analysis of Volatile Organic Compounds

GS1

Prepared by method SW846 5030 Soil (high level)

Initial weight: 15.68 g

98-82-8	Isopropylbenzene	< 78.8		µg/kg dry	78.8	39.6	50	SW846 8260C	18-Nov-11	18-Nov-11	naa	1124067	
99-87-6	4-Isopropyltoluene	< 78.8		µg/kg dry	78.8	32.6	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 78.8		µg/kg dry	78.8	57.3	50	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 788		µg/kg dry	788	256	50	"	"	"	"	"	
75-09-2	Methylene chloride	< 158		µg/kg dry	158	40.0	50	"	"	"	"	"	
91-20-3	Naphthalene	485		µg/kg dry	78.8	48.9	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	119		µg/kg dry	78.8	47.3	50	"	"	"	"	"	
100-42-5	Styrene	< 78.8		µg/kg dry	78.8	58.3	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 78.8		µg/kg dry	78.8	75.7	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 78.8		µg/kg dry	78.8	59.9	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 78.8		µg/kg dry	78.8	45.1	50	"	"	"	"	"	
108-88-3	Toluene	400		µg/kg dry	78.8	70.6	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 78.8		µg/kg dry	78.8	68.3	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 78.8		µg/kg dry	78.8	59.3	50	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 78.8		µg/kg dry	78.8	55.8	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 78.8		µg/kg dry	78.8	63.1	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 78.8		µg/kg dry	78.8	67.8	50	"	"	"	"	"	
79-01-6	Trichloroethene	< 78.8		µg/kg dry	78.8	60.4	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 78.8		µg/kg dry	78.8	31.8	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 78.8		µg/kg dry	78.8	35.6	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	2,800		µg/kg dry	78.8	25.8	50	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	1,000		µg/kg dry	78.8	78.1	50	"	"	"	"	"	
75-01-4	Vinyl chloride	< 78.8		µg/kg dry	78.8	73.9	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	1,100		µg/kg dry	158	153	50	"	"	"	"	"	
95-47-6	o-Xylene	633		µg/kg dry	78.8	53.8	50	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 158		µg/kg dry	158	146	50	"	"	"	"	"	
60-29-7	Ethyl ether	< 78.8		µg/kg dry	78.8	73.5	50	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 78.8		µg/kg dry	78.8	62.2	50	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 78.8		µg/kg dry	78.8	27.5	50	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 78.8		µg/kg dry	78.8	25.4	50	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 788		µg/kg dry	788	446	50	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 1580		µg/kg dry	1580	1290	50	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 394		µg/kg dry	394	202	50	"	"	"	"	"	
64-17-5	Ethanol	< 31500		µg/kg dry	31500	6590	50	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	100			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	103			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	89			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	91			70-130 %			"	"	"	"	"	

Semivolatile Organic Compounds by GCPolychlorinated Biphenyls by SW846 8082Prepared by method SW846 3545A*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification**Comp**

SB39268-01

Client Project #

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

Received

15-Nov-11

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCPolychlorinated Biphenyls by SW846 8082Prepared by method SW846 3545A

12674-11-2	Aroclor-1016	< 26.3		µg/kg dry	26.3	13.1	1	SW846 8082A	16-Nov-11	16-Nov-11	SM	1123807	
11104-28-2	Aroclor-1221	< 26.3		µg/kg dry	26.3	23.7	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 26.3		µg/kg dry	26.3	16.9	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 26.3		µg/kg dry	26.3	15.5	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	1,120		µg/kg dry	26.3	12.9	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 26.3		µg/kg dry	26.3	19.3	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 26.3		µg/kg dry	26.3	10.1	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 26.3		µg/kg dry	26.3	24.5	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 26.3		µg/kg dry	26.3	8.25	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	83			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	73			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	82			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	65			30-150 %			"	"	"	"	"	

Extractable Petroleum HydrocarbonsTPH 8100 by GCPrepared by method SW846 3545A

8006-61-9	Gasoline	< 34.8		mg/kg dry	34.8	20.4	1	SW846 8100Mod.	17-Nov-11	19-Nov-11	SEW	1123910	
68476-30-2	Fuel Oil #2	< 34.8		mg/kg dry	34.8	20.2	1	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 34.8		mg/kg dry	34.8	3.5	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 34.8		mg/kg dry	34.8	20.8	1	"	"	"	"	"	
M09800000	Motor Oil	< 34.8		mg/kg dry	34.8	19.0	1	"	"	"	"	"	
8032-32-4	Ligroin	< 34.8		mg/kg dry	34.8	8.7	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 34.8		mg/kg dry	34.8	8.7	1	"	"	"	"	"	
	Hydraulic Oil	< 34.8		mg/kg dry	34.8	3.5	1	"	"	"	"	"	
	Dielectric Fluid	< 34.8		mg/kg dry	34.8	8.7	1	"	"	"	"	"	
	Unidentified	49.9		mg/kg dry	34.8	8.7	1	"	"	"	"	"	
	Other Oil	Calculated as		mg/kg dry	34.8	3.5	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	49.9		mg/kg dry	34.8	3.5	1	"	"	"	"	"	

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	75			40-140 %			"	"	"	"	"	
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Total Metals by EPA 6000/7000 Series Methods

7440-22-4	Silver	< 1.92		mg/kg dry	1.92	0.295	1	SW846 6010C	15-Nov-11	17-Nov-11	EDT	1123757	
7440-38-2	Arsenic	1.94		mg/kg dry	1.92	0.308	1	"	"	"	"	"	
7440-39-3	Barium	45.9		mg/kg dry	1.28	0.309	1	"	"	"	"	"	
7440-43-9	Cadmium	0.805		mg/kg dry	0.639	0.0706	1	"	"	"	"	"	
7440-47-3	Chromium	13.0		mg/kg dry	1.28	0.466	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0392		mg/kg dry	0.0392	0.0080	1	SW846 7471B	"	16-Nov-11	EDT	1123758	
7439-92-1	Lead	37.8		mg/kg dry	1.92	0.227	1	SW846 6010C	"	17-Nov-11	EDT	1123757	
7782-49-2	Selenium	< 1.92		mg/kg dry	1.92	0.283	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	75.9		%			1	SM2540 G Mod.	15-Nov-11	15-Nov-11	DT	1123747	
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Sample Identification**Comp**

SB39268-01

Client Project #

01-214474.01

Matrix

Soil

Collection Date/Time

14-Nov-11 15:00

Received

15-Nov-11

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
General Chemistry Parameters													
	Total Organic Carbon	4,160	TOC 1	mg/kg	100	99.7	1	Lloyd Kahn	17-Nov-11	18-Nov-11	ELE	1123920	
Toxicity Characteristics													
	Flashpoint	>200		°F			1	SW846 1010	17-Nov-11	17-Nov-11	VK	1123917	
	pH	9.42	pH	pH Units			1	SW846 9045D	18-Nov-11 08:47	18-Nov-11 12:35	BD	1124040	
Reactivity Cyanide/Sulfide													
<u>Prepared by method General Preparation</u>													
	Reactivity	Nonreactive		mg/kg dry			1	SW846 Ch. 7.3	16-Nov-11	16-Nov-11	BD	1123841	
	Reactive Cyanide	< 24.0		mg/kg dry	24.0	2.40	1	"	"	"	"	"	
	Reactive Sulfide	< 48.0		mg/kg dry	48.0	4.80	1	"	"	"	"	"	

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123829 - SW846 5035A Soil (low level)										
Blank (1123829-BLK1)					<u>Prepared & Analyzed: 16-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.0		µg/kg wet	5.0						
Acetone	< 50.0		µg/kg wet	50.0						
Acrylonitrile	< 5.0		µg/kg wet	5.0						
Benzene	< 5.0		µg/kg wet	5.0						
Bromobenzene	< 5.0		µg/kg wet	5.0						
Bromochloromethane	< 5.0		µg/kg wet	5.0						
Bromodichloromethane	< 5.0		µg/kg wet	5.0						
Bromoform	< 5.0		µg/kg wet	5.0						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 50.0		µg/kg wet	50.0						
n-Butylbenzene	< 5.0		µg/kg wet	5.0						
sec-Butylbenzene	< 5.0		µg/kg wet	5.0						
tert-Butylbenzene	< 5.0		µg/kg wet	5.0						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.0		µg/kg wet	5.0						
Chlorobenzene	< 5.0		µg/kg wet	5.0						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.0		µg/kg wet	5.0						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.0		µg/kg wet	5.0						
4-Chlorotoluene	< 5.0		µg/kg wet	5.0						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						
Dibromochloromethane	< 5.0		µg/kg wet	5.0						
1,2-Dibromoethane (EDB)	< 5.0		µg/kg wet	5.0						
Dibromomethane	< 5.0		µg/kg wet	5.0						
1,2-Dichlorobenzene	< 5.0		µg/kg wet	5.0						
1,3-Dichlorobenzene	< 5.0		µg/kg wet	5.0						
1,4-Dichlorobenzene	< 5.0		µg/kg wet	5.0						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.0		µg/kg wet	5.0						
1,2-Dichloroethane	< 5.0		µg/kg wet	5.0						
1,1-Dichloroethene	< 5.0		µg/kg wet	5.0						
cis-1,2-Dichloroethene	< 5.0		µg/kg wet	5.0						
trans-1,2-Dichloroethene	< 5.0		µg/kg wet	5.0						
1,2-Dichloropropane	< 5.0		µg/kg wet	5.0						
1,3-Dichloropropane	< 5.0		µg/kg wet	5.0						
2,2-Dichloropropane	< 5.0		µg/kg wet	5.0						
1,1-Dichloropropene	< 5.0		µg/kg wet	5.0						
cis-1,3-Dichloropropene	< 5.0		µg/kg wet	5.0						
trans-1,3-Dichloropropene	< 5.0		µg/kg wet	5.0						
Ethylbenzene	< 5.0		µg/kg wet	5.0						
Hexachlorobutadiene	< 5.0		µg/kg wet	5.0						
2-Hexanone (MBK)	< 50.0		µg/kg wet	50.0						
Isopropylbenzene	< 5.0		µg/kg wet	5.0						
4-Isopropyltoluene	< 5.0		µg/kg wet	5.0						
Methyl tert-butyl ether	< 5.0		µg/kg wet	5.0						
4-Methyl-2-pentanone (MIBK)	< 50.0		µg/kg wet	50.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.0		µg/kg wet	5.0						
n-Propylbenzene	< 5.0		µg/kg wet	5.0						
Styrene	< 5.0		µg/kg wet	5.0						
1,1,1,2-Tetrachloroethane	< 5.0		µg/kg wet	5.0						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123829 - SW846 5035A Soil (low level)										
Blank (1123829-BLK1)					<u>Prepared & Analyzed: 16-Nov-11</u>					
1,1,2,2-Tetrachloroethane	< 5.0		µg/kg wet	5.0						
Tetrachloroethene	< 5.0		µg/kg wet	5.0						
Toluene	< 5.0		µg/kg wet	5.0						
1,2,3-Trichlorobenzene	< 5.0		µg/kg wet	5.0						
1,2,4-Trichlorobenzene	< 5.0		µg/kg wet	5.0						
1,3,5-Trichlorobenzene	< 5.0		µg/kg wet	5.0						
1,1,1-Trichloroethane	< 5.0		µg/kg wet	5.0						
1,1,2-Trichloroethane	< 5.0		µg/kg wet	5.0						
Trichloroethene	< 5.0		µg/kg wet	5.0						
Trichlorofluoromethane (Freon 11)	< 5.0		µg/kg wet	5.0						
1,2,3-Trichloropropane	< 5.0		µg/kg wet	5.0						
1,2,4-Trimethylbenzene	< 5.0		µg/kg wet	5.0						
1,3,5-Trimethylbenzene	< 5.0		µg/kg wet	5.0						
Vinyl chloride	< 5.0		µg/kg wet	5.0						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.0		µg/kg wet	5.0						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.0		µg/kg wet	5.0						
Tert-amyl methyl ether	< 5.0		µg/kg wet	5.0						
Ethyl tert-butyl ether	< 5.0		µg/kg wet	5.0						
Di-isopropyl ether	< 5.0		µg/kg wet	5.0						
Tert-Butanol / butyl alcohol	< 50.0		µg/kg wet	50.0						
1,4-Dioxane	< 100		µg/kg wet	100						
trans-1,4-Dichloro-2-butene	< 25.0		µg/kg wet	25.0						
Ethanol	< 2000		µg/kg wet	2000						
<i>Surrogate: 4-Bromofluorobenzene</i>	49.3		µg/kg wet		50.0		99	70-130		
<i>Surrogate: Toluene-d8</i>	49.0		µg/kg wet		50.0		98	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.2		µg/kg wet		50.0		100	70-130		
<i>Surrogate: Dibromofluoromethane</i>	47.4		µg/kg wet		50.0		95	70-130		
LCS (1123829-BS1)					<u>Prepared & Analyzed: 16-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	16.3		µg/kg wet		20.0		81	70-130		
Acetone	20.1		µg/kg wet		20.0		100	70-130		
Acrylonitrile	19.2		µg/kg wet		20.0		96	70-130		
Benzene	18.0		µg/kg wet		20.0		90	70-130		
Bromobenzene	18.6		µg/kg wet		20.0		93	70-130		
Bromochloromethane	18.8		µg/kg wet		20.0		94	70-130		
Bromodichloromethane	16.2		µg/kg wet		20.0		81	70-130		
Bromoform	17.6		µg/kg wet		20.0		88	70-130		
Bromomethane	18.2		µg/kg wet		20.0		91	70-130		
2-Butanone (MEK)	18.8		µg/kg wet		20.0		94	70-130		
n-Butylbenzene	18.0		µg/kg wet		20.0		90	70-130		
sec-Butylbenzene	18.3		µg/kg wet		20.0		92	70-130		
tert-Butylbenzene	18.6		µg/kg wet		20.0		93	70-130		
Carbon disulfide	15.6		µg/kg wet		20.0		78	70-130		
Carbon tetrachloride	15.1		µg/kg wet		20.0		75	70-130		
Chlorobenzene	18.7		µg/kg wet		20.0		93	70-130		
Chloroethane	17.8		µg/kg wet		20.0		89	70-130		
Chloroform	15.2		µg/kg wet		20.0		76	70-130		
Chloromethane	16.0		µg/kg wet		20.0		80	70-130		
2-Chlorotoluene	17.6		µg/kg wet		20.0		88	70-130		
4-Chlorotoluene	17.5		µg/kg wet		20.0		87	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123829 - SW846 5035A Soil (low level)										
<u>LCS (1123829-BS1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
1,2-Dibromo-3-chloropropane	17.1		µg/kg wet		20.0		86	70-130		
Dibromochloromethane	16.7		µg/kg wet		20.0		84	70-130		
1,2-Dibromoethane (EDB)	18.8		µg/kg wet		20.0		94	70-130		
Dibromomethane	17.8		µg/kg wet		20.0		89	70-130		
1,2-Dichlorobenzene	18.4		µg/kg wet		20.0		92	70-130		
1,3-Dichlorobenzene	18.0		µg/kg wet		20.0		90	70-130		
1,4-Dichlorobenzene	17.5		µg/kg wet		20.0		87	70-130		
Dichlorodifluoromethane (Freon12)	15.2		µg/kg wet		20.0		76	70-130		
1,1-Dichloroethane	17.0		µg/kg wet		20.0		85	70-130		
1,2-Dichloroethane	16.1		µg/kg wet		20.0		81	70-130		
1,1-Dichloroethene	17.6		µg/kg wet		20.0		88	70-130		
cis-1,2-Dichloroethene	18.0		µg/kg wet		20.0		90	70-130		
trans-1,2-Dichloroethene	17.9		µg/kg wet		20.0		89	70-130		
1,2-Dichloropropane	17.9		µg/kg wet		20.0		89	70-130		
1,3-Dichloropropane	18.5		µg/kg wet		20.0		92	70-130		
2,2-Dichloropropane	14.0		µg/kg wet		20.0		70	70-130		
1,1-Dichloropropene	17.2		µg/kg wet		20.0		86	70-130		
cis-1,3-Dichloropropene	16.6		µg/kg wet		20.0		83	70-130		
trans-1,3-Dichloropropene	17.1		µg/kg wet		20.0		86	70-130		
Ethylbenzene	18.9		µg/kg wet		20.0		94	70-130		
Hexachlorobutadiene	16.9		µg/kg wet		20.0		85	70-130		
2-Hexanone (MBK)	17.6		µg/kg wet		20.0		88	70-130		
Isopropylbenzene	18.3		µg/kg wet		20.0		92	70-130		
4-Isopropyltoluene	17.8		µg/kg wet		20.0		89	70-130		
Methyl tert-butyl ether	17.9		µg/kg wet		20.0		89	70-130		
4-Methyl-2-pentanone (MIBK)	21.4		µg/kg wet		20.0		107	70-130		
Methylene chloride	17.1		µg/kg wet		20.0		86	70-130		
Naphthalene	19.4		µg/kg wet		20.0		97	70-130		
n-Propylbenzene	18.2		µg/kg wet		20.0		91	70-130		
Styrene	19.3		µg/kg wet		20.0		96	70-130		
1,1,1,2-Tetrachloroethane	17.9		µg/kg wet		20.0		89	70-130		
1,1,2,2-Tetrachloroethane	19.7		µg/kg wet		20.0		98	70-130		
Tetrachloroethene	16.8		µg/kg wet		20.0		84	70-130		
Toluene	17.5		µg/kg wet		20.0		88	70-130		
1,2,3-Trichlorobenzene	19.1		µg/kg wet		20.0		95	70-130		
1,2,4-Trichlorobenzene	18.0		µg/kg wet		20.0		90	70-130		
1,3,5-Trichlorobenzene	18.2		µg/kg wet		20.0		91	70-130		
1,1,1-Trichloroethane	15.6		µg/kg wet		20.0		78	70-130		
1,1,2-Trichloroethane	18.7		µg/kg wet		20.0		93	70-130		
Trichloroethene	17.2		µg/kg wet		20.0		86	70-130		
Trichlorofluoromethane (Freon 11)	15.1		µg/kg wet		20.0		76	70-130		
1,2,3-Trichloropropane	19.7		µg/kg wet		20.0		98	70-130		
1,2,4-Trimethylbenzene	18.4		µg/kg wet		20.0		92	70-130		
1,3,5-Trimethylbenzene	18.4		µg/kg wet		20.0		92	70-130		
Vinyl chloride	17.3		µg/kg wet		20.0		86	70-130		
m,p-Xylene	37.9		µg/kg wet		40.0		95	70-130		
o-Xylene	19.0		µg/kg wet		20.0		95	70-130		
Tetrahydrofuran	18.8		µg/kg wet		20.0		94	70-130		
Ethyl ether	19.1		µg/kg wet		20.0		96	70-130		
Tert-amyl methyl ether	17.3		µg/kg wet		20.0		87	70-130		
Ethyl tert-butyl ether	17.8		µg/kg wet		20.0		89	70-130		
Di-isopropyl ether	17.2		µg/kg wet		20.0		86	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123829 - SW846 5035A Soil (low level)										
<u>LCS (1123829-BS1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
Tert-Butanol / butyl alcohol	181		µg/kg wet		200		90	70-130		
1,4-Dioxane	209		µg/kg wet		200		105	70-130		
trans-1,4-Dichloro-2-butene	18.0		µg/kg wet		20.0		90	70-130		
Ethanol	399		µg/kg wet		400		100	70-130		
Surrogate: 4-Bromofluorobenzene	49.1		µg/kg wet		50.0		98	70-130		
Surrogate: Toluene-d8	49.5		µg/kg wet		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	45.0		µg/kg wet		50.0		90	70-130		
Surrogate: Dibromofluoromethane	48.3		µg/kg wet		50.0		97	70-130		
<u>LCS Dup (1123829-BSD1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	15.8		µg/kg wet		20.0		79	70-130	3	25
Acetone	14.7		µg/kg wet		20.0		74	70-130	31	50
Acrylonitrile	16.8		µg/kg wet		20.0		84	70-130	14	25
Benzene	17.2		µg/kg wet		20.0		86	70-130	5	25
Bromobenzene	17.8		µg/kg wet		20.0		89	70-130	4	25
Bromochloromethane	17.3		µg/kg wet		20.0		86	70-130	9	25
Bromodichloromethane	15.3		µg/kg wet		20.0		76	70-130	6	25
Bromoform	15.7		µg/kg wet		20.0		78	70-130	12	25
Bromomethane	17.8		µg/kg wet		20.0		89	70-130	2	50
2-Butanone (MEK)	16.2		µg/kg wet		20.0		81	70-130	15	50
n-Butylbenzene	18.2		µg/kg wet		20.0		91	70-130	2	25
sec-Butylbenzene	18.0		µg/kg wet		20.0		90	70-130	2	25
tert-Butylbenzene	18.1		µg/kg wet		20.0		90	70-130	3	25
Carbon disulfide	15.1		µg/kg wet		20.0		76	70-130	3	25
Carbon tetrachloride	14.5		µg/kg wet		20.0		72	70-130	4	25
Chlorobenzene	18.0		µg/kg wet		20.0		90	70-130	4	25
Chloroethane	17.5		µg/kg wet		20.0		87	70-130	2	50
Chloroform	14.4		µg/kg wet		20.0		72	70-130	5	25
Chloromethane	15.6		µg/kg wet		20.0		78	70-130	2	25
2-Chlorotoluene	17.3		µg/kg wet		20.0		87	70-130	2	25
4-Chlorotoluene	17.3		µg/kg wet		20.0		86	70-130	1	25
1,2-Dibromo-3-chloropropane	15.9		µg/kg wet		20.0		80	70-130	7	25
Dibromochloromethane	15.6		µg/kg wet		20.0		78	70-130	7	50
1,2-Dibromoethane (EDB)	17.1		µg/kg wet		20.0		86	70-130	9	25
Dibromomethane	16.4		µg/kg wet		20.0		82	70-130	8	25
1,2-Dichlorobenzene	18.0		µg/kg wet		20.0		90	70-130	3	25
1,3-Dichlorobenzene	17.7		µg/kg wet		20.0		89	70-130	2	25
1,4-Dichlorobenzene	17.4		µg/kg wet		20.0		87	70-130	0.4	25
Dichlorodifluoromethane (Freon12)	15.0		µg/kg wet		20.0		75	70-130	1	50
1,1-Dichloroethane	16.2		µg/kg wet		20.0		81	70-130	5	25
1,2-Dichloroethane	14.9		µg/kg wet		20.0		75	70-130	8	25
1,1-Dichloroethene	16.9		µg/kg wet		20.0		85	70-130	4	25
cis-1,2-Dichloroethene	17.1		µg/kg wet		20.0		85	70-130	5	25
trans-1,2-Dichloroethene	16.7		µg/kg wet		20.0		84	70-130	7	25
1,2-Dichloropropane	16.8		µg/kg wet		20.0		84	70-130	6	25
1,3-Dichloropropane	17.3		µg/kg wet		20.0		87	70-130	6	25
2,2-Dichloropropane	13.5	QM9	µg/kg wet		20.0		68	70-130	3	25
1,1-Dichloropropene	16.8		µg/kg wet		20.0		84	70-130	3	25
cis-1,3-Dichloropropene	16.2		µg/kg wet		20.0		81	70-130	2	25
trans-1,3-Dichloropropene	15.9		µg/kg wet		20.0		80	70-130	7	25
Ethylbenzene	18.4		µg/kg wet		20.0		92	70-130	3	25
Hexachlorobutadiene	17.5		µg/kg wet		20.0		87	70-130	3	50

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123829 - SW846 5035A Soil (low level)										
<u>LCS Dup (1123829-BSD1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
2-Hexanone (MBK)	14.2		µg/kg wet		20.0		71	70-130	21	25
Isopropylbenzene	17.9		µg/kg wet		20.0		90	70-130	2	25
4-Isopropyltoluene	18.0		µg/kg wet		20.0		90	70-130	0.8	25
Methyl tert-butyl ether	16.1		µg/kg wet		20.0		81	70-130	10	25
4-Methyl-2-pentanone (MIBK)	17.7		µg/kg wet		20.0		88	70-130	19	50
Methylene chloride	16.4		µg/kg wet		20.0		82	70-130	4	25
Naphthalene	18.0		µg/kg wet		20.0		90	70-130	8	25
n-Propylbenzene	18.0		µg/kg wet		20.0		90	70-130	1	25
Styrene	18.4		µg/kg wet		20.0		92	70-130	5	25
1,1,1,2-Tetrachloroethane	17.2		µg/kg wet		20.0		86	70-130	4	25
1,1,2,2-Tetrachloroethane	17.7		µg/kg wet		20.0		89	70-130	10	25
Tetrachloroethene	16.8		µg/kg wet		20.0		84	70-130	0	25
Toluene	17.0		µg/kg wet		20.0		85	70-130	3	25
1,2,3-Trichlorobenzene	18.7		µg/kg wet		20.0		94	70-130	2	25
1,2,4-Trichlorobenzene	17.4		µg/kg wet		20.0		87	70-130	3	25
1,3,5-Trichlorobenzene	18.6		µg/kg wet		20.0		93	70-130	2	25
1,1,1-Trichloroethane	15.0		µg/kg wet		20.0		75	70-130	4	25
1,1,2-Trichloroethane	16.9		µg/kg wet		20.0		84	70-130	10	25
Trichloroethene	16.7		µg/kg wet		20.0		83	70-130	3	25
Trichlorofluoromethane (Freon 11)	14.5		µg/kg wet		20.0		73	70-130	4	50
1,2,3-Trichloropropane	17.4		µg/kg wet		20.0		87	70-130	12	25
1,2,4-Trimethylbenzene	17.9		µg/kg wet		20.0		89	70-130	3	25
1,3,5-Trimethylbenzene	18.0		µg/kg wet		20.0		90	70-130	2	25
Vinyl chloride	17.2		µg/kg wet		20.0		86	70-130	0.6	25
m,p-Xylene	36.9		µg/kg wet		40.0		92	70-130	3	25
o-Xylene	18.5		µg/kg wet		20.0		93	70-130	3	25
Tetrahydrofuran	16.1		µg/kg wet		20.0		80	70-130	16	25
Ethyl ether	17.1		µg/kg wet		20.0		86	70-130	11	50
Tert-amyl methyl ether	15.9		µg/kg wet		20.0		80	70-130	8	25
Ethyl tert-butyl ether	16.4		µg/kg wet		20.0		82	70-130	8	25
Di-isopropyl ether	16.3		µg/kg wet		20.0		82	70-130	5	25
Tert-Butanol / butyl alcohol	146		µg/kg wet		200		73	70-130	21	25
1,4-Dioxane	188		µg/kg wet		200		94	70-130	10	25
trans-1,4-Dichloro-2-butene	15.8		µg/kg wet		20.0		79	70-130	13	25
Ethanol	350		µg/kg wet		400		88	70-130	13	30
Surrogate: 4-Bromofluorobenzene	48.7		µg/kg wet		50.0		97	70-130		
Surrogate: Toluene-d8	49.1		µg/kg wet		50.0		98	70-130		
Surrogate: 1,2-Dichloroethane-d4	43.0		µg/kg wet		50.0		86	70-130		
Surrogate: Dibromofluoromethane	47.1		µg/kg wet		50.0		94	70-130		
Batch 1124067 - SW846 5030 Soil (high level)										
<u>Blank (1124067-BLK1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0		µg/kg wet	50.0						
Acetone	< 500		µg/kg wet	500						
Acrylonitrile	< 50.0		µg/kg wet	50.0						
Benzene	< 50.0		µg/kg wet	50.0						
Bromobenzene	< 50.0		µg/kg wet	50.0						
Bromochloromethane	< 50.0		µg/kg wet	50.0						
Bromodichloromethane	< 50.0		µg/kg wet	50.0						
Bromoform	< 50.0		µg/kg wet	50.0						
Bromomethane	< 100		µg/kg wet	100						
2-Butanone (MEK)	< 500		µg/kg wet	500						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1124067 - SW846 5030 Soil (high level)										
<u>Blank (1124067-BLK1)</u>	<u>Prepared & Analyzed: 18-Nov-11</u>									
n-Butylbenzene	< 50.0		µg/kg wet	50.0						
sec-Butylbenzene	< 50.0		µg/kg wet	50.0						
tert-Butylbenzene	< 50.0		µg/kg wet	50.0						
Carbon disulfide	< 100		µg/kg wet	100						
Carbon tetrachloride	< 50.0		µg/kg wet	50.0						
Chlorobenzene	< 50.0		µg/kg wet	50.0						
Chloroethane	< 100		µg/kg wet	100						
Chloroform	< 50.0		µg/kg wet	50.0						
Chloromethane	< 100		µg/kg wet	100						
2-Chlorotoluene	< 50.0		µg/kg wet	50.0						
4-Chlorotoluene	< 50.0		µg/kg wet	50.0						
1,2-Dibromo-3-chloropropane	< 100		µg/kg wet	100						
Dibromochloromethane	< 50.0		µg/kg wet	50.0						
1,2-Dibromoethane (EDB)	< 50.0		µg/kg wet	50.0						
Dibromomethane	< 50.0		µg/kg wet	50.0						
1,2-Dichlorobenzene	< 50.0		µg/kg wet	50.0						
1,3-Dichlorobenzene	< 50.0		µg/kg wet	50.0						
1,4-Dichlorobenzene	< 50.0		µg/kg wet	50.0						
Dichlorodifluoromethane (Freon12)	< 100		µg/kg wet	100						
1,1-Dichloroethane	< 50.0		µg/kg wet	50.0						
1,2-Dichloroethane	< 50.0		µg/kg wet	50.0						
1,1-Dichloroethene	< 50.0		µg/kg wet	50.0						
cis-1,2-Dichloroethene	< 50.0		µg/kg wet	50.0						
trans-1,2-Dichloroethene	< 50.0		µg/kg wet	50.0						
1,2-Dichloropropane	< 50.0		µg/kg wet	50.0						
1,3-Dichloropropane	< 50.0		µg/kg wet	50.0						
2,2-Dichloropropane	< 50.0		µg/kg wet	50.0						
1,1-Dichloropropene	< 50.0		µg/kg wet	50.0						
cis-1,3-Dichloropropene	< 50.0		µg/kg wet	50.0						
trans-1,3-Dichloropropene	< 50.0		µg/kg wet	50.0						
Ethylbenzene	< 50.0		µg/kg wet	50.0						
Hexachlorobutadiene	< 50.0		µg/kg wet	50.0						
2-Hexanone (MBK)	< 500		µg/kg wet	500						
Isopropylbenzene	< 50.0		µg/kg wet	50.0						
4-Isopropyltoluene	< 50.0		µg/kg wet	50.0						
Methyl tert-butyl ether	< 50.0		µg/kg wet	50.0						
4-Methyl-2-pentanone (MIBK)	< 500		µg/kg wet	500						
Methylene chloride	< 100		µg/kg wet	100						
Naphthalene	< 50.0		µg/kg wet	50.0						
n-Propylbenzene	< 50.0		µg/kg wet	50.0						
Styrene	< 50.0		µg/kg wet	50.0						
1,1,1,2-Tetrachloroethane	< 50.0		µg/kg wet	50.0						
1,1,2,2-Tetrachloroethane	< 50.0		µg/kg wet	50.0						
Tetrachloroethene	< 50.0		µg/kg wet	50.0						
Toluene	< 50.0		µg/kg wet	50.0						
1,2,3-Trichlorobenzene	< 50.0		µg/kg wet	50.0						
1,2,4-Trichlorobenzene	< 50.0		µg/kg wet	50.0						
1,3,5-Trichlorobenzene	< 50.0		µg/kg wet	50.0						
1,1,1-Trichloroethane	< 50.0		µg/kg wet	50.0						
1,1,2-Trichloroethane	< 50.0		µg/kg wet	50.0						
Trichloroethene	< 50.0		µg/kg wet	50.0						
Trichlorofluoromethane (Freon 11)	< 50.0		µg/kg wet	50.0						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1124067 - SW846 5030 Soil (high level)										
Blank (1124067-BLK1)					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,2,3-Trichloropropane	< 50.0		µg/kg wet	50.0						
1,2,4-Trimethylbenzene	< 50.0		µg/kg wet	50.0						
1,3,5-Trimethylbenzene	< 50.0		µg/kg wet	50.0						
Vinyl chloride	< 50.0		µg/kg wet	50.0						
m,p-Xylene	< 100		µg/kg wet	100						
o-Xylene	< 50.0		µg/kg wet	50.0						
Tetrahydrofuran	< 100		µg/kg wet	100						
Ethyl ether	< 50.0		µg/kg wet	50.0						
Tert-amyl methyl ether	< 50.0		µg/kg wet	50.0						
Ethyl tert-butyl ether	< 50.0		µg/kg wet	50.0						
Di-isopropyl ether	< 50.0		µg/kg wet	50.0						
Tert-Butanol / butyl alcohol	< 500		µg/kg wet	500						
1,4-Dioxane	< 1000		µg/kg wet	1000						
trans-1,4-Dichloro-2-butene	< 250		µg/kg wet	250						
Ethanol	< 20000		µg/kg wet	20000						
<i>Surrogate: 4-Bromofluorobenzene</i>	28.7		µg/kg wet		30.0		96	70-130		
<i>Surrogate: Toluene-d8</i>	30.3		µg/kg wet		30.0		101	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	30.5		µg/kg wet		30.0		102	70-130		
<i>Surrogate: Dibromofluoromethane</i>	28.8		µg/kg wet		30.0		96	70-130		
LCS (1124067-BS1)					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	18.3		µg/kg wet		20.0		91	70-130		
Acetone	18.8		µg/kg wet		20.0		94	70-130		
Acrylonitrile	19.6		µg/kg wet		20.0		98	70-130		
Benzene	18.1		µg/kg wet		20.0		91	70-130		
Bromobenzene	19.5		µg/kg wet		20.0		97	70-130		
Bromochloromethane	18.3		µg/kg wet		20.0		92	70-130		
Bromodichloromethane	20.7		µg/kg wet		20.0		104	70-130		
Bromoform	19.8		µg/kg wet		20.0		99	70-130		
Bromomethane	19.1		µg/kg wet		20.0		96	70-130		
2-Butanone (MEK)	18.5		µg/kg wet		20.0		93	70-130		
n-Butylbenzene	22.2		µg/kg wet		20.0		111	70-130		
sec-Butylbenzene	21.5		µg/kg wet		20.0		107	70-130		
tert-Butylbenzene	21.9		µg/kg wet		20.0		110	70-130		
Carbon disulfide	21.5		µg/kg wet		20.0		108	70-130		
Carbon tetrachloride	19.1		µg/kg wet		20.0		95	70-130		
Chlorobenzene	18.2		µg/kg wet		20.0		91	70-130		
Chloroethane	17.7		µg/kg wet		20.0		89	70-130		
Chloroform	19.0		µg/kg wet		20.0		95	70-130		
Chloromethane	18.5		µg/kg wet		20.0		93	70-130		
2-Chlorotoluene	20.2		µg/kg wet		20.0		101	70-130		
4-Chlorotoluene	20.0		µg/kg wet		20.0		100	70-130		
1,2-Dibromo-3-chloropropane	17.8		µg/kg wet		20.0		89	70-130		
Dibromochloromethane	21.0		µg/kg wet		20.0		105	70-130		
1,2-Dibromoethane (EDB)	19.6		µg/kg wet		20.0		98	70-130		
Dibromomethane	18.4		µg/kg wet		20.0		92	70-130		
1,2-Dichlorobenzene	19.7		µg/kg wet		20.0		98	70-130		
1,3-Dichlorobenzene	18.8		µg/kg wet		20.0		94	70-130		
1,4-Dichlorobenzene	18.4		µg/kg wet		20.0		92	70-130		
Dichlorodifluoromethane (Freon12)	17.2		µg/kg wet		20.0		86	70-130		
1,1-Dichloroethane	18.2		µg/kg wet		20.0		91	70-130		
1,2-Dichloroethane	18.9		µg/kg wet		20.0		94	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1124067 - SW846 5030 Soil (high level)										
<u>LCS (1124067-BS1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,1-Dichloroethene	17.4		µg/kg wet		20.0		87	70-130		
cis-1,2-Dichloroethene	18.0		µg/kg wet		20.0		90	70-130		
trans-1,2-Dichloroethene	18.2		µg/kg wet		20.0		91	70-130		
1,2-Dichloropropane	19.1		µg/kg wet		20.0		96	70-130		
1,3-Dichloropropane	18.7		µg/kg wet		20.0		93	70-130		
2,2-Dichloropropane	17.4		µg/kg wet		20.0		87	70-130		
1,1-Dichloropropene	18.4		µg/kg wet		20.0		92	70-130		
cis-1,3-Dichloropropene	20.9		µg/kg wet		20.0		105	70-130		
trans-1,3-Dichloropropene	20.5		µg/kg wet		20.0		102	70-130		
Ethylbenzene	21.0		µg/kg wet		20.0		105	70-130		
Hexachlorobutadiene	20.8		µg/kg wet		20.0		104	70-130		
2-Hexanone (MBK)	20.6		µg/kg wet		20.0		103	70-130		
Isopropylbenzene	19.3		µg/kg wet		20.0		97	70-130		
4-Isopropyltoluene	21.8		µg/kg wet		20.0		109	70-130		
Methyl tert-butyl ether	18.5		µg/kg wet		20.0		92	70-130		
4-Methyl-2-pentanone (MIBK)	19.5		µg/kg wet		20.0		98	70-130		
Methylene chloride	17.5		µg/kg wet		20.0		87	70-130		
Naphthalene	19.9		µg/kg wet		20.0		100	70-130		
n-Propylbenzene	22.1		µg/kg wet		20.0		110	70-130		
Styrene	19.6		µg/kg wet		20.0		98	70-130		
1,1,1,2-Tetrachloroethane	20.3		µg/kg wet		20.0		102	70-130		
1,1,2,2-Tetrachloroethane	18.4		µg/kg wet		20.0		92	70-130		
Tetrachloroethene	17.8		µg/kg wet		20.0		89	70-130		
Toluene	18.4		µg/kg wet		20.0		92	70-130		
1,2,3-Trichlorobenzene	21.1		µg/kg wet		20.0		106	70-130		
1,2,4-Trichlorobenzene	20.7		µg/kg wet		20.0		103	70-130		
1,3,5-Trichlorobenzene	19.5		µg/kg wet		20.0		98	70-130		
1,1,1-Trichloroethane	19.2		µg/kg wet		20.0		96	70-130		
1,1,2-Trichloroethane	18.8		µg/kg wet		20.0		94	70-130		
Trichloroethene	18.3		µg/kg wet		20.0		91	70-130		
Trichlorofluoromethane (Freon 11)	18.2		µg/kg wet		20.0		91	70-130		
1,2,3-Trichloropropane	18.5		µg/kg wet		20.0		93	70-130		
1,2,4-Trimethylbenzene	22.9		µg/kg wet		20.0		115	70-130		
1,3,5-Trimethylbenzene	22.7		µg/kg wet		20.0		114	70-130		
Vinyl chloride	25.9		µg/kg wet		20.0		129	70-130		
m,p-Xylene	42.3		µg/kg wet		40.0		106	70-130		
o-Xylene	20.8		µg/kg wet		20.0		104	70-130		
Tetrahydrofuran	17.4		µg/kg wet		20.0		87	70-130		
Ethyl ether	18.0		µg/kg wet		20.0		90	70-130		
Tert-amyl methyl ether	19.1		µg/kg wet		20.0		95	70-130		
Ethyl tert-butyl ether	19.0		µg/kg wet		20.0		95	70-130		
Di-isopropyl ether	19.1		µg/kg wet		20.0		96	70-130		
Tert-Butanol / butyl alcohol	172		µg/kg wet		200		86	70-130		
1,4-Dioxane	205		µg/kg wet		200		102	70-130		
trans-1,4-Dichloro-2-butene	20.1		µg/kg wet		20.0		101	70-130		
Ethanol	371		µg/kg wet		400		93	70-130		
Surrogate: 4-Bromofluorobenzene	30.2		µg/kg wet		30.0		101	70-130		
Surrogate: Toluene-d8	30.9		µg/kg wet		30.0		103	70-130		
Surrogate: 1,2-Dichloroethane-d4	29.9		µg/kg wet		30.0		100	70-130		
Surrogate: Dibromofluoromethane	29.8		µg/kg wet		30.0		100	70-130		
<u>LCS Dup (1124067-BSD1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1124067 - SW846 5030 Soil (high level)										
<u>LCS Dup (1124067-BSD1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	18.1		µg/kg wet		20.0		90	70-130	1	25
Acetone	18.7		µg/kg wet		20.0		93	70-130	0.5	50
Acrylonitrile	20.0		µg/kg wet		20.0		100	70-130	2	25
Benzene	18.9		µg/kg wet		20.0		95	70-130	4	25
Bromobenzene	20.1		µg/kg wet		20.0		100	70-130	3	25
Bromochloromethane	19.4		µg/kg wet		20.0		97	70-130	6	25
Bromodichloromethane	21.6		µg/kg wet		20.0		108	70-130	4	25
Bromoform	20.2		µg/kg wet		20.0		101	70-130	2	25
Bromomethane	20.0		µg/kg wet		20.0		100	70-130	4	50
2-Butanone (MEK)	19.2		µg/kg wet		20.0		96	70-130	3	50
n-Butylbenzene	22.4		µg/kg wet		20.0		112	70-130	0.4	25
sec-Butylbenzene	22.0		µg/kg wet		20.0		110	70-130	2	25
tert-Butylbenzene	22.2		µg/kg wet		20.0		111	70-130	1	25
Carbon disulfide	22.1		µg/kg wet		20.0		110	70-130	3	25
Carbon tetrachloride	19.9		µg/kg wet		20.0		100	70-130	4	25
Chlorobenzene	18.8		µg/kg wet		20.0		94	70-130	3	25
Chloroethane	18.2		µg/kg wet		20.0		91	70-130	3	50
Chloroform	19.8		µg/kg wet		20.0		99	70-130	4	25
Chloromethane	18.5		µg/kg wet		20.0		92	70-130	0.3	25
2-Chlorotoluene	20.5		µg/kg wet		20.0		103	70-130	2	25
4-Chlorotoluene	20.8		µg/kg wet		20.0		104	70-130	4	25
1,2-Dibromo-3-chloropropane	18.7		µg/kg wet		20.0		94	70-130	5	25
Dibromochloromethane	21.6		µg/kg wet		20.0		108	70-130	3	50
1,2-Dibromoethane (EDB)	20.3		µg/kg wet		20.0		101	70-130	4	25
Dibromomethane	19.1		µg/kg wet		20.0		95	70-130	4	25
1,2-Dichlorobenzene	20.2		µg/kg wet		20.0		101	70-130	3	25
1,3-Dichlorobenzene	19.4		µg/kg wet		20.0		97	70-130	3	25
1,4-Dichlorobenzene	19.0		µg/kg wet		20.0		95	70-130	3	25
Dichlorodifluoromethane (Freon12)	16.6		µg/kg wet		20.0		83	70-130	3	50
1,1-Dichloroethane	18.8		µg/kg wet		20.0		94	70-130	3	25
1,2-Dichloroethane	19.6		µg/kg wet		20.0		98	70-130	4	25
1,1-Dichloroethene	18.0		µg/kg wet		20.0		90	70-130	3	25
cis-1,2-Dichloroethene	18.8		µg/kg wet		20.0		94	70-130	4	25
trans-1,2-Dichloroethene	18.6		µg/kg wet		20.0		93	70-130	2	25
1,2-Dichloropropane	19.9		µg/kg wet		20.0		99	70-130	4	25
1,3-Dichloropropane	19.6		µg/kg wet		20.0		98	70-130	5	25
2,2-Dichloropropane	18.0		µg/kg wet		20.0		90	70-130	4	25
1,1-Dichloropropene	19.1		µg/kg wet		20.0		95	70-130	4	25
cis-1,3-Dichloropropene	21.4		µg/kg wet		20.0		107	70-130	2	25
trans-1,3-Dichloropropene	21.4		µg/kg wet		20.0		107	70-130	4	25
Ethylbenzene	21.7		µg/kg wet		20.0		108	70-130	3	25
Hexachlorobutadiene	22.4		µg/kg wet		20.0		112	70-130	7	50
2-Hexanone (MBK)	20.5		µg/kg wet		20.0		103	70-130	0.5	25
Isopropylbenzene	19.8		µg/kg wet		20.0		99	70-130	2	25
4-Isopropyltoluene	22.1		µg/kg wet		20.0		111	70-130	1	25
Methyl tert-butyl ether	19.0		µg/kg wet		20.0		95	70-130	3	25
4-Methyl-2-pentanone (MIBK)	20.3		µg/kg wet		20.0		102	70-130	4	50
Methylene chloride	17.9		µg/kg wet		20.0		89	70-130	2	25
Naphthalene	20.7		µg/kg wet		20.0		103	70-130	4	25
n-Propylbenzene	22.3		µg/kg wet		20.0		111	70-130	0.8	25
Styrene	19.8		µg/kg wet		20.0		99	70-130	0.8	25
1,1,1,2-Tetrachloroethane	21.0		µg/kg wet		20.0		105	70-130	3	25

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1124067 - SW846 5030 Soil (high level)										
<u>LCS Dup (1124067-BSD1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
1,1,2,2-Tetrachloroethane	18.7		µg/kg wet		20.0		94	70-130	1	25
Tetrachloroethene	17.9		µg/kg wet		20.0		90	70-130	0.7	25
Toluene	19.0		µg/kg wet		20.0		95	70-130	4	25
1,2,3-Trichlorobenzene	21.5		µg/kg wet		20.0		108	70-130	2	25
1,2,4-Trichlorobenzene	21.6		µg/kg wet		20.0		108	70-130	4	25
1,3,5-Trichlorobenzene	20.2		µg/kg wet		20.0		101	70-130	3	25
1,1,1-Trichloroethane	19.7		µg/kg wet		20.0		98	70-130	3	25
1,1,2-Trichloroethane	19.8		µg/kg wet		20.0		99	70-130	5	25
Trichloroethene	21.6		µg/kg wet		20.0		108	70-130	17	25
Trichlorofluoromethane (Freon 11)	18.3		µg/kg wet		20.0		92	70-130	0.7	50
1,2,3-Trichloropropane	18.9		µg/kg wet		20.0		94	70-130	2	25
1,2,4-Trimethylbenzene	23.3		µg/kg wet		20.0		117	70-130	2	25
1,3,5-Trimethylbenzene	22.9		µg/kg wet		20.0		115	70-130	0.8	25
Vinyl chloride	26.7	QM9	µg/kg wet		20.0		134	70-130	3	25
m,p-Xylene	42.9		µg/kg wet		40.0		107	70-130	1	25
o-Xylene	21.1		µg/kg wet		20.0		105	70-130	1	25
Tetrahydrofuran	19.4		µg/kg wet		20.0		97	70-130	10	25
Ethyl ether	18.7		µg/kg wet		20.0		93	70-130	3	50
Tert-amyl methyl ether	19.5		µg/kg wet		20.0		97	70-130	2	25
Ethyl tert-butyl ether	19.6		µg/kg wet		20.0		98	70-130	3	25
Di-isopropyl ether	19.6		µg/kg wet		20.0		98	70-130	2	25
Tert-Butanol / butyl alcohol	180		µg/kg wet		200		90	70-130	5	25
1,4-Dioxane	228		µg/kg wet		200		114	70-130	11	25
trans-1,4-Dichloro-2-butene	20.2		µg/kg wet		20.0		101	70-130	0.4	25
Ethanol	395		µg/kg wet		400		99	70-130	6	30
Surrogate: 4-Bromofluorobenzene	30.0		µg/kg wet		30.0		100	70-130		
Surrogate: Toluene-d8	31.2		µg/kg wet		30.0		104	70-130		
Surrogate: 1,2-Dichloroethane-d4	30.4		µg/kg wet		30.0		101	70-130		
Surrogate: Dibromofluoromethane	30.5		µg/kg wet		30.0		102	70-130		

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123807 - SW846 3545A										
<u>Blank (1123807-BLK1)</u>				<u>Prepared & Analyzed: 16-Nov-11</u>						
Aroclor-1016	< 20.0		µg/kg wet	20.0						
Aroclor-1016 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1221	< 20.0		µg/kg wet	20.0						
Aroclor-1221 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1232	< 20.0		µg/kg wet	20.0						
Aroclor-1232 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1242	< 20.0		µg/kg wet	20.0						
Aroclor-1242 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1248	< 20.0		µg/kg wet	20.0						
Aroclor-1248 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1254	< 20.0		µg/kg wet	20.0						
Aroclor-1254 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1260	< 20.0		µg/kg wet	20.0						
Aroclor-1260 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1262	< 20.0		µg/kg wet	20.0						
Aroclor-1262 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1268	< 20.0		µg/kg wet	20.0						
Aroclor-1268 [2C]	< 20.0		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	11.4		µg/kg wet		20.0		57	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	11.0		µg/kg wet		20.0		55	30-150		
Surrogate: Decachlorobiphenyl (Sr)	20.2		µg/kg wet		20.0		101	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	17.9		µg/kg wet		20.0		90	30-150		
<u>LCS (1123807-BS1)</u>				<u>Prepared & Analyzed: 16-Nov-11</u>						
Aroclor-1016	244		µg/kg wet	20.0	250		97	50-140		
Aroclor-1016 [2C]	257		µg/kg wet	20.0	250		103	50-140		
Aroclor-1260	248		µg/kg wet	20.0	250		99	50-140		
Aroclor-1260 [2C]	245		µg/kg wet	20.0	250		98	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	11.0		µg/kg wet		20.0		55	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	10.6		µg/kg wet		20.0		53	30-150		
Surrogate: Decachlorobiphenyl (Sr)	22.0		µg/kg wet		20.0		110	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	18.1		µg/kg wet		20.0		90	30-150		
<u>LCS Dup (1123807-BSD1)</u>				<u>Prepared & Analyzed: 16-Nov-11</u>						
Aroclor-1016	244		µg/kg wet	20.0	250		97	50-140	0.04	30
Aroclor-1016 [2C]	249		µg/kg wet	20.0	250		99	50-140	3	30
Aroclor-1260	248		µg/kg wet	20.0	250		99	50-140	0.3	30
Aroclor-1260 [2C]	231		µg/kg wet	20.0	250		92	50-140	6	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	10.6		µg/kg wet		20.0		53	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	10.2		µg/kg wet		20.0		51	30-150		
Surrogate: Decachlorobiphenyl (Sr)	21.2		µg/kg wet		20.0		106	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	17.7		µg/kg wet		20.0		88	30-150		
<u>Matrix Spike (1123807-MS1)</u>				<u>Source: SB39268-01</u>	<u>Prepared & Analyzed: 16-Nov-11</u>					
Aroclor-1016	294		µg/kg dry	25.4	317	BRL	93	40-135		
Aroclor-1016 [2C]	283		µg/kg dry	25.4	317	BRL	89	40-135		
Aroclor-1260	265		µg/kg dry	25.4	317	BRL	84	40-135		
Aroclor-1260 [2C]	253		µg/kg dry	25.4	317	BRL	80	40-135		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	20.1		µg/kg dry		25.4		79	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	19.7		µg/kg dry		25.4		78	30-150		
Surrogate: Decachlorobiphenyl (Sr)	21.2		µg/kg dry		25.4		84	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	17.8		µg/kg dry		25.4		70	30-150		
<u>Matrix Spike Dup (1123807-MSD1)</u>				<u>Source: SB39268-01</u>	<u>Prepared & Analyzed: 16-Nov-11</u>					

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123807 - SW846 3545A										
<u>Matrix Spike Dup (1123807-MSD1)</u>				<u>Source: SB39268-01</u>				<u>Prepared & Analyzed: 16-Nov-11</u>		
Aroclor-1016	271		µg/kg dry	25.6	320	BRL	85	40-135	9	30
Aroclor-1016 [2C]	264		µg/kg dry	25.6	320	BRL	82	40-135	8	30
Aroclor-1260	271		µg/kg dry	25.6	320	BRL	85	40-135	1	30
Aroclor-1260 [2C]	274		µg/kg dry	25.6	320	BRL	85	40-135	7	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	20.5		µg/kg dry		25.6		80	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	20.2		µg/kg dry		25.6		79	30-150		
Surrogate: Decachlorobiphenyl (Sr)	21.5		µg/kg dry		25.6		84	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	18.9		µg/kg dry		25.6		74	30-150		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123910 - SW846 3545A										
<u>Blank (1123910-BLK1)</u>	<u>Prepared: 17-Nov-11 Analyzed: 19-Nov-11</u>									
Gasoline	< 13.3		mg/kg wet	13.3						
Fuel Oil #2	< 13.3		mg/kg wet	13.3						
Fuel Oil #4	< 13.3		mg/kg wet	13.3						
Fuel Oil #6	< 13.3		mg/kg wet	13.3						
Motor Oil	< 13.3		mg/kg wet	13.3						
Ligroin	< 13.3		mg/kg wet	13.3						
Aviation Fuel	< 13.3		mg/kg wet	13.3						
Hydraulic Oil	< 13.3		mg/kg wet	13.3						
Dielectric Fluid	< 13.3		mg/kg wet	13.3						
Unidentified	< 13.3		mg/kg wet	13.3						
Other Oil	< 13.3		mg/kg wet	13.3						
Total Petroleum Hydrocarbons	< 13.3		mg/kg wet	13.3						
<i>Surrogate: 1-Chlorooctadecane</i>	2.54		mg/kg wet		3.33		76	40-140		
<u>LCS (1123910-BS1)</u>	<u>Prepared: 17-Nov-11 Analyzed: 19-Nov-11</u>									
Fuel Oil #2	692		mg/kg wet	13.3	667		104	40-140		
<i>Surrogate: 1-Chlorooctadecane</i>	3.19		mg/kg wet		3.33		96	40-140		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123757 - SW846 3050B										
<u>Blank (1123757-BLK1)</u>	<u>Prepared: 15-Nov-11 Analyzed: 16-Nov-11</u>									
Selenium	< 1.32		mg/kg wet	1.32						
Lead	< 1.32		mg/kg wet	1.32						
Silver	< 1.32		mg/kg wet	1.32						
Chromium	< 0.882		mg/kg wet	0.882						
Cadmium	< 0.441		mg/kg wet	0.441						
Arsenic	< 1.32		mg/kg wet	1.32						
Barium	< 0.882		mg/kg wet	0.882						
<u>Reference (1123757-SRM1)</u>	<u>Prepared: 15-Nov-11 Analyzed: 16-Nov-11</u>									
Lead	67.1		mg/kg wet	1.50	69.1		97	77.4-122.6		
Selenium	106		mg/kg wet	1.50	102		104	76.7-122.8		
Chromium	47.2		mg/kg wet	1.00	48.4		98	76.7-123		
Cadmium	60.4		mg/kg wet	0.500	58.5		103	80.7-118.9		
Arsenic	63.8		mg/kg wet	1.50	62.5		102	78-121.8		
Silver	26.8		mg/kg wet	1.50	27.0		99	66.4-133.8		
Barium	153		mg/kg wet	1.00	159		96	79.7-120.2		
<u>Reference (1123757-SRM2)</u>	<u>Prepared: 15-Nov-11 Analyzed: 16-Nov-11</u>									
Selenium	105		mg/kg wet	1.50	104		101	76.7-122.8		
Lead	68.0		mg/kg wet	1.50	70.4		97	77.4-122.6		
Silver	27.0		mg/kg wet	1.50	27.5		98	66.4-133.8		
Arsenic	64.4		mg/kg wet	1.50	63.7		101	78-121.8		
Cadmium	60.8		mg/kg wet	0.500	59.6		102	80.7-118.9		
Chromium	47.5		mg/kg wet	1.00	49.3		96	76.7-123		
Barium	153		mg/kg wet	1.00	162		95	79.7-120.2		
Batch 1123758 - EPA200/SW7000 Series										
<u>Blank (1123758-BLK1)</u>	<u>Prepared: 15-Nov-11 Analyzed: 16-Nov-11</u>									
Mercury	< 0.0273		mg/kg wet	0.0273						
<u>Reference (1123758-SRM1)</u>	<u>Prepared: 15-Nov-11 Analyzed: 16-Nov-11</u>									
Mercury	4.60		mg/kg wet	0.300	3.82		120	71.7-128.3		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123920 - General Preparation										
<u>Blank (1123920-BLK1)</u>								<u>Prepared: 17-Nov-11 Analyzed: 18-Nov-11</u>		
Total Organic Carbon	< 100		mg/kg	100						
<u>Duplicate (1123920-DUP1)</u>								<u>Prepared: 17-Nov-11 Analyzed: 18-Nov-11</u>		
Total Organic Carbon	3680		mg/kg	100		4160			12	20
<u>Reference (1123920-SRM1)</u>								<u>Prepared: 17-Nov-11 Analyzed: 18-Nov-11</u>		
Total Organic Carbon	3410		mg/kg	100	2520		135	50.4-149.2		

Toxicity Characteristics - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1123841 - General Preparation										
<u>Blank (1123841-BLK1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
Reactivity	Nonreactive		mg/kg wet							
Reactive Cyanide	< 25.0		mg/kg wet	25.0						
Reactive Sulfide	< 50.0		mg/kg wet	50.0						
<u>Duplicate (1123841-DUP1)</u>					<u>Source: SB39268-01</u>	<u>Prepared & Analyzed: 16-Nov-11</u>				
Reactivity	Nonreactive		mg/kg dry			Nonreactive				200
Reactive Cyanide	< 24.7		mg/kg dry	24.7		BRL				35
Reactive Sulfide	< 49.4		mg/kg dry	49.4		BRL				35
<u>Reference (1123841-SRM1)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
Reactive Cyanide	2.64		mg/kg wet	25.0	100		3	0-200		
<u>Reference (1123841-SRM2)</u>					<u>Prepared & Analyzed: 16-Nov-11</u>					
Reactive Sulfide	120		mg/kg wet	50.0	6700		2	0-200		
Batch 1123917 - General Preparation										
<u>Duplicate (1123917-DUP1)</u>					<u>Source: SB39268-01</u>	<u>Prepared & Analyzed: 17-Nov-11</u>				
Flashpoint	0		°F			>200				35
<u>Reference (1123917-SRM1)</u>					<u>Prepared & Analyzed: 17-Nov-11</u>					
Flashpoint	79		°F		81.0		98	95-105		
Batch 1124040 - General Preparation										
<u>Duplicate (1124040-DUP1)</u>					<u>Source: SB39268-01</u>	<u>Prepared & Analyzed: 18-Nov-11</u>				
pH	9.49		pH Units			9.42			0.7	5
<u>Reference (1124040-SRM1)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
pH	5.98		pH Units		6.00		100	97.5-102.5		
<u>Reference (1124040-SRM2)</u>					<u>Prepared & Analyzed: 18-Nov-11</u>					
pH	5.43		pH Units		5.51		99	92-108		

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
TOC 1	This sample was analyzed in quadruplicate. The % RSD is 17.1144.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor
Nicole Leja

