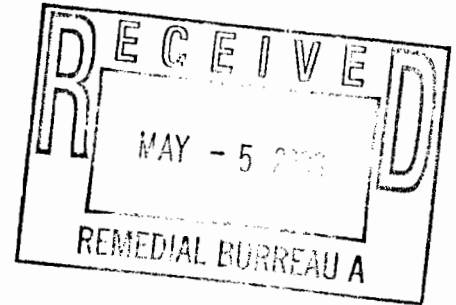




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

May 2, 2008

Mr. Jeff Dyber
New York State Department
of Environmental Conservation
625 Broadway
Albany, New York 12233-7015



**Subject: Sampling results
 Aluminum Louvre Corp
 And
 Filtron Corporation
 Old Bethpage, Nassau County**

Dear Mr. Dyber:

Per your request, enclosed please find a copy of the sampling results for the above mentioned sites. The information package includes the following:

- Trip reports for soil and groundwater (Direct-push) sampling
- Trip reports for Monitor Well sampling
- Data packages for soil and groundwater (Direct-push) sampling results
- Data packages for Monitor Well sampling results

If you have any questions regarding this investigation, please contact me at 212-637-4344.

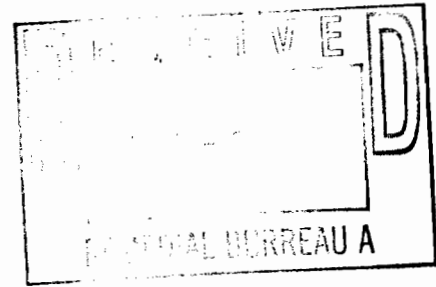
Sincerely,


Ildefonso Acosta
Site Assessment Manager
Pre-Remedial Section



Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
732-417-5800 • Fax 732-417-5801
www.westonsolutions.com

January 4, 2008



Mr. Ildefonso Acosta, Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway - 18th Floor
New York, NY 10007-1866

Document Control No.: SAT2.20113.081.613

Subject: Sampling Trip Report
Work Assignment No.: 081, Aluminum Louvre Corp.
Contract No.: EP-W-05-048

Dear Mr. Acosta:

Weston Solutions, Inc. (WESTON®) is pleased to submit the Sampling Trip Report for soil and aqueous samples collected during the first phase of the Aluminum Louvre Corp. Preliminary Assessment/Site Inspection (PA/SI) sampling event. The Region 2 Site Assessment Team 2 (SAT 2) collected soil and groundwater samples from on-site monitoring well boreholes from December 11 through 21, 2007. If you have any questions, please contact me at (732) 417-5826.

Very truly yours,

WESTON SOLUTIONS, INC.

for Gerald V. Gilliland, P.G.
SAT 2 Project Manager

enclosure

cc: W.S. Butterfield, SAT 2 (w/o enclosure)
J. Feranda, EPA (w/o enclosure)
A. Michael, EPA
SAT 2 project file

SAMPLING TRIP REPORT

SITE NAME: Aluminum Louvre Corp.
DCN: SAT2,20113.081.613
W.O.: 20113.011.001.0081.00
Case No.: 37047

EPA I.D. NO.: NYD981488026

SAMPLING DATES: December 11 through 21, 2007
(excluding December 15 and 16)

1. Site Location: Refer to Figure 1
2. Sample Locations: Refer to Figure 2
3. Sample Descriptions: Refer to Table 1
4. Laboratories Receiving Samples:

Analysis

Name and Address of Laboratory

Target Compound List (TCL)
Volatile Organic Compounds (VOCs)

Shealy Environmental Services
106 Vantage Point Drive
West Columbia, SC 29172

5. Sample Dispatch Data:

- Four aqueous samples and seven soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Service on 12/11/07 at 1600 hours via Federal Express Airbill No. 8541 0029 6588
- Six soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/12/07 at 1600 hours via Federal Express Airbill No. 8541 0029 6599.
- Five aqueous samples and two soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/13/07 at 1215 hours via Federal Express Airbill No. 8541 0029 6603.

- Six soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/14/07 at 1800 hours via Federal Express Airbill No. 8375 4298 9833.
- Three aqueous samples and one soil sample for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/17/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9844.
- Two aqueous samples and six soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/18/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9855.
- Three aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/19/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9866.
- One aqueous sample and six soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/20/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9877.
- Three aqueous samples and one soil sample for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/21/07 at 1300 hours via Federal Express Airbill No. 8375 4298 9888

6. On-Site Personnel:

<u>Name</u>	<u>Company</u>	<u>Duties on Site</u>
Gerry Gilliland	WESTON SAT 2	Project Manager (PM)
Scott Snyder	WESTON SAT 2	Sample Management Officer (SMO), Sampler (12/11 through 12/13)
Dan Gaughan	WESTON SAT 2	SMO, Sampler (12/14 through 12/21)
Gil Mello	WESTON SAT 2	Site Health and Safety Coordinator (SHSC), Site Geologist, Driller Oversight
Jason Pittel	Delta Well and Pump	Driller
Pat Dorney	Delta Well and Pump	Assistant Driller

7. Additional Comments:

From December 11 through 21, 2007, Weston Solutions, Inc. (WESTON®) Region 2 Site Assessment Team 2 (SAT 2) personnel oversaw the installation of five overburden monitoring wells at the Aluminum Louvre Corp. site. SAT 2 collected a total of six surface soil samples (depth: 0'-2') (including one environmental duplicate sample), 29 subsurface soil samples (depth: > 2') (including one environmental duplicate sample), and eleven aqueous samples (including one environmental duplicate sample) from the five monitoring well boreholes. One surface soil sample was collected from each borehole. Subsurface soil samples were collected at 10-foot intervals (i.e., 10'-12', 20'-22', 30'-32', etc) from the ground surface to the topmost water-bearing zone. SAT 2 collected two groundwater samples from each borehole; one from the top of the topmost water bearing zone (65 to 72 feet below ground surface) and one from depths ranging from 80 to 97 feet below ground surface.

SAT 2 collected soil samples using 5-gram En Core™ dedicated sampling devices. Surface soil samples were collected directly from hand-dug pilot holes. Subsurface soil samples were collected from decontaminated, stainless-steel split-spoon samplers. Direct-push groundwater samples were collected using a decontaminated, stainless-steel HydroPunch. In addition to the environmental samples, SAT 2 collected four rinsate blanks to demonstrate that the split spoon and HydroPunch were free of contamination. Six trip blank samples were collected to demonstrate that there was no cross contamination between samples and that no atmospheric contaminants were seeping into sample containers.

All samples were collected as part of the Aluminum Louvre Corp. Preliminary Assessment/Site Inspection (PA/SI) work assignment. The soil and aqueous samples collected by SAT 2 were designated to be analyzed for TCL VOCs (low-medium concentration) through the EPA Contract Laboratory Program (CLP). Two soil samples and one aqueous sample were designated as matrix spike/matrix spike duplicates (MS/MSDs). Organic Traffic Reports and Airbills are presented in Attachment 1.

8. Report Prepared by:


for Gerald V. Gilliland, P.G.

Date: 1/4/08

9. Report Approved by:


W. S. Butterfield, CHMM

Date: 1/4/08

Table 1
Sample Descriptions
Aluminum Louvre Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
ALC-S01	B4LG0	N/A	12/11/07	0850	Surface soil sample from the MW02 borehole. Medium-brown, fine- to medium-grained sand, trace silt, some round cobbles, depth: 13 inches below ground surface (bgs). Matrix spike/matrix spike duplicate (MS/MSD) for quality assurance/quality control (QA/QC) purposes.
ALC-S02	B4LG1	N/A	12/12/07	1100	Surface soil sample from the MW01 borehole. Dark-brown, medium- to coarse-grained sand, some silt and round gravel, depth: 12 inches bgs.
ALC-S03	B4LG2	N/A	12/12/07	1105	Duplicate of ALC-S02 for QA/QC purposes.
ALC-S04	B4LG3	N/A	12/14/07	1310	Surface soil sample from the MW03 borehole, collected beneath a surface layer of asphalt. Yellow-brown, fine- to coarse-grained sand, depth: 12 inches bgs.
ALC-S05	B4LG4	N/A	12/18/07	1050	Surface soil sample from the MW04 borehole, collected beneath a surface layer of asphalt. Coarse sand and gravel fill underlain by light-brown, medium- to coarse-grained sand, depth: 13 inches bgs.
ALC-S06	B4LG5	N/A	12/20/07	1320	Surface soil sample from the MW05 borehole, collected beneath a surface layer of asphalt. Medium-brown, fine- to coarse-grained sand, trace sub-round cobbles, depth: 13 inches bgs.
ALC-SS01	B4LG6	N/A	12/11/07	0925	Subsurface soil sample from the MW02 borehole. Light-brown, medium- to fine-grained sand, little silt, depth: 10 to 12 feet bgs.
ALC-SS02	B4LG7	N/A	12/11/07	0945	Subsurface soil sample from the MW02 borehole. Grayish-brown, medium- to fine-grained sand, depth: 20 to 22 feet bgs.
ALC-SS03	B4LG8	N/A	12/11/07	1005	Subsurface soil sample from the MW02 borehole. Reddish-brown, medium-grained sand, depth: 30 to 32 feet bgs.
ALC-SS04	B4LG9	N/A	12/11/07	1030	Subsurface soil sample from the MW02 borehole. Grayish-brown, fine- to medium-grained sand, depth: 40 to 42 feet bgs.
ALC-SS05	B4LH0	N/A	12/11/07	1050	Subsurface soil sample from the MW02 borehole. Grayish-brown, fine- to medium-grained sand, trace silt, depth: 50 to 52 feet bgs.

Table 1(continued)
Sample Descriptions
Aluminum Louvre Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
ALC-SS06	B4LH1	N/A	12/11/07	1115	Subsurface soil sample from the MW02 borehole. Grayish-brown, fine- to coarse-grained sand, trace silt, saturated, depth: 60 to 62 feet bgs.
ALC-SS07	B4LH2	N/A	12/12/07	1200	Subsurface soil sample from the MW01 borehole. Light-brown, fine- to medium-grained sand, depth: 12 to 14 feet bgs.
ALC-SS08	B4LH3	N/A	12/12/07	1315	Subsurface soil sample from the MW01 borehole. Orange-brown, fine- to medium-grained sand, little silt, depth: 20 to 22 feet bgs.
ALC-SS09	B4LH4	N/A	12/12/07	1340	Subsurface soil sample from the MW01 borehole. Grayish-brown, fine- to medium-grained sand, laminated, depth: 30 to 32 feet bgs.
ALC-SS10	B4LH5	N/A	12/12/07	1400	Subsurface soil sample from the MW01 borehole. Interbedded dark-brown, light-brown, and reddish-purple, fine- to medium-grained sand, trace silt, depth: 40 to 42 feet bgs.
ALC-SS11	B4LH6	N/A	12/13/07	0755	Subsurface soil sample from the MW01 borehole. Reddish-brown, fine- to medium-grained sand, trace silt, depth: 50 to 52 feet bgs.
ALC-SS12	B4LH7	N/A	12/13/07	0825	Subsurface soil sample from the MW01 borehole. Grayish-brown, medium- to fine-grained sand, depth: 60 to 62 feet bgs.
ALC-SS13	B4LH8	N/A	12/14/07	1345	Subsurface soil sample from the MW03 borehole. Yellow-brown to orange, fine- to coarse-grained sand, trace silt and clay, depth: 10 to 12 feet bgs.
ALC-SS14	B4LH9	N/A	12/14/07	1400	Subsurface soil sample from the MW03 borehole. Pale-pink, medium- to coarse-grained sand, interbedded with orange, fine- to medium-grained sand and dark-brown sandy silt, little clay, depth: 20 to 22 feet bgs.
ALC-SS15	B4LJ0	N/A	12/14/07	1415	Subsurface soil sample from the MW03 borehole, collected beneath a clay lens. Interbedded pale-brown and orange, fine- to coarse-grained sand with dark brown streaks of silty sand, depth: 30 to 32 feet bgs.
ALC-SS16	B4LJ1	N/A	12/14/07	1435	Subsurface soil sample from the MW03 borehole. Sample collected beneath a lens of dark-gray and brown clay. Very light-gray and orange-brown, fine- to coarse-grained sand, depth 40 to 42 feet bgs.

Table 1(continued)
Sample Descriptions
Aluminum Louvre Corp.
Old Bethpage, New York

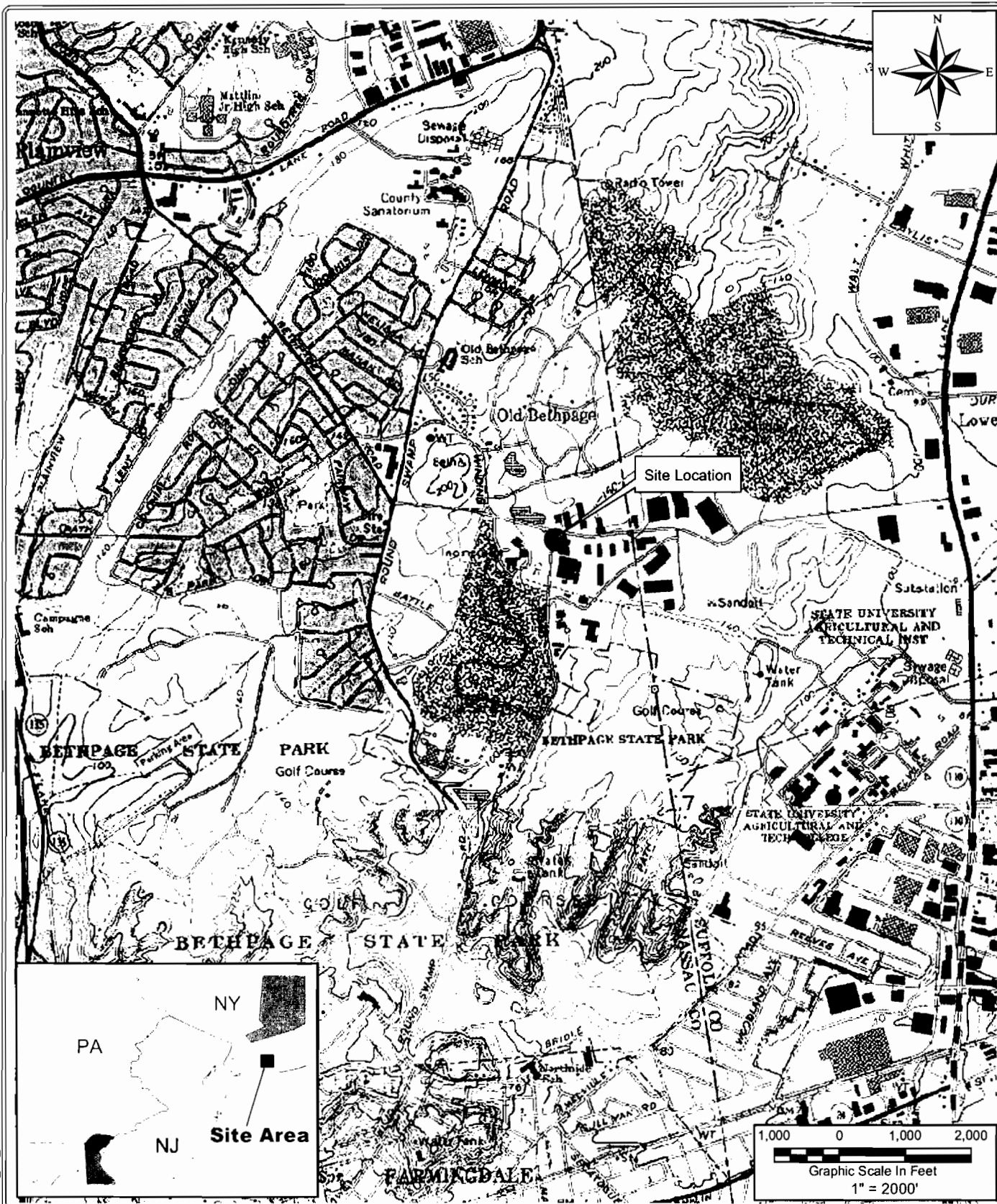
SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
ALC-SS17	B4LJ2	N/A	12/14/07	1455	Subsurface soil sample from the MW03 borehole. Light-gray, fine- to medium-grained sand grading to fine- to medium-grained orange sand, streaks of dark brown silt, depth: 50 to 52 feet bgs. MS/MSD for QA/QC purposes.
ALC-SS18	B4LJ3	N/A	12/17/07	0900	Subsurface soil sample from the MW03 borehole. Dark-brown silt, little clay grading to grayish-black sand and silt, depth: 60 to 62 feet bgs.
ALC-SS19	B4LJ4	N/A	12/18/07	1125	Subsurface soil sample from the MW04 borehole. Medium-gray, fine- to medium-grained sand, depth: 10 to 12 feet bgs.
ALC-SS20	B4LJ5	N/A	12/18/07	1140	Subsurface soil sample from the MW04 borehole. Medium-gray, fine- to medium-grained sand, depth: 20 to 22 feet bgs.
ALC-SS21	B4LJ6	N/A	12/18/07	1200	Subsurface soil sample from the MW04 borehole. Medium-brown, medium-grained sand, little silt grading to gray-brown, fine- to medium-grained sand, depth: 30 to 32 feet bgs.
ALC-SS22	B4LJ7	N/A	12/18/07	1250	Subsurface soil sample from the MW04 borehole. Gray-brown, fine- to medium-grained sand, depth: 40 to 42 feet bgs.
ALC-SS23	B4LJ8	N/A	12/18/07	1320	Subsurface soil sample from the MW04 borehole. Gray-brown, fine- to medium-grained sand, depth: 50 to 52 feet bgs.
ALC-SS24	B4LJ9	N/A	12/20/07	1405	Subsurface soil sample from the MW05 borehole. Grayish-brown, fine- to medium-grained sand, depth: 10 to 12 feet bgs.
ALC-SS25	B4LK0	N/A	12/20/07	1410	Duplicate of ALC-SS24 for QA/QC purposes.
ALC-SS26	B4LK1	N/A	12/20/07	1430	Subsurface soil sample from the MW05 borehole. Grayish-brown, fine- to medium-grained sand, depth: 20 to 22 feet bgs.
ALC-SS27	B4LK2	N/A	12/20/07	1445	Subsurface soil sample from the MW05 borehole. Light-gray, fine- to coarse-grained sand, iron bands and nodules, depth: 30 to 32 feet bgs.
ALC-SS28	B4LK3	N/A	12/20/07	1510	Subsurface soil sample from the MW05 borehole. Light-gray, fine- to coarse-grained sand with rust-brown banding, little silt, depth: 40 to 42 feet bgs.
ALC-SS29	B4LK4	N/A	12/21/07	0735	Subsurface soil sample from the MW05 borehole. Light-gray, medium- to fine-grained sand with rust-brown banding, little silt, depth: 50 to 51 feet bgs.

Table 1(continued)
Sample Descriptions
Aluminum Louvre Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
ALC-GW01	B4LK9	N/A	12/11/07	1245	HydroPunch groundwater sample from the MW02 borehole, depth: 65 to 67 feet bgs. MS/MSD for QA/QC purposes.
ALC-GW02	B4LL0	N/A	12/11/07	1425	HydroPunch groundwater sample from the MW02 borehole, depth: 80 to 82 feet bgs.
ALC-GW03	B4LL1	N/A	12/13/07	1010	HydroPunch groundwater sample from the MW01 borehole, depth: 70 to 72 feet bgs.
ALC-GW04	B4LL2	N/A	12/13/07	1015	Duplicate of ALC-GW03 for QA/QC purposes.
ALC-GW05	B4LL3	N/A	12/13/07	1145	HydroPunch groundwater sample from the MW01 borehole, depth: 90 to 92 feet bgs.
ALC-GW06	B4LL4	N/A	12/17/07	1030	HydroPunch groundwater sample from the MW03 borehole, depth: 67 to 69 feet bgs.
ALC-GW07	B4LL5	N/A	12/17/07	1215	HydroPunch groundwater sample from the MW03 borehole, depth: 85 to 87 feet bgs.
ALC-GW08	B4LL6	N/A	12/18/07	1500	HydroPunch groundwater sample from the MW04 borehole, depth: 65 to 67 feet bgs.
ALC-GW09	B4LL7	N/A	12/19/07	1235	HydroPunch groundwater sample from the MW04 borehole, depth: 95 to 97 feet bgs.
ALC-GW10	B4LL8	N/A	12/21/07	0920	HydroPunch groundwater sample from the MW05 borehole, depth: 65 to 67 feet.
ALC-GW11	B4LL9	N/A	12/21/07	1115	HydroPunch groundwater sample from the MW05 borehole, depth: 85 to 87 feet.
ALC-RIN01	B4LM6	N/A	12/11/07	1040	Rinsate blank (split spoon) for QA/QC purposes.
ALC-RIN02	B4LM7	N/A	12/13/07	0845	Rinsate blank (HydroPunch) for QA/QC purposes.
ALC-RIN03	B4LM8	N/A	12/19/07	0745	Rinsate blank (HydroPunch) for QA/QC purposes.
ALC-RIN04	B4LM9	N/A	12/20/07	1415	Rinsate blank (split spoon) for QA/QC purposes.
ALC-TB01	B4LN1	N/A	12/11/07	1130	Trip blank for QA/QC purposes.
ALC-TB02	B4LN2	N/A	12/13/07	0900	Trip blank for QA/QC purposes.
ALC-TB03	B4LN3	N/A	12/17/07	1025	Trip blank for QA/QC purposes.
ALC-TB04	B4LN4	N/A	12/18/07	1415	Trip blank for QA/QC purposes.
ALC-TB05	B4LN5	N/A	12/19/07	0825	Trip blank for QA/QC purposes.
ALC-TB06	B4LK8	N/A	12/21/07	0800	Trip blank for QA/QC purposes.

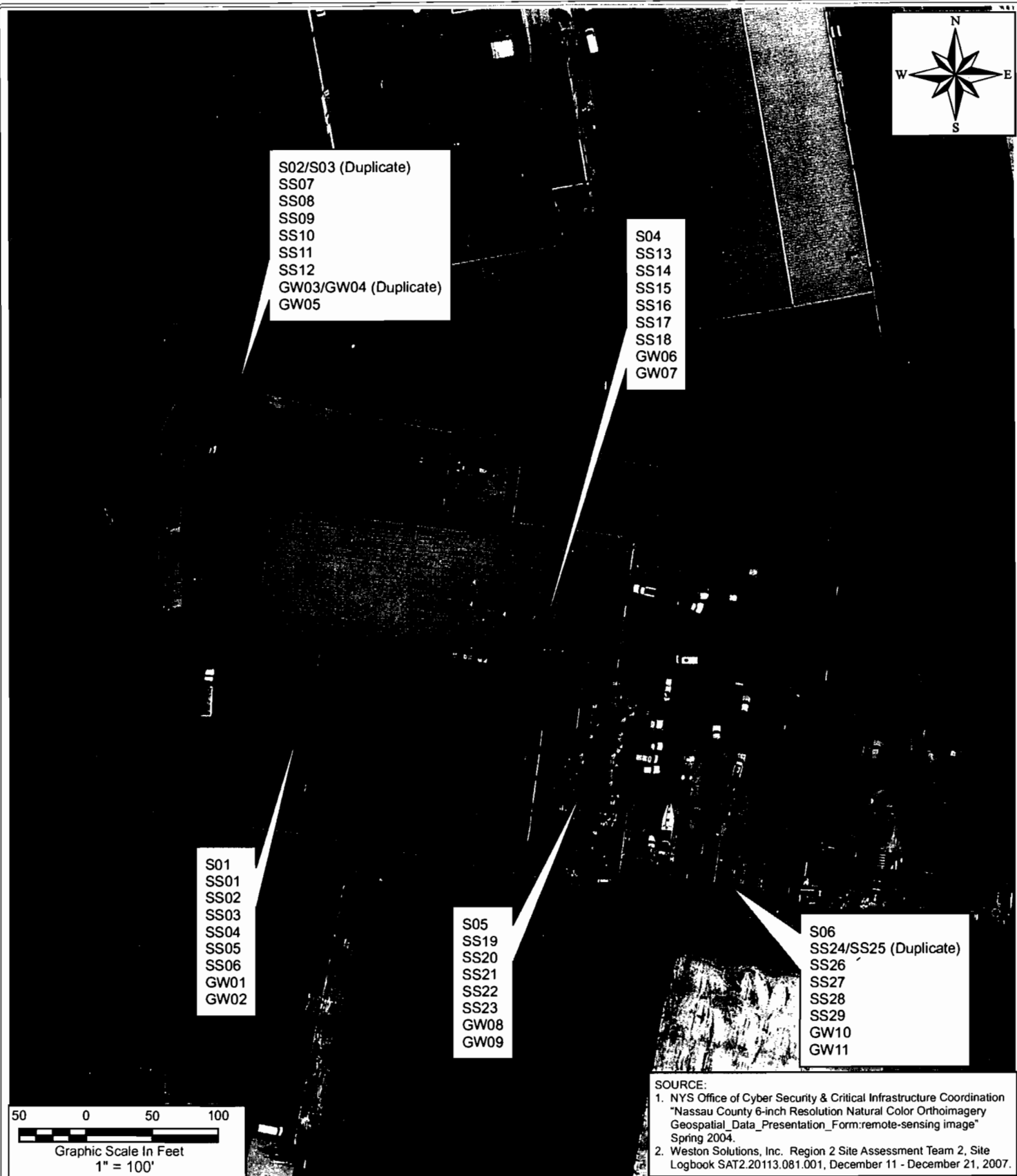
ATTACHMENT 1

TRAFFIC REPORTS/CHAIN OF CUSTODY RECORDS AND AIRBILLS



LEGEND: ● Site Location SOURCE: National Geographic TOPO! U.S. Geologic Survey (USGS). 7.5 Minute Series (Topographic) Quadrangles: Huntington, NY 1979, revised 1992. PROJECT: Aluminum Louvre Corp. CLIENT NAME: EPA	TITLE: Site Location Map Aluminum Louvre Corp. Old Bethpage Nassau County, NY DATE: May 2007 FIGURE #: 1

FIGURE 2
SAMPLE LOCATION MAP



LEGEND:
 Site Boundary
 Sampling and Monitoring Well Location
 Note: All sample numbers are preceded by "ALC-"

PROJECT:
 Aluminum Louvre Corp.

CLIENT NAME:
 EPA

TITLE:
 Sample Location Map
 Aluminum Louvre Corp.
 Old Bethpage
 Nassau County, NY



DATE:
 January 2008

FIGURE #:
 2

FIGURE 1
SITE LOCATION MAP

USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:

R

Region: 2	Date Shipped: 12/11/2007	Chain of Custody Record	
Project Code: 1	Carrier Name: FedEx	Relinquished By	Sampler Signature:
Account Code: NYD981488026	Airbill: 8541 0029 6588	(Date / Time)	Received By
Spill ID: ZZ	Shipped to: Shealy Environmental	12/11/07 16:00	12/11/07 16:00
Site Name/State: Aluminum Loure Inc./NY	106 Vantage Point Drive		
Project Leader: Gerry Gilliland	West Columbia SC 29172		
Action: Preliminary Assessment/Site Inspection	(803) 791-9700		
Sampling Co: (R&S)			

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LG0	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-S01	S: 12/11/2007 8:50		--
B4LG6	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS01	S: 12/11/2007 9:25		--
B4LG7	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS02	S: 12/11/2007 9:45		--
B4LG8	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS03	S: 12/11/2007 10:05		--
B4LG9	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS04	S: 12/11/2007 10:30		--
B4LH0	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS05	S: 12/11/2007 10:50		--
B4LH1	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS06	S: 12/11/2007 11:15		--
B4LK9	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW01	S: 12/11/2007 12:45		--
B4LL0	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW02	S: 12/11/2007 14:25		--
B4LM6	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-RIN01	S: 12/11/2007 10:40		Rinsate
B4LN1	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB01	S: 12/11/2007 11:30		Trip Blank
Shipment for Case Complete? N Sample(s) to be used for laboratory QC: B4LG0, B4LK9 Additional Sampler Signature(s): Chain of Custody Seal Number:								
Analysis Key: Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)								

IR Number: 2-291174636-121107-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.

FedEx® US Airbill

Express

FedEx Tracking Number

8541 0029 6588

Sender's Copy

1 From Please print and press hard

Date 12/10/07 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone 732406-6640

Company Weston Solutions, Inc.

Address 205 Campus Drive Dept./Room/Suite/Room

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference 20113.011.0001.0061.00

First 24 characters will appear on invoice

3 To Recipient's Name Robert Zhu Phone (853) 791-9700

Company Shealy Environmental

Recipient's Address 106 Vantage Point Dr. Dept./Room/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes

Address City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using The Address you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability. Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx 1.800.463.3338.

Express Package Service To add SATURDAY Delivery, see Section 6

☒ FedEx Priority Overnight ☐ Next Business Morning

☐ FedEx 2Day ☐ Second Business Day

☐ FedEx 1Day Freight ☐ Next Business Day

☐ FedEx 2Day Freight ☐ Second Business Day

☐ FedEx 3Day Freight ☐ Third Business Day

☐ FedEx 4Day Freight ☐ Fourth Business Day

☐ FedEx 5Day Freight ☐ Fifth Business Day

☐ FedEx 7Day Freight ☐ Seventh Business Day

☐ FedEx 9Day Freight ☐ Ninth Business Day

☐ FedEx 12Day Freight ☐ Twelfth Business Day

☐ FedEx 15Day Freight ☐ Fifteenth Business Day

☐ FedEx 18Day Freight ☐ Eighteenth Business Day

☐ FedEx 21Day Freight ☐ Twenty-first Business Day

☐ FedEx 24Day Freight ☐ Twenty-fourth Business Day

☐ FedEx 30Day Freight ☐ Thirtieth Business Day

☐ FedEx 36Day Freight ☐ Thirty-sixth Business Day

☐ FedEx 42Day Freight ☐ Forty-second Business Day

☐ FedEx 48Day Freight ☐ Forty-eighth Business Day

☐ FedEx 54Day Freight ☐ Fifty-fourth Business Day

☐ FedEx 60Day Freight ☐ Sixtieth Business Day

☐ FedEx 66Day Freight ☐ Sixty-sixth Business Day

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy

Sender's Copy



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:

37047

R

Region: 2	Date Shipped: 12/12/2007	Chain of Custody Record	
Project Code:	Carrier Name: FedEx	Relinquished By (Date / Time)	Sampler Signature:
Account Code: NYD981488026	Albill: 8541 0029 6589	1 <i>[Signature]</i> 12/12/07/1600	Received By (Date / Time)
Spill ID: ZZ	Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700	2 <i>[Signature]</i> 12/12/07/1600	
Site Name/State: Aluminum Louvre Inc./NY		3	
Project Leader: Gerry Gilliland		4	
Action: Preliminary Assessment/Site Inspection			
Sampling Co: W&S			

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC TYPE	ANALYSIS/ TURNDOWN	TAG No./ PRESERVATIVE Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
BALG1	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS02	S: 12/12/2007 11:00		-
BALG2	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS03	S: 12/12/2007 11:05		Field Duplicate
BALH2	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS07	S: 12/12/2007 12:00		-
BALH3	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS08	S: 12/12/2007 13:15		-
BALH4	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS09	S: 12/12/2007 13:40		-
BALH5	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS10	S: 12/12/2007 14:00		-

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil); TCL VOCs = TCL VOCs (soil)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

IR Number: 2-291174636-121207-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819, Ph 703/818-4200; Fax 703/818-4602.

Sender's Copy

Date	12/12/07	Sender's FedEx Account Number	346 778 823

Sender's Name Scott Snyder Phone 732.1406.8640

Company Weston Solutions, Inc.

Address 205 Campus Drive Dept. Floor/Suite Room

City **Edison** State **NJ** ZIP **08863**

2 Your Internal Billing Reference
First 24 characters will appear on invoice.
20113.011.0001.00001.000

Recipient's Name **Robert Zhu** Phone **(803) 791-9700**

Company Shack Environmental

106 Vantage Point Dr.
Dept. Floor Sales Room

Address

To request a package be held at a specific FedEx location, print FedEx address here

City West Columbia State SC ZIP 29172

Try online shipping at fedex.com.

By using this AirMail you agree to the service conditions on the back of this AirMail and in the current FedEx Service Guide, including terms that limit our liability.

Questions? Go to our Web site at fedex.com
or call 1.800.GoFedEx 1.800.463.3339.

☒ **Express Package Service** To add SATURDAY Delivery, see Section 6.
Package: up to 150 lbs
 16 most locations

☐ **FedEx Priority Overnight** ☐ **FedEx Standard Overnight** ☐ **FedEx First Overnight**
 Next business morning Next business afternoon Express next business morning

☐ **FedEx 2Day**
Second business day.*

☐ **FedEx Express Saver**
Third business day.*

☐ **FedEx 1Day Freight[®]**
Next business day[™]

☐ **FedEx 2Day Freight[®]**
Second business day[™]

☐ **FedEx 3Day Freight[®]**
Third business day[™]

5 Packaging

6 Special Handling

☐	Available ONLY for: FedEx Priority Overnight, FedEx 2Day, FedEx 10day Freight, and FedEx 1Day Freight to select ZIP codes	☐	at FedEx Location NOT Available for: FedEx First Overnight	☐	at FedEx Location Available ONLY for: FedEx Priority Overnight and FedEx 2Day to select locations

☐ No ☒ Yes ☐ Yes ☐ Yes

As per attached Shipper's Declaration, Shipper's Declaration not required.

Dry ice Dry ice, 9, UN 1845

_____ x _____

☐	Sender Acct No.	☐	Recipient	☒	Third Party	☐	Credit Card	☐	Cash/Check

Exp. Date	396778823
Exp. No.	
Card No.	

107 \$.00

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

☐ **No Signature Required**
Package may be left without obtaining a signature for delivery.

☐ **Direct Signature**
Anyone at recipient's address may sign for delivery. *Two approvals.*

☐ **Indirect Signature**
If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. *Two approvals.*

Rev Date 5/05 • Part #158281 • ©1994-2005 FedEx • PRINTED IN U.S.A. SPRY

RETURN THIS COPY FOR YOUR RECORDS



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:
R

Region: 2		Date Shipped: 12/13/2007		Chain of Custody Record	
Project Code:		Carrier Name: FedEx		Relinquished By (Date / Time)	
Account Code:		Albills: 8541 0029 6603		Received By (Date / Time)	
CERCLIS ID: NYD981488026		Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700		Signature: <i>[Signature]</i>	
Spill ID: ZZ				Received By: <i>[Signature]</i>	
Site Name/State: Aluminum Louvre Inc./NY				Date: 12/13/2007	
Project Leader: Gerry Gilliland				Date: 12/13/2007	
Action: Preliminary Assessment/Site Inspection				Date: 12/13/2007	
Sampling Co: (R&S)				Date: 12/13/2007	

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC TYPE	ANALYSIS TURNAROUND	TAG No./ PRESERVATIVE Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LH6	Soil (>24") Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS11	S: 12/13/2007 7:55		-
B4LH7	Soil (>24") Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS12	S: 12/13/2007 8:25		-
B4LL1	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW03	S: 12/13/2007 10:10		-
B4LL2	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW04	S: 12/13/2007 10:15		Field Duplicate
B4LL3	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW05	S: 12/13/2007 11:45		-
B4LM7	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-RIN02	S: 12/13/2007 8:45		Rinse
B4LN2	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB02	S: 12/13/2007 9:00		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analyte Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?
% Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)			

TR Number: 2-291174636-121307-0001

FedEx[®] US Airbill

Express

FedEx Tracking Number **854J 0029 6603**

1 From

Please print and press hard!

Date 12/15/07 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone (732) 417-5800

Company Western Solutions, Inc.

Address 205 Campus Dr. Dept./Floor/Suite/Room

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference

2013.011.001.00701.00

3 To

Recipient's Name Robert Zhu Phone (803) 791-9700

Company Shealy Environmental

Recipient's Address 106 Vantage Point Dr. Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes

Address _____
City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this label you agree to the service conditions on the back of this label and in the current FedEx Service Guide, including terms that limit our liability. Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx 1.800.463.3339.

Sender's Copy

4a Express Package Service

To send SATURDAY Delivery, see Section 8. Packages up to 150 lbs. 16 max dimensions. Express next business morning delivery to select locations.

☒ FedEx Priority Overnight ☐ FedEx Standard Overnight ☐ FedEx First Overnight

☐ FedEx 2Day ☐ FedEx Express Saver ☐ FedEx 1Day Freight* ☐ FedEx 2Day Freight ☐ FedEx 3Day Freight

5 Packaging

☐ FedEx ☐ FedEx Pak* ☐ FedEx Box ☒ FedEx Tube ☐ Other

6 Special Handling

☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes. ☐ HOLD Saturday at FedEx Location NOT Available for FedEx Priority Overnight and FedEx 2Day to select locations. ☐ Fragile to select ZIP codes. ☐ Does this label need to be changed?

☒ No ☐ Yes ☐ Yes ☐ Yes ☐ Dry Ice ☐ X ☐ 1g

7 Payment

Bill to: ☐ Sender ☐ Recipient ☒ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. 396 778 823 Total Packages 1 Total Declared Value* 100 Exp. Date

8 NEW Residential Delivery Signature Options

If you require a signature, check Direct or Indirect.

☐ No Signature Required ☐ Direct Signature ☐ Indirect Signature

☐ Package may be left with address only sign for delivery. ☐ Package may be left with recipient's address, anyone sign for delivery. ☐ Package may be left with recipient's address, anyone sign for delivery.

Rev. Date 5/05-First 1/15/08-45199-7025. PREPARED IN U.S.A. SBY

520

RETAIN THIS COPY FOR YOUR RECORDS.

EPA USEPA Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No: R

Region: 2	Date Shipped: 12/14/2007	Chain of Custody Record	
Project Code: 1	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	Sampler Signature: <i>[Signature]</i>
Account Code: NYD981488026	Airbill: 837542989833	(Date / Time)	(Date / Time)
Spill ID: ZZ	Shipped to: Shealy Environmental	2 12/14/07 1800	2 FedEx 12/14/07 1800
Site Name/State: Aluminum Louvre Inc./NY	106 Vantage Point Drive	3	
Project Leader: Gerry Gilliland	West Columbia SC 29172	4	
Action: Preliminary Assessment/Site Inspection	(803) 791-9700		
Sampling Co: (B&S)			

ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4LG3	Soil (0"-24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS04	S: 12/14/2007 13:10	-	-
B4LH8	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS13	S: 12/14/2007 13:45	-	-
B4LH9	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS14	S: 12/14/2007 14:00	-	-
B4LJ0	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS15	S: 12/14/2007 14:15	-	-
B4LJ1	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS16	S: 12/14/2007 14:35	-	-
B4LJ2	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS17	S: 12/14/2007 14:55	-	-

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: B4LJ2	Additional Sampler Signature(s): <i>[Signature]</i>	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 2-2911774636-121407-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

REGION COPY

FedEx USA Airbill
Express
FedEx Tracking Number
837542989833

1 From Please print and press hard

Date 12/11/07 Sender's FedEx Account Number 396778823

Sender's Name Dan Goughon Phone 732, 466-8640

Company Western Solutions

Address 205 Campus Dr.

City Edison State NJ ZIP 08873

2 Your Internal Billing Reference 20113. 011. 001. 0081

3 To

Recipient's Name Rick + Zhu Phone 803791-9708

Company Shirley

Address 104 Vantage Point

City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.
Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

0200

4a Express Package Service

☒ **FedEx Priority Overnight** Next business morning
☐ **FedEx Standard Overnight** Next business afternoon
☐ **FedEx 2Day** Second business day
☐ **FedEx Express Saver** Third business day

4b Express Freight Service Delivery commitment may be later in some areas. Estimate first business morning delivery to select locations.

☐ **FedEx 1Day Freight*** Next business day
☐ **FedEx 2Day Freight*** Second business day
☐ **FedEx 3Day Freight** Third business day

5 Packaging *Declared value limit \$50
☐ **FedEx Envelope*** Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
☒ **Other**

6 Special Handling Indicate FedEx's additional services
☒ **Signature Required** Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes. One box must be checked.
☐ **HOLD Saturday** at FedEx Location
☐ **HOLD Sunday** at FedEx Location
☐ **Insured** Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

7 Payment Bill to: Enter FedEx word box or Credit Card No. below
☒ **Sender** ☐ **Recipient** ☐ **Third Party** ☐ **Credit Card** ☐ **Cash/Check**

8 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

Total Packages 1 **Total Weight** 1 **Total Declared Value*** 100

9 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

10 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

11 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

12 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

13 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

14 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

15 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

16 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

17 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

18 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**

19 Release Signature Sign to authorize delivery without obtaining signature
☐ **Signature** ☐ **Signature** ☐ **Signature**



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:

37047

R

Region: 2		Date Shipped: 12/17/2007		Chain of Custody Record	
Project Code: 1		Carrier Name: FedEx		Relinquished By (Date / Time)	
Account Code: NYD981488026		Airbill: 837542989844		Received By (Date / Time)	
Spill ID: ZZ		Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700		Signature: [Signature] Received By: [Signature] Date: 12/17/07	
Site Name/State: Aluminum Louvre Inc./NY					
Project Leader: Gerry Gilliland					
Action: Preliminary Assessment/Site Inspection					
Sampling Co: (RASH)					

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC TYPE	ANALYSIS/ TURNDOWN	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LJ3	Soil (>24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS18	S: 12/17/2007 9:00		-
B4LL4	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW06	S: 12/17/2007 10:30		-
B4LL5	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW07	S: 12/17/2007 12:15		-
B4LN3	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB03	S: 12/17/2007 10:25		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)		Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

IR Number: 2-291174636-121707-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819, Ph 703/818-4200; Fax 703/818-4602.

FedEx USA Airbill

Express Tracking Number **837542989844**

1 From Please print and make hard
 Date 12/17/07 Sender's FedEx Account Number 344778603

Sender's Name Dan Goughon Phone 1733, 440-6140

Company Western Solutions

Address 205 Campers Dr.

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference 20113. 011. 001. 0081. 00

3 To
 Recipient's Name Robert Zhu Phone (603) 741-9700

Company Shredly

Address 100 Ventury Point Dr.

City West Columbia State SC ZIP 29170

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.
Questions? Visit our Web site at fedex.com
 or call 1.800.Go.FedEx® 800.463.3339

0200

4a Express Package Service
☐ FedEx Priority Overnight
☒ **FedEx Standard Overnight**
☐ FedEx First Overnight
 Packages up to 150 lbs.
 Delivery commitment may be later in some areas.
 Express next business morning delivery to select locations.

4b Express Freight Service
☐ FedEx 2Day
☐ FedEx Express Saver
☐ FedEx 1Day Freight*
☐ FedEx 2Day Freight
☐ FedEx 30Day Freight
 Packages over 150 lbs.
 Delivery commitment may be later in some areas.
 Third business day.

5 Packaging
☐ FedEx Envelope*
☐ FedEx Pak*
☒ Other
 * Declared value limit \$500

6 Special Handling
☐ Saturday Delivery
☐ Signature Required
☐ Insured
☐ Fragile
☐ Restricted
☐ Hazardous
☐ Other
 Includes FedEx services at Section 3.

7 Payment Bill to:
☒ Sender
☐ Recipient
☐ Third Party
☐ Credit Card
☐ Cash/Check
 Enter FedEx Account No. or Payment Method Below.

8 Release Signature
 Sign to authorize delivery without obtaining signature.
 By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.
 Date 12/17/07 P:1415:12:48 W:184 2001 F:48**M:W:U:R:D:5:A WGS: 02

Total Packages 1 **Total Weight** 5 **Total Declared Value** .00
 FedEx Use Only

4446

Region: 2	Date Shipped: 12/18/2007	Chain of Custody Record		Sampler Signature: <i>[Signature]</i>
Project Code: 1	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	(Date / Time)	Received By: <i>[Signature]</i>
Account Code: NYD981488026	Airbill: 837542989855	(Date / Time)		
Spill ID: ZZ	Shipped to: Shealy Environmental	106 Vantage Point Drive		
Site Name/State: Aluminum Louvre Inc./NY	West Columbia SC 29172	(803) 791-9700		
Project Leader: Gerry Gilliland				
Action: Preliminary Assessment/Site Inspection				
Sampling Co: (R&SI)				

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LG4	Soil (0"-24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-S05	S: 12/18/2007 10:50		--
B4LJ4	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS19	S: 12/18/2007 11:25		--
B4LJ5	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS20	S: 12/18/2007 11:40		--
B4LJ6	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS21	S: 12/18/2007 12:00		--
B4LJ7	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS22	S: 12/18/2007 12:50		--
B4LJ8	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS23	S: 12/18/2007 13:20		--
B4LL6	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW08	S: 12/18/2007 15:00		--
B4LN4	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB04	S: 12/18/2007 14:15		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
% Moisture = TCL Percent Moisture (soil). TCL VOCs = TCL VOCs (soil). VOC (aq) = TCL VOCs (aqueous)			

FedEx USA Airbill

Express Tracking Number 837542989855

1 From Please print and press hard.

Date 11/18/07 Sender's FedEx Account Number 396778823

Sender's Name Don Graughan Phone 732,466-8640

Company Western Solutions

Address 205 Campus Dr.

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference 20113. 011.001.0081.00

3 To Recipient's Name Robert Zha Phone 1803, 791-9700

Company Shredly

Address 106 Vantage Point Dr.

City West Columbia State SC ZIP 29172



Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800.463.3339.

0200

4a Express Package Service

☐ FedEx Priority Overnight ☒ FedEx Standard Overnight ☐ Next business morning ☐ Next business afternoon ☐ Next business day ☐ Next business day

☐ FedEx 2Day ☐ FedEx Express Saver ☐ Second business day ☐ Third business day

4b Express Freight Service

☐ FedEx 1Day Freight* ☐ FedEx 2Day Freight ☐ FedEx 3Day Freight ☐ Second business day ☐ Third business day

5 Packaging

☐ FedEx Envelope* ☐ FedEx Pak* ☒ Other ☐ Small Pak Envelope ☐ Large Pak and FedEx Saver Pak

6 Special Handling

☐ Saturday Delivery ☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes ☐ Hold Weekday ☐ Hold Saturday ☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes ☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes

Does this shipment contain dangerous goods? ☒ No ☐ Yes ☐ As per attached ☐ Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging. ☐ Yes ☐ Shipper's Declaration ☐ Dry Ice ☐ UN 1845 ☐ Cargo Aircraft Only

Payment Bill to:

☒ Shipper ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 1 Total Weight 20 Total Declared Value \$.00

8 Release Signature

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

446



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:

37047

R

Region: 2	Date Shipped: 12/19/2007	Chain of Custody Record		Sampler Signature: <i>[Signature]</i>
Project Code: 1	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	(Date / Time) 12/19/07 10:00	Received By: <i>[Signature]</i>
Account Code: NYD981488026	Airbill: 837542989866	(Date / Time)		
CERCLIS ID: ZZ	Shipped to: Shealy Environmental			
Site Name/State: Aluminum Louvre Inc./NY	106 Vantage Point Drive			
Project Leader: Gerry Gilliland	West Columbia SC 29172			
Action: Preliminary Assessment/Site Inspection	(803) 791-9700			
Sampling Co: (RASH)				

ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4L7	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW09	S: 12/19/2007 12:35		-
B4LM8	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-RIN03	S: 12/19/2007 7:45		Rinsate
B4LN5	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB05	S: 12/19/2007 8:25		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

IR Number: 2-291174636-121907-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.



1

677823

Phone (732) 406-804

Name (Print/Surname) _____

ZIP 08837

1. 8081.00

Phone (803, 791-4700

at Dr.

Dept./Floor/Suite/Rm.

SC ZIP 29172

tellex.com

ons on the back of this Airbill
ms that limit our liability.

463.3339.

Packages up to 150 lbs.

FedEx First Overnight
Earliest next business morning
delivery to select locations

Packages over 150 lb
Delivery commitment may be later in some areas.
FedEx 3Day Freight

Declared value limit \$

☒ Other

HOLD Saturday
at FedEx location

For Extra Priority Overnight and FedEx 2Day to select locations

☐ Cargo Aircraft Only

☐ Credit Card ☐ Cash/Cheque

Exit Gate

00*

Back for details.

signature

446

2. • • • •

USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No:

R

Region: 2	Date Shipped: 12/20/2007	Chain of Custody Record	
Project Code: 1	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	Sampler Signature: <i>[Signature]</i>
Account Code: NYD981488026	Atbill: 837542989877	(Date / Time)	Received By: <i>[Signature]</i>
Spill ID: ZZ	Shipped to: Shealy Environmental	12/20/2007 14:05	(Date / Time)
Site Name/State: Aluminum Louvre Inc./NY	106 Vantage Point Drive		
Project Leader: Gerry Gilliland	West Columbia SC 29172		
Action: Preliminary Assessment/Site Inspection	(803) 791-9700		
Sampling Co: ~~W&S~~			

ORGANIC SAMPLE NO.	MATRIX SAMPLER	CONC TYPE	ANALYSIS/TURNAROUND	TAG No./PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4LG5	Soil (0"-24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-S06	S: 12/20/2007 13:20		--
B4LJ9	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS24	S: 12/20/2007 14:05		--
B4LK0	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS25	S: 12/20/2007 14:10		Field Duplicate
B4LK1	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS26	S: 12/20/2007 14:30		--
B4LK2	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS27	S: 12/20/2007 14:45		--
B4LK3	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS28	S: 12/20/2007 15:10		--
B4LM9	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-RIN04	S: 12/20/2007 14:15		Rinsate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
% Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)			

IR Number: 2-291174636-122007-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819, Ph 703/818-4200, Fax 703/818-4602.

FedEx® USA Airbill

Express Tracking Number **837542989877**

1 From

Passport and press here
Date **12/20/07** Sender's FedEx Account Number **396778823**

Sender's Name **Don Gaudin** Phone **(732) 444-8140**

Company **Worlston Solutions**

Address **205 Campus Dr**

City **Edison** State **NJ** ZIP **08837**

2 Your Internal Billing Reference

Reference Number **20113. 011.001. 00 01. 00**

3 To

Recipient's Name **Robert Zhu** Phone **(803) 791-9700**

Company **Shoely**

Address **106 Vantage Point Dr.**

City **West Columbia** State **SC** ZIP **29172**

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com

or call 1.800.Go.FedEx® 800.463.3339.

4a Express Package Service

☒ FedEx Priority Overnight

☐ Next business morning

☐ FedEx 2Day

☐ Second business day

☐ FedEx Express Saver

☐ Third business day

☐ FedEx 1Day Freight*

☐ Next business day

☐ FedEx 2Day Freight

☐ Second business day

☐ FedEx 3Day Freight

☐ Third business day

☐ FedEx Envelope*

☐ FedEx Pak*

☐ Other

☐ Includes FedEx Small Pak, FedEx Large Pak, and FedEx Saver Pak

☐ Special Handling

☐ SATURDAY Delivery

☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes

☐ HOLD Weekday

☐ at FedEx Location

☐ NOT Available for FedEx First Overnight

☐ HOLD Saturday

☐ at FedEx Location

☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

☐ Does this shipment contain dangerous goods?

☒ No

☐ Yes

☐ As per attached Shipper's Declaration

☐ Shipper's Declaration not required

☐ Dry Ice

☐ Dry Ice 9 UN 1845

☐ Cargo Aircraft Only

☐ Payment Bill to:

☒ Sender

☐ Recipient

☐ Third Party

☐ Credit Card

☐ Cash/Check

☐ Release Signature

☐ Total Packages

☐ Total Weight

☐ Total Declared Value*

☐ Exp. Date

☐ FedEx Use Only

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

☐ Signature

Sender's Copy

RETAIN THIS COPY FOR YOUR RECORDS

USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37047
DAS No: R

Region: 2 Project Code: Account Code: CERCLIS ID: NYD981488026 Spill ID: ZZ Site Name/State: Aluminum Louvre Inc./NY Project Leader: Gerry Gilliland Action: Preliminary Assessment/Site Inspection Sampling Co: (R&S)h	Date Shipped: 12/21/2007 Carrier Name: FedEx Airbill: 837542989888 Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700	Chain of Custody Record <table border="1"> <tr> <th>Relinquished By</th> <th>(Date / Time)</th> <th>Sampler Signature</th> <th>Received By</th> <th>(Date / Time)</th> </tr> <tr> <td><i>[Signature]</i></td> <td>12/21/07 1300</td> <td><i>[Signature]</i></td> <td>FedEx</td> <td>12/21/07 1300</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Relinquished By	(Date / Time)	Sampler Signature	Received By	(Date / Time)	<i>[Signature]</i>	12/21/07 1300	<i>[Signature]</i>	FedEx	12/21/07 1300	2					3					4				
Relinquished By	(Date / Time)	Sampler Signature	Received By	(Date / Time)																							
<i>[Signature]</i>	12/21/07 1300	<i>[Signature]</i>	FedEx	12/21/07 1300																							
2																											
3																											
4																											

ORGANIC SAMPLE NO.	MATRIX SAMPLER	CONC TYPE	ANALYSIS TURNAROUND	TAG No./ PRESERVATIVE/ Bottle	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4LK4	Soil (<24") Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	ALC-SS29	S: 12/21/2007 7:35		-
B4LK8	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB06	S: 12/21/2007 8:00		Trip Blank
B4LL8	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW10	S: 12/21/2007 9:20		-
B4LL9	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-GW11	S: 12/21/2007 11:15		-

Shipment for Case Completed? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil). TCL VOCs = TCL VOCs (soil). VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G	Shipment Recd?	

TR Number: 2-291174636-122107-0001
 PR provides preliminary results. Requests for preliminary results will increase analytical costs.
 Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/618-4200; Fax 703/618-4602.

FedEx USA Airbill

Express Tracking Number **837542989888**

1 From Please print and post paid

Date **12/21/07** Sender's FedEx Account Number **366778823**

Sender's Name **Dan Laughon** Phone **732-406-3164**

Company **Weston Solutions**

Address **205 Campus Dr.**

City **Edison** State **NJ** ZIP **08837**

2 Your Internal Billing Reference

First 24 characters will appear on invoice

3 To Recipient's Name **Rita + Zhu** Phone **(603) 791-1700**

Company **Shoaly**

Address **100 Vantage Point Dr.**

City **West Columbia** State **SC** ZIP **29172**

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800.463.3339.

0200

4a Express Package Service

☒ Next Business Morning ☐ Next Business Afternoon ☐ Next Business Evening

☐ FedEx 2Day ☐ FedEx Express Saver

4b Express Freight Service

☐ FedEx 10Day Freight* ☐ FedEx 20Day Freight ☐ FedEx 30Day Freight

5 Packaging

☐ FedEx Envelope* ☐ FedEx Pak* ☒ Other

6 Special Handling

☒ Fragile ☐ Hazardous ☐ High Value ☐ Perishable ☐ Restricted ☐ Signature Required ☐ Signature Confirmation ☐ Insured ☐ Registered Mail ☐ Registered Mail Restricted ☐ Registered Mail Signature Required ☐ Registered Mail Signature Confirmation ☐ Registered Mail Signature Restricted ☐ Registered Mail Signature Confirmation Restricted ☐ Registered Mail Signature Restricted Confirmation ☐ Registered Mail Signature Confirmation Restricted Confirmation

7 Payment Bill to

☒ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

8 Release Signature

☐ Signature Required ☐ Signature Not Required ☐ Signature Restricted ☐ Signature Confirmation ☐ Signature Confirmation Restricted ☐ Signature Confirmation Restricted Confirmation

Total Packages **1** Total Weight **9** Total Declared Value **\$.00**

By signing this Airbill you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

44b



Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
732-417-5800 • Fax 732-417-5801
www.westonsolutions.com

December 28, 2007

Mr. Ildefonso Acosta, Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway - 18th Floor
New York, NY 10007-1866

Document Control No.: SAT2.20113.080.608

Subject: Sampling Trip Report
Work Assignment No.: 080, Filtron Corp.
Contract No.: EP-W-05-048

Dear Mr. Acosta:

Weston Solutions, Inc. is pleased to submit the Sampling Trip Report for soil and aqueous samples collected during the first phase of the Filtron Corp. Preliminary Assessment/Site Inspection (PA/SI) sampling event. The Region 2 Site Assessment Team 2 (SAT 2) collected soil and groundwater samples from on-site monitoring well boreholes from November 27 through December 7, 2007. If you have any questions, please contact me at (732) 417-5826.

Very truly yours,

WESTON SOLUTIONS, INC.

Gerald V. Gilliland, P.G.
SAT 2 Project Manager

enclosure

cc: I. Acosta, EPA (w/o enclosure)
W.S. Butterfield, SAT 2 (w/o enclosure)
J. Feranda, EPA (w/o enclosure)
A. Michael, EPA
SAT 2 project file



SAMPLING TRIP REPORT

SITE NAME: Filtron Corp.
DCN: SAT2.20113.080.608
W.O.: 20113.011.001.0080.00
Case No.: 37045

EPA I.D. NO.: NYN000206093

SAMPLING DATES: November 27 through December 7, 2007
(excluding November 29 and December 1 and 2)

1. Site Location: Refer to Figure 1
2. Sample Locations: Refer to Figure 2
3. Sample Descriptions: Refer to Table 1
4. Laboratories Receiving Samples:

Analysis

Name and Address of Laboratory

Target Compound List (TCL)
Volatile Organic Compounds (VOCs)

Shealy Environmental Services
106 Vantage Point Drive
West Columbia, SC 29172

5. Sample Dispatch Data:

- One aqueous sample and six soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Service on 11/27/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9796
- Three aqueous samples and one soil sample for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 11/28/07 at 1600 hours via Federal Express Airbill No. 8375 4298 9811.
- Seven soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 11/30/07 at 1230 hours via Federal Express Airbill No. 8375 4298 9822.

- Five aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/3/07 at 1700 hours via Federal Express Airbill No. 8375 4298 9785.
- One aqueous sample and eight soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/4/07 at 1700 hours via Federal Express Airbill No. 8541 0029 6544.
- Three aqueous samples and one soil sample for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/5/07 at 1400 hours via Federal Express Airbill No. 8541 0029 6452.
- Nine soil samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/6/07 at 1600 hours via Federal Express Airbill No. 8541 0029 6463.
- Three aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Shealy Environmental Services on 12/7/07 at 1200 hours via Federal Express Airbill No. 8541 0029 6555.

6. On-Site Personnel:

<u>Name</u>	<u>Company</u>	<u>Duties on Site</u>
Gerry Gilliland	WESTON SAT 2	Project Manager (PM)
Dan Gaughan	WESTON SAT 2	Sample Management Officer (SMO), Sampler (11/26 through 11/30)
Scott Snyder	WESTON SAT 2	SMO, Sampler (12/3 through 12/7)
Gil Mello	WESTON SAT 2	Site Health and Safety Coordinator (SHSC), Site Geologist, Driller Oversight
Jason Pittel	Delta Well and Pump	Driller
Pat Dorney	Delta Well and Pump	Assistant Driller

7. Additional Comments:

From November 27 through December 7, 2007, Weston Solutions, Inc. (WESTON®) Region 2 Site Assessment Team 2 (SAT 2) personnel oversaw the installation of four overburden monitoring wells at the Filtron Corp. site. SAT 2 collected a total of five surface soil samples (depth: 0'-2') (including one environmental duplicate sample), 27 subsurface soil samples (depth: > 2') (including one environmental duplicate sample), and nine aqueous samples (including one environmental duplicate sample) from the four monitoring well boreholes. One surface soil sample was collected from each borehole. Subsurface soil samples were collected at 10-foot intervals (i.e., 10'-12', 20'-22', 30'-32', etc.) from the ground surface to the topmost water-bearing zone. SAT 2 collected two groundwater samples from each borehole: one from the topmost water-bearing zone (65 to 72 feet below ground surface) and one from a depth between 90 and 95 feet below ground surface.

SAT 2 collected soil samples using 5-gram En Core™ dedicated sampling devices. Three of the surface soil samples were collected directly from hand-dug pilot holes, in those locations where the presence of underground utilities was of concern. The remaining two surface soil samples, as well as all subsurface soil samples, were collected from decontaminated, split-spoon samplers. Direct-push groundwater samples were collected using a decontaminated, stainless-steel HydroPunch sampling device. In addition to the environmental samples, SAT 2 collected four rinsate blanks to demonstrate that the split-spoon and HydroPunch samplers were free of contamination. Three trip blank samples were collected to demonstrate that there was no cross-contamination between samples and that no atmospheric contaminants were seeping into sample containers.

All samples were collected as part of the Filtron Corp. Preliminary Assessment/Site Inspection (PA/SI) work assignment. The soil and aqueous samples collected by SAT 2 were designated to be analyzed for TCL VOCs (low-medium concentration) through the EPA Contract Laboratory Program (CLP). Two soil samples and one aqueous sample were designated as matrix spike/matrix spike duplicates (MS/MSDs). Organic Traffic Reports and Airbills are presented in Attachment 1.

8. Report Prepared by:  Date: 12/27/07
Gerald V. Gilliland, P.G.

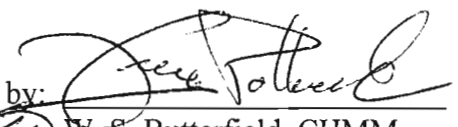
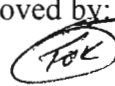
9. Report Approved by:  Date: 12/28/07
 W. S. Butterfield, CHMM

Table 1
Sample Descriptions
Filtron Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
FILT-S01	B4LR0	N/A	11/30/07	0750	Surface soil sample from the MW01 borehole. Light-brown, fine- to coarse-grained sand, depth: 0 to 2 feet below ground surface (bgs). Matrix spike/matrix spike duplicate for quality assurance/quality control (QA/QC) purposes.
FILT-S02	B4LR1	N/A	11/27/07	1130	Surface soil sample from the MW02 borehole. Fill material consisting of orange-brown, fine- to coarse-grained sand, depth: 1 foot bgs.
FILT-S03	B4LR2	N/A	12/4/07	1240	Surface soil sample from the MW03 borehole. Orange-brown, coarse-grained sand and gravel, depth: 0 to 2 feet bgs.
FILT-S04	B4LR3	N/A	12/4/07	1245	Duplicate of FILT-S03 for QA/QC purposes.
FILT-S05	B4LR4	N/A	12/6/07	1015	Surface soil sample from the MW04 borehole. Dark-brown, medium-grained sand, some silt and gravel, depth: 0 to 2 feet bgs.
FILT-SS01	B4LR5	N/A	11/30/07	0812	Subsurface soil sample from the MW01 borehole. Light-brown, fine- to medium-grained sand, depth: 10 to 12 feet bgs.
FILT-SS02	B4LR6	N/A	11/30/07	0830	Subsurface soil sample from the MW01 borehole. Pale-gray, medium- to coarse-grained sand, depth: 20 to 22 feet bgs.
FILT-SS03	B4LR7	N/A	11/30/07	0915	Subsurface soil sample from the MW01 borehole. Grayish-brown, fine- to medium-grained sand, trace silt, depth: 30 to 32 feet bgs.
FILT-SS04	B4LR8	N/A	11/30/07	0935	Subsurface soil sample from the MW01 borehole. Pale-reddish-brown, fine- to medium-grained sand, depth: 40 to 42 feet bgs.
FILT-SS05	B4LR9	N/A	11/30/07	1010	Subsurface soil sample from the MW01 borehole. Gray silt and clay grading to light-brown, fine- to medium-grained sand, depth: 50 to 52 feet bgs.
FILT-SS06	B4LS0	N/A	11/30/07	1040	Subsurface soil sample from the MW01 borehole. Light-reddish-gray, fine- to medium-grained sand, laminated, depth: 60 to 62 feet bgs.

Table 1(continued)
Sample Descriptions
Filtron Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
FILT-SS08	B4LS2	N/A	11/27/07	1200	Subsurface soil sample from the MW02 borehole. Yellow-brown, fine- to medium-grained sand, trace silt and clay, depth: 10.5 to 11 feet bgs.
FILT-SS09	B4LS3	N/A	11/27/07	1345	Subsurface soil sample from the MW02 borehole. Light-gray, fine- to medium-grained sand, laminated with black streaks and trace silt, depth: 21.5 to 22 feet bgs.
FILT-SS10	B4LS4	N/A	11/27/07	1410	Subsurface soil sample from the MW02 borehole. Orange-brown, silty sand with trace clay alternating with dark-brown clayey silt, depth 31 feet bgs.
FILT-SS11	B4LS5	N/A	11/27/07	1445	Subsurface soil sample from the MW02 borehole. Grayish-brown to orange-brown, fine- to coarse-grained sand, trace silt and clay, depth 41 feet bgs.
FILT-SS12	B4LS6	N/A	11/27/07	1500	Subsurface soil sample from the MW02 borehole. Light-gray to orange-brown, silty, fine- to medium-grained sand with black silt laminations, depth: 51 feet bgs.
FILT-SS13	B4LS7	N/A	11/28/07	0755	Subsurface soil sample from the MW02 borehole. Light-brown to orange-brown, fine- to medium-grained sand, trace silt, depth: 60 to 62 feet bgs.
FILT-SS14	B4LS8	N/A	12/4/07	1330	Subsurface soil sample from the MW03 borehole. Light-brown, fine- to medium-grained sand, trace silt, depth: 10 to 12 feet bgs.
FILT-SS15	B4LS9	N/A	12/4/07	1345	Subsurface soil sample from the MW03 borehole. Gray, micaceous, medium- to coarse-grained sand with black silt laminations, depth: 20 to 22 feet bgs.
FILT-SS16	B4LT0	N/A	12/4/07	1410	Subsurface soil sample from the MW03 borehole. Medium-reddish-brown, fine- to medium-grained sand with red laminations, depth 30 to 32 feet bgs.
FILT-SS17	B4LT1	N/A	12/4/07	1430	Subsurface soil sample from the MW03 borehole. Medium-brown clay, depth: 40 to 42 feet bgs. MS/MSD for QA/QC purposes.

Table 1(continued)
Sample Descriptions
Filtron Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
FILT-SS18	B4LT2	N/A	12/4/07	1500	Subsurface soil sample from the MW03 borehole. Light-brown, fine- to medium-grained sand, trace silt, depth: 50 to 52 feet bgs.
FILT-SS19	B4LT3	N/A	12/4/07	1515	Subsurface soil sample from the MW03 borehole. Light-grayish-brown, fine-grained sand grading to orange-gray, clayey silt, depth: 60 to 62 feet bgs.
FILT-SS20	B4LT4	N/A	12/5/07	0800	Subsurface soil sample from the MW03 borehole. Gray, clayey silt grading to light-brownish-gray silt, some fine sand, depth: 65 to 67 feet bgs.
FILT-SS21	B4LT5	N/A	12/6/07	1110	Subsurface soil sample from the MW04 borehole. Light-grayish-brown, fine- to medium-grained sand, depth: 10 to 12 feet bgs.
FILT-SS22	B4LT6	N/A	12/6/07	1125	Subsurface soil sample from the MW04 borehole. Light-brown fine- to medium-grained sand, little silt grading to grayish-white, fine- to medium-grained sand with black laminations, depth: 20 to 22 feet bgs.
FILT-SS23	B4LT7	N/A	12/6/07	1145	Subsurface soil sample from the MW04 borehole. Light-grayish-brown, fine- to medium-grained sand, trace silt, depth: 30 to 32 feet bgs.
FILT-SS24	B4LT8	N/A	12/6/07	1205	Subsurface soil sample from the MW04 borehole. Light- to medium-brown, fine- to medium-grained sand, depth: 40 to 42 feet bgs.
FILT-SS25	B4LT9	N/A	12/6/07	1305	Subsurface soil sample from the MW04 borehole. Grayish-brown fine sand and silt grading to light-brown and gray, fine- to medium-grained sand, depth: 50 to 52 feet bgs.
FILT-SS26	B4LW0	N/A	12/6/07	1325	Subsurface soil sample from the MW04 borehole. Medium-brown, fine- to medium-grained sand, depth: 60 to 62 feet bgs.
FILT-SS27	B4LY5	N/A	12/6/07	1345	Subsurface soil sample from the MW04 borehole. Light-brown, fine- to medium-grained sand grading to grayish-brown, fine-grained sand and silt grading to orange-brown, medium-grained sand, depth: 65 to 67 feet bgs.
FILT-SS28	B4LY6	N/A	12/6/07	1350	Duplicate of FILT-SS27 for QA/QC purposes.

Table 1(continued)
Sample Descriptions
Filtron Corp.
Old Bethpage, New York

SAMPLE NUMBER	ORGANIC CLP NO.	INORGANIC CLP NO.	DATE	TIME	COMMENTS
FILT-GW01	B4LW1	N/A	12/3/07	0934	HydroPunch groundwater sample from the MW01 borehole, depth: 65 to 67 feet bgs. MS/MSD for QA/QC purposes.
FILT-GW02	B4LW2	N/A	12/3/07	1145	HydroPunch groundwater sample from the MW01 borehole, depth: 90 to 92 feet bgs.
FILT-GW05	B4LW5	N/A	12/3/07	1150	Duplicate of FILT-GW02 for QA/QC purposes.
FILT-GW03	B4LW3	N/A	11/28/07	1255	HydroPunch groundwater sample from the MW02 borehole, depth: 71 to 73 feet bgs.
FILT-GW04	B4LW4	N/A	11/28/07	1530	HydroPunch groundwater sample from the MW02 borehole, depth: 90 to 92 feet bgs.
FILT-GW06	B4LW6	N/A	12/5/07	0920	HydroPunch groundwater sample from the MW03 borehole, depth: 72 to 73 feet bgs.
FILT-GW07	B4LW7	N/A	12/5/07	1125	HydroPunch groundwater sample from the MW03 borehole, depth: 95 to 97 feet bgs.
FILT-GW08	B4LW8	N/A	12/6/07	1505	HydroPunch groundwater sample from the MW04 borehole, depth: 72 to 73 feet bgs.
FILT-GW09	B4LW9	N/A	12/7/07	0900	HydroPunch groundwater sample from the MW04 borehole, depth: 90 to 92 feet bgs.
FILT-RIN01	B4LX5	N/A	11/27/07	1150	Rinsate blank (split spoon) for QA/QC purposes.
FILT-RIN02	B4LX6	N/A	11/28/07	0805	Rinsate blank (HydroPunch) for QA/QC purposes.
FILT-RIN03	B4LX7	N/A	12/3/07	1315	Rinsate blank (HydroPunch) for QA/QC purposes.
FILT-RIN04	B4LX8	N/A	12/4/07	1530	Rinsate blank (split spoon) for QA/QC purposes.
FILT-TB01	B4LY0	N/A	12/3/07	1055	Trip blank for QA/QC purposes.
FILT-TB02	B4LY1	N/A	12/5/07	0815	Trip blank for QA/QC purposes.
FILT-TB03	B4LY2	N/A	12/7/07	0740	Trip blank for QA/QC purposes.

FIGURE 1
SITE LOCATION MAP

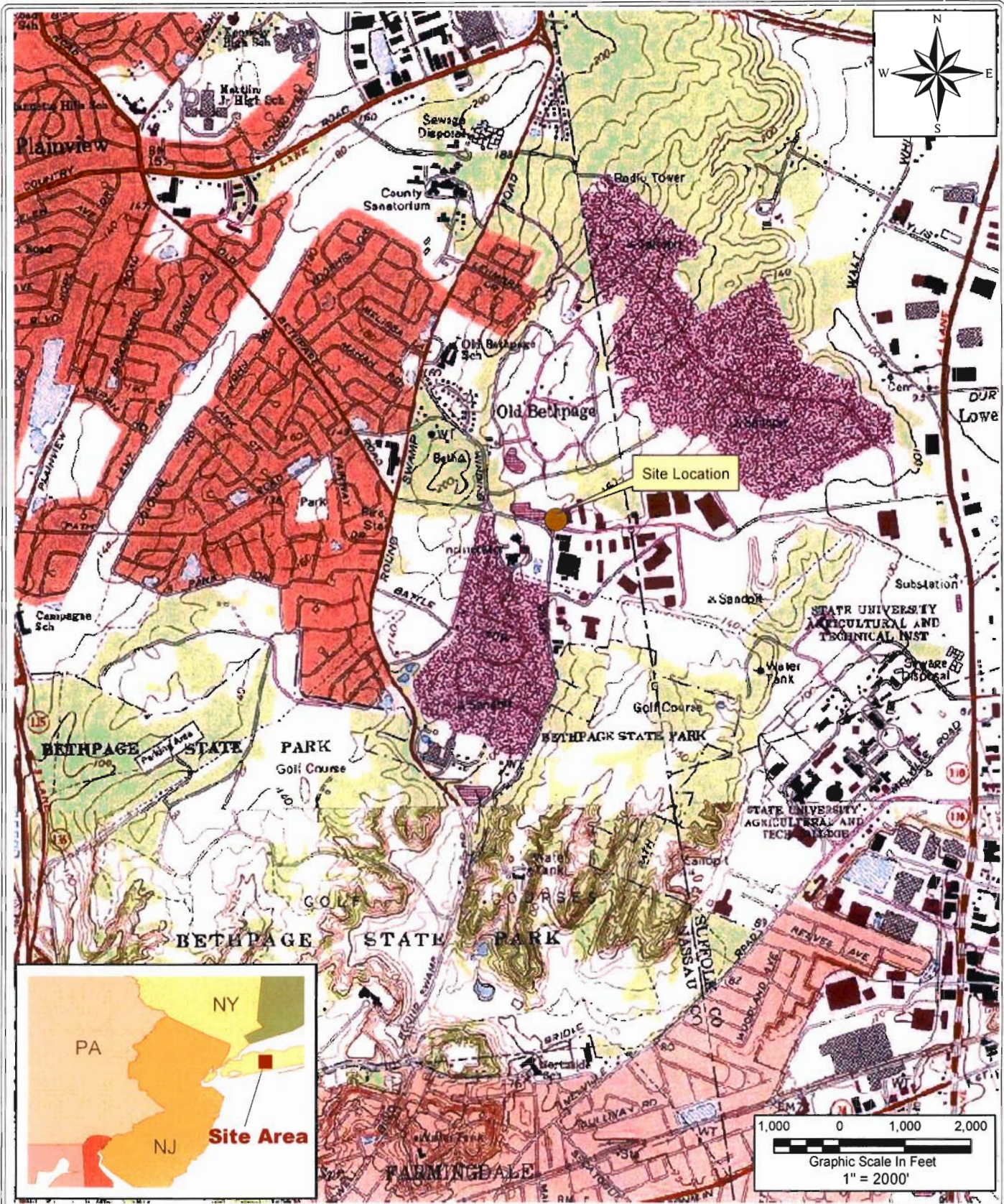
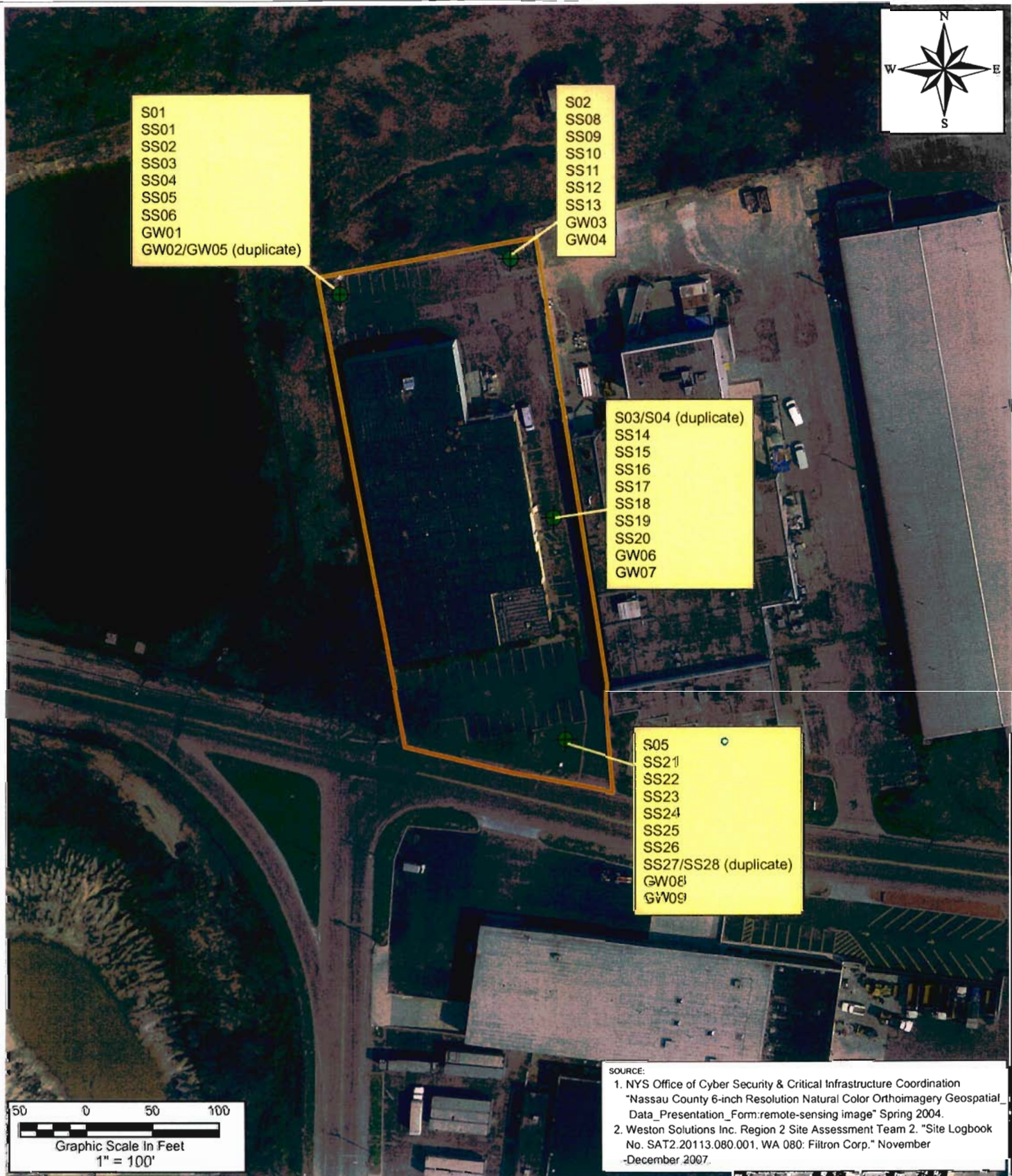


FIGURE 2
SAMPLE LOCATION MAP



ATTACHMENT 1

TRAFFIC REPORTS/CHAIN OF CUSTODY RECORDS AND AIRBILLS



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 37045

DAS No:

R

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	2 NYND00206093 ZZ Filtron Corp/NY Dan Gaughan Preliminary Assessment/Site Inspection (W/SI)	Date Shipped: 11/27/2007 Carrier Name: FedEx Airbill: 837542989796 Shipped to: Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700	Chain of Custody Record Relinquished By: [Signature] (Date / Time) 11/27/07 1600 Received By: FedEx (Date / Time) 11/27/07 1600 2 3 4	Sampler Signature: [Signature]

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	OC Type
B4LR1	Soil (0"-24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-S02	S: 11/27/2007 11:30		-
B4LS2	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-SS08	S: 11/27/2007 12:00		-
B4LS3	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-SS09	S: 11/27/2007 13:45		-
B4LS4	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-SS10	S: 11/27/2007 14:10		-
B4LS5	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-SS11	S: 11/27/2007 14:45		-
B4LS6	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)		FILT-SS12	S: 11/27/2007 15:00		-
B4LX5	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)		FILT-RIN01	S: 11/27/2007 11:50		Rinsate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): [Signature]	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G		Shipment Iced? _____

TR Number: 2-291174636-112707-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602

REGION COPY



USA Airbill

FedEx Tracking Number

837542989796

1 From Please print and press hard

Date 11/27/07

Sender's FedEx Account Number

396778823

Sender's Name

Dan Graughen

Phone

17321406-8640

Company

Weston Solutions,

Address

205 Campus Dr

City

Edison

State

NY

ZIP

08837

2 Your Internal Billing Reference

20113-011-001-008, 00

3 To Recipient's Name

Robert Zhu

Address

1803, 791-9700

Company

SHEALY

Address

106 Vantage Point Dr

To "HOLD" at FedEx location, print FedEx address.

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

West Columbia

State

SC

ZIP

29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com

or call 1.800.Go.FedEx® 800.463.3338.

0200

Sender's Copy

4a Express Package Service

☐ FedEx Priority Overnight

Next business morning

☒ FedEx Standard Overnight

Next business afternoon

☐ FedEx First Overnight

Earliest next business morning delivery to select locations

☐ FedEx 2Day

Second business day

☐ FedEx Express Saver

Third business day

☐ FedEx 2Day Freight

Second business day

4b Express Freight Service

☐ FedEx 1Day Freight*

Next business day

☐ FedEx 2Day Freight

Second business day

☐ FedEx 3Day Freight

Third business day

* Call for Confirmation:

5 Packaging

☐ FedEx Envelope*

☐ FedEx Pak*

Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak

☒ Other

6 Special Handling

☐ SATURDAY Delivery

Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes

☐ HOLD Weekday

at FedEx Location NOT Available for FedEx First Overnight

☐ HOLD Saturday

at FedEx Location NOT Available for FedEx First Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods?

☒ No

☐ Yes

One box must be checked.

☐ As per attached Shipper's Declaration

☐ Shipper's Declaration

☐ Dry Ice

Dry Ice, 3 UN 1845 x kg

☐ Cargo Aircraft Only

7 Payment Bill to:

☒ Sender

☐ Recipient

☐ Third Party

☐ Credit Card

☐ Cash/Check

Enter FedEx Acct. No. or Credit Card No. below:

FedEx Acct. No. or Credit Card No.

Exp. Date

Total Packages

1

Total Weight

1.00

Total Declared Value

\$.00

Your liability is limited to \$100 unless you declare a higher value. See back for details.

8 Release Signature

By signing this Airbill you agree to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Rev. Date 10/01 • Part 1/5/017 • ©1994-2001 FedEx • PRINTED IN U.S.A. WGS, 02

446



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37045
DAS No:

R

Region: 2	Date Shipped: 11/28/2007	Carrier Name: FedEx	Shipped to: Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700
Project Code:	Account Code: NYN000206093	Airbill: ZZ	Filtron Corp/NY
CERCLIS ID:	Site Name/State: Dan Gaughan	Project Leader: Preliminary Assessment/Site Inspection	Sampling Co: (WASH)
Spill ID:			
Site Name/State:			
Project Leader:			
Action:			
Sampling Co:			

Chain of Custody Record		Sampler Signature: <i>[Signature]</i>
Relinquished By	(Date / Time)	Received By (Date / Time)
<i>[Signature]</i>	11/28/2007 16:00	FedEx 11/28/2007 16:00
2		
3		
4		

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LS7	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(4)	FILT-SS13	S: 11/28/2007 7:55		-
B4LW3	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW03	S: 11/28/2007 12:55		-
B4LW4	Ground Water/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW04	S: 11/28/2007 15:30		-
B4LX6	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	FILT-RIN02	S: 11/28/2007 8:05		Rinsate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): <i>[Signature]</i>	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
% Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)			

TR Number: 2-291174636-112807-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602

REGION COPY



USA Airbill
Tracking Number
837542989811

1 From *Please print and press hard.*
Date 11/12/07 Sender's FedEx Account Number 396778823

Sender's Name Dan Craughan Phone 732/406-8640

Company Weston Solutions

Address 205 Campus Dr.

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference 20113.011.001.0080.00

3 To Recipient's Name Robert Zhu Phone (803) 791-9700

Company Shealy

Address 106 Vantage Point Dr.

Address West Columbia

City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

Sender's Copy

4a Express Package Service
Delivery commitment may be later in some areas.
FedEx Priority Overnight ☒ Next business morning
FedEx Standard Overnight ☐ Next business afternoon
FedEx First Overnight ☐ Earliest next business morning delivery to select locations

FedEx 2Day ☐ Second business day
FedEx Express Saver ☐ Third business day
FedEx 2Day Freight ☐ Second business day
FedEx 3Day Freight ☐ Third business day

4b Express Freight Service
Delivery commitment may be later in some areas.
FedEx 1Day Freight* ☐ Next business day
FedEx 2Day Freight* ☐ Second business day
FedEx 3Day Freight* ☐ Third business day

* Call for Confirmation.

5 Packaging
FedEx Pak* ☐ Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
FedEx Envelope* ☒ Other

6 Special Handling
SATURDAY Delivery ☐ Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
HOLD Weekday ☐ at FedEx Location NOT Available for FedEx Priority Overnight and FedEx 2Day to select locations
HOLD Saturday ☐ at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods?
No ☒ Yes ☐ One box must be checked.
As per attached ☐ Shipper's Declaration not required
Shipper's Declaration ☐ Shipper's Declaration not required

7 Payment Bill to:
Sender ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
FedEx Acct. No. ☐ Credit Card No. ☐

Total Packages 1 Total Weight 17lbs Total Declared Value* \$.00
FedEx Use Only

8 Release Signature *[Signature]*
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Rev. Date 10/01 *Per #157812 © 1994-2001 FedEx® PRINTED IN U.S.A. WCSN 02



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37045
DAS No:

R

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	2 NYN000206093 ZZ Fitron Corp/NY Dan Gaughan Preliminary Assessment/Site Inspection (R658)	Date Shipped: 11/30/2007 Carrier Name: FedEx Airbill: 837542989822 Shipped to: Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700	Chain of Custody Record Relinquished By: [Signature] Received By: [Signature] (Date / Time) (Date / Time) 1 11/30/07 1230 FedEx 11/30/07 1230 2 3 4

ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG NO/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4LR0	Soil (0"-24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-S01	S: 11/30/2007 7:50		-
B4LR5	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS01	S: 11/30/2007 8:12		-
B4LR6	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS02	S: 11/30/2007 8:30		-
B4LR7	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS03	S: 11/30/2007 9:15		-
B4LR8	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS04	S: 11/30/2007 9:35		-
B4LR9	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS05	S: 11/30/2007 10:10		-
B4LS0	Soil (>24")/ Dan Gaughan	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS06	S: 11/30/2007 10:40		-

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: B4LR0	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 2-291174636-113007-0003

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602

REGION COPY

FedEx USA Airbill
Express

FedEx Tracking Number
837542989822

1 From *Please print and press hard*
Date 11/30/07 Sender's FedEx Account Number 396778823
Sender's Name Dan Gaughan Phone 732 406-8640
Company Weston Solutions
Address 205 Campus Dr.
City Edison State NJ ZIP 08837
2 Your Internal Billing Reference 2013.011.001.0080.00
3 To Recipient's Name Robert Zhu Phone (803) 791-9700
Company Shealy
Address 106 Vantage Point Dr.
City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

Sender's Copy

4a Express Package Service
Delivery commitment may be later in some areas.
☒ FedEx Priority Overnight Next business morning
☐ FedEx Standard Overnight Next business afternoon
☐ FedEx Express Saver Hard business day
☐ FedEx 2Day Second business day
☐ FedEx 3Day Freight Next business day
Packages up to 150 lbs.
Packages over 150 lbs.
Delivery commitment may be later in some areas.
4b Express Freight Service
Packages up to 150 lbs.
Packages over 150 lbs.
Delivery commitment may be later in some areas.
5 Packaging
☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
☒ Other
6 Special Handling
☒ SATURDAY Delivery Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
Does this shipment contain dangerous goods?
One box must be checked.
☒ No ☐ Yes ☐ Yes ☐ Yes ☐ Yes
As per attached Shipper's Declaration not required
DANGEROUS GOODS (including Dry Ice) cannot be shipped in FedEx packaging.
7 Payment Bill to:
☒ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
FedEx Act No. _____ Exp. Date _____
Total Packages 1 Total Weight 19 \$.00 Total Declared Value*
FedEx Use Only

8 Release Signature
Sign to accept the delivery without obtaining signature.
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.
Rev. Date 1/20/04-Pat 1137617-©1994-2001 FedEx-PRINTED IN U.S.A. WCS3 02

446

RETAIN THIS COPY FOR YOUR RECORDS.



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 37045

DAS No:

R

Region: 2	Date Shipped: 12/3/2007	Carrier Name: FedEx	Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700
Project Code:	Account Code: NYN000206093	Airbill: 8375 4298 9875	
CERCLIS ID:	Spill ID: ZZ		
Site Name/State: Filtron Corp/NY	Project Leader: Dan Gaughan		
Action: Preliminary Assessment/Site Inspection	Sampling Co: (Resist)		

Chain of Custody Record		Sampler Signature: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	(Date / Time) 12/3/07 1700	Received By: <i>[Signature]</i>
1		FedEx 12/3/07 1700
2		
3		
4		

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LW1	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW01	S: 12/3/2007 9:34		--
B4LW2	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW02	S: 12/3/2007 11:45		--
B4LW5	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW05	S: 12/3/2007 11:50		Field Duplicate
B4LX7	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-RIN03	S: 12/3/2007 13:15		Rinsate
B4LY0	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-TB01	S: 12/3/2007 10:55		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: B4LW1	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 2-291174636-120307-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.



United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record (For Organic CLP Analysis)

Case No.

37045

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier	6. Matrix (Enter in Column A)	7. Preservative (Enter in Column D)				
		2	Weston		F-2EX	1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)	1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved				
Regional Information		Sampler (Name)		Airbill Number							
NYN0000206093		Scott Snyder		8375 AZ98 5875							
Non-Superfund Program		Sampler Signature		5. Ship To							
				Shady Env. 106 Veterans Point Dr. West Columbia, SC ATTN: Robert Zhu 29172							
Site Name		Site Spill ID		3. Purpose							
Filt. Corp.				Lead ☒ SF ☐ PRP ☐ ST ☐ FED							
City, State		0123456789		Early Action ☐ CLEM ☐ PA ☐ REM ☐ RI ☐ SI ☒ ESI ☐							
				Long-Term Action ☐ IFS ☐ RD ☐ RA ☐ O&M ☐ NPLD ☐							
CLP Sample Numbers (from labels)	A. Matrix (from Box 6)	B. Conc.: Low Med High	C. Sample Type: Grab (from Box 7) Other:	D. Preservative (from Box 7) Other:	E. RAS Analysis ☐ BNA ☐ VOA ☐ PCB ☐ High only ☐ ARO/TOX ☐	F. Regional Specific Tracking Number or Tag Numbers	G. Station Location Identifier	H. Mo/Day/Year/Time Sample Collection	I. Corresponding CLP Inorganic Sample No.	J. Sampler Initials	K. Field QC Qualifier
BALW1	2	M	G	1	X	-	FILT-6W01	12/3/07 0934	N/A	SS	-
BALW2	2	M	G	1	X	-	FILT-6W02	12/3/07 1145	N/A	SS	-
BALW3	2	M	G	1	X	-	FILT-6W03	12/3/07 1150	N/A	SS	D
BALX7	2	M	G	1	X	-	FILT-RW03	12/3/07 1305	N/A	SS	R
BALY0	4	M	G	1	X	-	FILT-TD01	12/3/07 1052	N/A	SS	TD
Chain of Custody Seal Number(s)											
Shipment for Case Complete? (Y/N)		Page 1 of 1		Sample(s) to be Used for Laboratory QC		Additional Sampler Signatures					
BALW1											

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
	12/3/07 1700	F-2EX 1700	12/3/07				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none		



USA Airbill

FedEx Tracking Number

837542989785

1 From Please print and press hard.
Date 12/3/07 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone 0321406-8640

Company Weston Solutions, Inc.

Address 205 Campus Drive

City Edison State NJ ZIP 04837

2 Your Internal Billing Reference 20113.011.001.0040.00

3 To Recipient's Name Robert Zhu Phone 803791-9700

Company Sheehy Environmental

Address 106 Vantage Point Dr.

To "HOLD" at FedEx location, print FedEx address

Address

City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com

or call 1.800.Go.FedEx® 800.463.3339

0200

Sender's Copy

4a Express Package Service
☒ FedEx Priority Overnight
Next business morning
☐ FedEx Standard Overnight
Next business afternoon
☐ FedEx First Overnight
Earliest next business morning
delivery to select locations

☐ FedEx 2Day
Second business day
☐ FedEx Express Saver
Third business day
FedEx Express rates not available. Minimum charge: One pound/one

4b Express Freight Service
☐ FedEx 1Day Freight*
Next business day
☐ FedEx 2Day Freight
Second business day
☐ FedEx 3Day Freight
Third business day

* Call for Confirmation

5 Packaging
☐ FedEx Envelope*
☐ FedEx Pak*
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
☒ Other
* Declared value limit \$500

6 Special Handling
☐ SATURDAY Delivery
Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
☐ HOLD Weekday
at FedEx Location
NOT Available for FedEx First Overnight
Include FedEx address in Section 3
☐ HOLD Saturday
at FedEx Location
Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods?
☒ No
☐ Yes
One box must be checked.
☐ As per attached Shipper's Declaration not required
☐ Dry Ice
Dry Ice 3, UN 1845
☐ Shipper's Declaration not required
☐ Cargo Aircraft Only

7 Payment Bill to:
☐ Sender
☐ Recipient
☒ Third Party
Enter FedEx Acct. No. and Credit Card No. below
FedEx Acct. No. 396 778 823
Credit Card No. 27
Total Packages 1
Total Weight 27
Total Declared Value \$.00
FedEx Use Only

8 Release Signature
Sign to authorize delivery without obtaining signature.
Your liability is limited to \$100 unless you declare a higher value. See back for details.

446

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Rev. Date 10/01 • Per A157612 • ©1994-2001 FedEx • PRINTED IN U.S.A. WCSL 02



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37045

DAS No:

R

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	2 NYN000206093 ZZ Filtron Corp/NY Dan Gaughan Preliminary Assessment/Site Inspection (West)	Date Shipped: 12/4/2007 Carrier Name: FedEx Airbill: 8541 0029 6544 Shipped to: Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700	Chain of Custody Record		Sampler Signature: <i>[Signature]</i> Received By: <i>[Signature]</i> (Date / Time) 12/4/07 1700				
ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type

B4LR2	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-S03	S: 12/4/2007 12:40		
B4LR3	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-S04	S: 12/4/2007 12:45		Field Duplicate
B4LS8	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS14	S: 12/4/2007 13:30		
B4LS9	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS15	S: 12/4/2007 13:45		
B4LT0	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS16	S: 12/4/2007 14:10		
B4LT1	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS17	S: 12/4/2007 14:30		
B4LT2	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS18	S: 12/4/2007 15:00		
B4LT3	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)		FILT-SS19	S: 12/4/2007 15:15		
B4LX8	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)		FILT-RIN04	S: 12/4/2007 15:30		Rinsate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: B4LT1	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

IR Number: 2-291174636-120407-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.

FedEx® US Airbill

Express

8541 0029 6544

Sender's Copy

1 From Please print and press hard
Date 12/4/07 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone 732/406-8640

Company Weston Solutions, Inc.

Address 205 Campus Dr.

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference 20113.011.001.0080.00

3 To Recipient's Name Robert Zhu Phone 1803/791-9700

Company Shenoy Environmental

Recipient's Address 106 Vantage Point Dr.

City Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability. Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx. 1.800.463.3338.

RETAIN THIS COPY FOR YOUR RECORDS.

4 Express Package Service To add SATURDAY delivery, see Section 5. Packages over 150 lbs. require special handling.

☒ FedEx Priority Overnight Next business morning delivery to select locations.

☐ FedEx Standard Overnight Next business afternoon delivery to select locations.

☐ FedEx 2Day Two business days.

☐ FedEx Express Saver Three business days.

4b Express Freight Service To add SATURDAY delivery, see Section 5. Packages over 150 lbs. require special handling.

☐ FedEx 1Day Freight* Next business day.

☐ FedEx 2Day Freight Second business day.

☐ FedEx 3Day Freight Third business day.

☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sure Pak.

☐ FedEx Envelope*

☐ FedEx Tube

☐ Other

5 Packaging ☐ FedEx Pak* ☐ FedEx Envelope* ☐ FedEx Tube ☐ Other

6 Special Handling ☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes.

☒ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Sunday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Monday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Tuesday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Wednesday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Thursday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Friday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Sunday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Monday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

☐ HOLD Tuesday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

7 Payment Bill for ☐ Sender ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 396 778 823

Total Weight 30

Total Declared Value \$.00

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

☐ No Signature Required Package may be left without obtaining a signature for delivery.

☐ Direct Signature Anyone at recipient's address may sign for delivery.

☐ Indirect Signature If no one is available at recipient's address, anyone at a neighboring address may sign for delivery.

520



USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37045
DAS No:

R

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	2 NYN000206093 ZZ Filtron Corp/NY Dan Gaughan Preliminary Assessment/Site Inspection (WASH)	Date Shipped: Carrier Name: Airbill: Shipped to:	12/5/2007 FedEx 8541 0029 6452 Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700	Chain of Custody Record Relinquished By (Date / Time) 1 2 3 4	Sampler Signature: Received By (Date / Time) FedEx 12/5/07/14:00

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LT4	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS20	S: 12/5/2007 8:00		--
B4LW6	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW06	S: 12/5/2007 9:20		--
B4LW7	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW07	S: 12/5/2007 11:25		--
B4LY1	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-TB02	S: 12/5/2007 8:15		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil), VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G		Shipment Iced? _____

IR Number: 2-291174636-120507-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.

FedEx® US Airbill

Express

FedEx Tracking Number 8541 0029 6452

Sender's Copy

1 From Please print and press hard
 Date 12/5/07 Sender's FedEx Account Number 396 778 823
 Sender's Name Scott Snyder Phone 132406-8410
 Company Weston Solutions, Inc.
 Address 205 Campus Dr.
 City Edison State NJ ZIP 08837
 2 Your Internal Billing Reference 2013.011.001.0080.00
 3 To Recipient's Name Robert Zhu Phone 1803791-9700
 Company Sheely Environmental
 Recipient's Address 106 Vantage Point Dr.
 We cannot deliver to P.O. boxes or P.O. ZIP codes.
 Address
 To request a package be held at a specific FedEx location, print FedEx address here.
 City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide (including terms that limit our liability).
 Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx 1.800.463.3338.

RETAIN THIS COPY FOR YOUR RECORDS.

4a Express Package Service To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. To add location, see Section 6.
☒ FedEx Priority Overnight Next business morning.
☐ FedEx Standard Overnight Next business afternoon.
☐ FedEx First Overnight Earliest next business morning delivery to select locations.
☐ FedEx 2Day Second business day.
☐ FedEx Express Saver Third business day.
 FedEx Envelope (not available. Minimum charge: One-pound rate).
 4b Express Freight Service To add SATURDAY Delivery, see Section 6. Packages over 150 lbs. To add location, see Section 6.
☐ FedEx 1Day Freight* Next business day.
☐ FedEx 2Day Freight Second business day.
☐ FedEx 3Day Freight Third business day.
 * Call for Confirmation.
 5 Packaging
☐ FedEx Envelope*
☐ FedEx Pak*
☐ FedEx Large Pak and FedEx Sturdy Pak.
☐ FedEx Box
☒ Other
 6 Special Handling
☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx Standard Overnight, and FedEx First Overnight. Freight to select ZIP codes.
☐ HOLD Weekday at FedEx Location NOT Available for FedEx Priority Overnight and FedEx First Overnight. Freight to select locations.
☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx First Overnight. Freight to select locations.
 Include FedEx address in Section 3.
 7 Payment Bill to:
☒ Sender
☐ Recipient
☒ Third Party
☐ Credit Card
☐ Cash/Check
 FedEx Act. No. 396 778 823
 Total Packages 1
 Total Weight 28
 Total Declared Value* .00
 Your liability is limited to \$100 unless you declare a higher value. See back for details.
 8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.
☐ No Signature Required
☐ Direct Signature
☐ Indirect Signature
 FedEx Use Only
 520

Rev. Date 5/06-PHX/1/5/03-2005 FedEx-PRINTED IN U.S.A. SBY



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:

37045

DAS No:

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	2 NYN000206093 ZZ Filtron Corp/NY Dan Gaughan Preliminary Assessment/Site Inspection (WASH)	Date Shipped: Carrier Name: Airbill: Shipped to:	12/6/2007 FedEx 8541 0029 6463 Shealy Environmental 106 Vantage Point Drive West Columbia SC 29172 (803) 791-9700	Chain of Custody Record Relinquished By 1 2 3 4	Sampler Signature: Received By 12/6/07/1600 12/6/07/1600

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LR4	Soil (0"-24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-S05	S: 12/6/2007 10:15		
B4LT5	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS21	S: 12/6/2007 11:10		
B4LT6	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS22	S: 12/6/2007 11:25		
B4LT7	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS23	S: 12/6/2007 11:45		
B4LT8	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS24	S: 12/6/2007 12:05		
B4LT9	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS25	S: 12/6/2007 13:05		
B4LW0	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS26	S: 12/6/2007 13:25		
B4LY5	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS27	S: 12/6/2007 13:45		
B4LY6	Soil (>24")/ Scott Snyder	M/G	% Moisture (21), TCL VOCs (21)	(Ice Only) (4)	FILT-SS28	S: 12/6/2007 13:50		Field Duplicate

Shipment for Case Completed? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: % Moisture = TCL Percent Moisture (soil), TCL VOCs = TCL VOCs (soil)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

IR Number: 2-291174636-120607-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.

FedEx® US Airbill

Express

Tracking Number 8541 0029 6463

Sender's Copy

1 FROM Please print and press hard.
 Date 12/6/07 Sender's FedEx Account Number 396 778 823
 Sender's Name Scott Snyder Phone 032406-8640
 Company Western Solutions, Inc.
 Address 205 Campus Dr.
 City Edison State NJ ZIP 08837
 2 Your Internal Billing Reference 20113.011.00000000

3 To Recipient's Name Robert Zhu
 Company Sheely Environmental
 Address 106 Vantage Point Dr.
 City West Columbia State SC ZIP 29172
 To request a package be held at a specific FedEx location, print FedEx address here.

Try online shipping at fedex.com
 By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.
 Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx 1.800.463.3338.

RETAIN THIS COPY FOR YOUR RECORDS.

3a Express Package Service To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. 15 some limitations.
☒ FedEx Priority Overnight Next business morning.
☐ FedEx Standard Overnight Next business afternoon.
☐ FedEx First Overnight Earliest next business morning delivery to select locations.
☐ FedEx 2Day Second business day.
☐ FedEx Express Saver Third business day.
 FedEx Envelope rate not available. Minimum charge: One-pound rate.
 4b Express Freight Service To add SATURDAY Delivery, see Section 6. Packages over 150 lbs. 15 some limitations.
☐ FedEx 1Day Freight* Next business day.
☐ FedEx 2Day Freight Second business day.
☐ FedEx 3Day Freight Third business day.
 * Call for Confirmation.
 5 Packaging
☐ FedEx Envelope*
☐ FedEx Pak*
☐ FedEx Small Pak
☐ FedEx Large Pak and FedEx Sure-Pak
☐ FedEx Tube
☒ Other
 6 Special Handling
☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx Standard Overnight, and FedEx First Overnight. Freight to select ZIP codes.
☐ HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
 (Does this shipment contain dangerous goods?)
☒ No ☐ Yes As per attached Shipper's Declaration not required.
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.
 7 Payment Bill to:
☐ Sender ☐ Recipient ☒ Third Party ☐ Credit Card ☐ Cash/Check
 FedEx Acct. No. 396 778 823
 Credit Card No. 30 \$
 Total Packages 1 Total Weight 30 Total Declared Value \$.00
 FedEx Use Only
 8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.
☐ No Signature
☐ Direct Signature Anyone at recipient's address may sign for delivery.
☐ Indirect Signature If no one is available at recipient's address, anyone at the address may sign for delivery.
 No Signature Required Package may be left without a signature.
 Signature Required Package must be signed by addressee.
 Rev. Date 5/16/11 1/15/03 4/1/04 2/05 FedEx PRINTED IN U.S.A. 571



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 37045

DAS No:

R

Region: 2	Date Shipped: 12/7/2007	Chain of Custody Record	
Project Code:	Carrier Name: FedEx	Relinquished By: [Signature]	Sampler Signature: [Signature]
Account Code:	Airbill: 8541 0029 6555	(Date / Time)	(Date / Time)
CERCLIS ID: NYN000206093	Shipped to: Shealy Environmental	1 12/7/07/1200	12/7/07/1200
Spill ID: ZZ	106 Vantage Point Drive	2	
Site Name/State: Filtron Corp/NY	West Columbia SC 29172	3	
Project Leader: Dan Gaughan	(803) 791-9700	4	
Action: Preliminary Assessment/Site Inspection			
Sampling Co: Westco			

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4LW8	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW08	S: 12/6/2007 15:05		--
B4LW9	Ground Water/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-GW09	S: 12/7/2007 9:00		--
B4LY2	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-TB03	S: 12/7/2007 7:40		Trip Blank

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 2-291174636-120707-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office Attn: Mike Benhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.

FedEx® US Airbill

Express

8541 0029 6555

1 From Please print and press hard
 Date 12/7/07 Sender's FedEx Account Number 396 778 823
 Sender's Name Scott Snyder Phone 732/406-8610
 Company Weston Solutions, Inc.
 Address 205 Campus Dr.
 City Edison State NJ ZIP 08837
 2 Your Internal Billing Reference 20113.011.001.0080.00
 3 To Recipient's Name Robert Zhu Phone 803/791-9700
 Company Shealy Environmental
 Recipient's Address 106 Vantage Point Dr.
 We cannot deliver to P.O. boxes or P.O. ZIP codes.
 Address Dept./Floor/Suite/Room
 City West Columbia State SC ZIP 29172

Try online shipping at fedex.com

By using the Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Services Guide, including terms that limit our liability.
 Questions? Go to our Web site at fedex.com or call 1.800.GoFedEx.1.800.463.3338.

Sender's Copy

4a Express Package Service To add SATURDAY Delivery, see Section 6.
 Packages up to 150 lbs. 15 max. packages.
☒ FedEx Priority Overnight Next business morning.
☐ FedEx Standard Overnight Next business afternoon.
☐ FedEx First Overnight Earliest next business morning delivery to select locations.
☐ FedEx 2Day Second business day.
☐ FedEx Express Saver Third business day.
 FedEx Envelope rate not available. Minimum charge: One pound rate.
 4b Express Freight Service To add SATURDAY Delivery, see Section 6.
 Packages over 150 lbs. 15 max. packages.
☐ FedEx 1Day Freight* Next business day.
☐ FedEx 2Day Freight Second business day.
☐ FedEx 3Day Freight Third business day.
 * Call for Confirmation.
 5 Packaging
☐ Envelope
☐ FedEx Pak* Small Pak, FedEx Large Pak, and FedEx Surety Pak.
☐ FedEx Box
☒ Other
 * Declared value limit \$500.
 6 Special Handling
☒ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx Standard Overnight, and FedEx First Overnight. Freight to select ZIP codes.
 Does this shipment contain dangerous goods?
☒ No
☐ Yes As per attached Shipper's Declaration not required.
 Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.
 Include FedEx address in Section 3.
☐ HOLD Weekday at FedEx Location NOT Available for FedEx Priority Overnight and FedEx First Overnight.
☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx First Overnight.
 7 Payment Bill to:
☐ Sender
☐ Recipient
☒ Third Party
☐ Cash/Check
 FedEx Acc. No. 396 778 823
 Total Packages 7 Total Weight 356.778 lbs Total Declared Value \$.00
 Your liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only
 8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.
☐ No Signature Required Package may be left with- out obtaining a signature for delivery.
☐ Direct Signature Anyone at recipient's address may sign for delivery.
☐ Indirect Signature If no one is available at recipient's address, anyone at the company may sign for delivery.
 Exp. Date 520

Rev. Date 5/05-Print 1/06/01-©1994-2005 FedEx-PRINTED IN U.S.A. 307



Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
732-417-5800 • Fax 732-417-5801
www.westonsolutions.com

January 25, 2008

Mr. Ildefonso Acosta, Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway - 18th Floor
New York, NY 10007-1866

Document Control No.: SAT2.20113.081.623

Subject: Sampling Trip Report – Monitoring Well Samples
Work Assignment No.: 081, Aluminum Louvre Corp.
Contract No.: EP-W-05-048

Dear Mr. Acosta:

Weston Solutions, Inc. (WESTON®) is pleased to submit the Sampling Trip Report for aqueous samples collected during the second phase of the Aluminum Louvre Corp. Preliminary Assessment/Site Inspection (PA/SI) sampling event. The Region 2 Site Assessment Team 2 (SAT 2) collected groundwater samples from on-site monitoring wells on January 15 and 16, 2008. If you have any questions, please contact me at (732) 417-5826.

Very truly yours,

WESTON SOLUTIONS, INC.

Gerald V. Gilliland, P.G.
SAT 2 Project Manager

enclosure

cc: W.S. Butterfield, SAT 2 (w/o enclosure)
J. Feranda, EPA (w/o enclosure)
A. Michael, EPA
SAT 2 project file



**SAMPLING TRIP REPORT
MONITORING WELL SAMPLES**

SITE NAME: Aluminum Louvre Corp.
DCN: SAT2.20113.081.623
W.O.: 20113.011.001.0081.00
Case No.: 37153

EPA I.D. NO.: NYD981488026

SAMPLING DATES: January 15 and 16, 2008

1. Site Location: Refer to Figure 1
2. Sample Locations: Refer to Figure 2
3. Sample Descriptions: Refer to Table 1
4. Laboratories Receiving Samples:

Analysis

Name and Address of Laboratory

Target Compound List (TCL)
Volatile Organic Compounds (VOCs)

Liberty Analytical Corporation
501 Madison Avenue
Cary, North Carolina 27513

5. Sample Dispatch Data:

- Five aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Liberty Analytical Corporation on 1/15/08 at 1730 hours via Federal Express Airbill No. 8541 0029 6566.
- Seven aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Liberty Analytical Corporation on 1/16/08 at 1735 hours via Federal Express Airbill No. 8541 0029 6636.

6. On-Site Personnel:

Name

Company

Duties on Site

Dan Gaughan

WESTON SAT 2

Field Lead, Sampler, Site Health and
Safety Coordinator (SHSC)

8. Report Prepared by:  Date: 01/25/08
Gerald V. Gilliland, P.G.

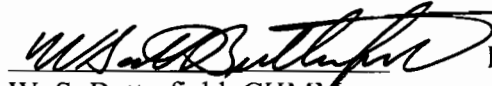
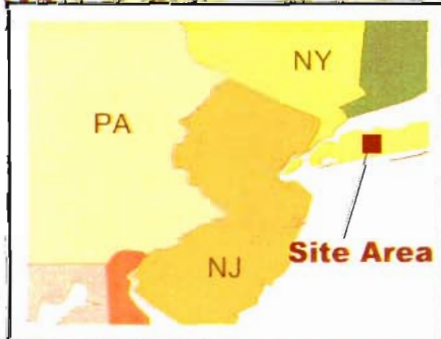
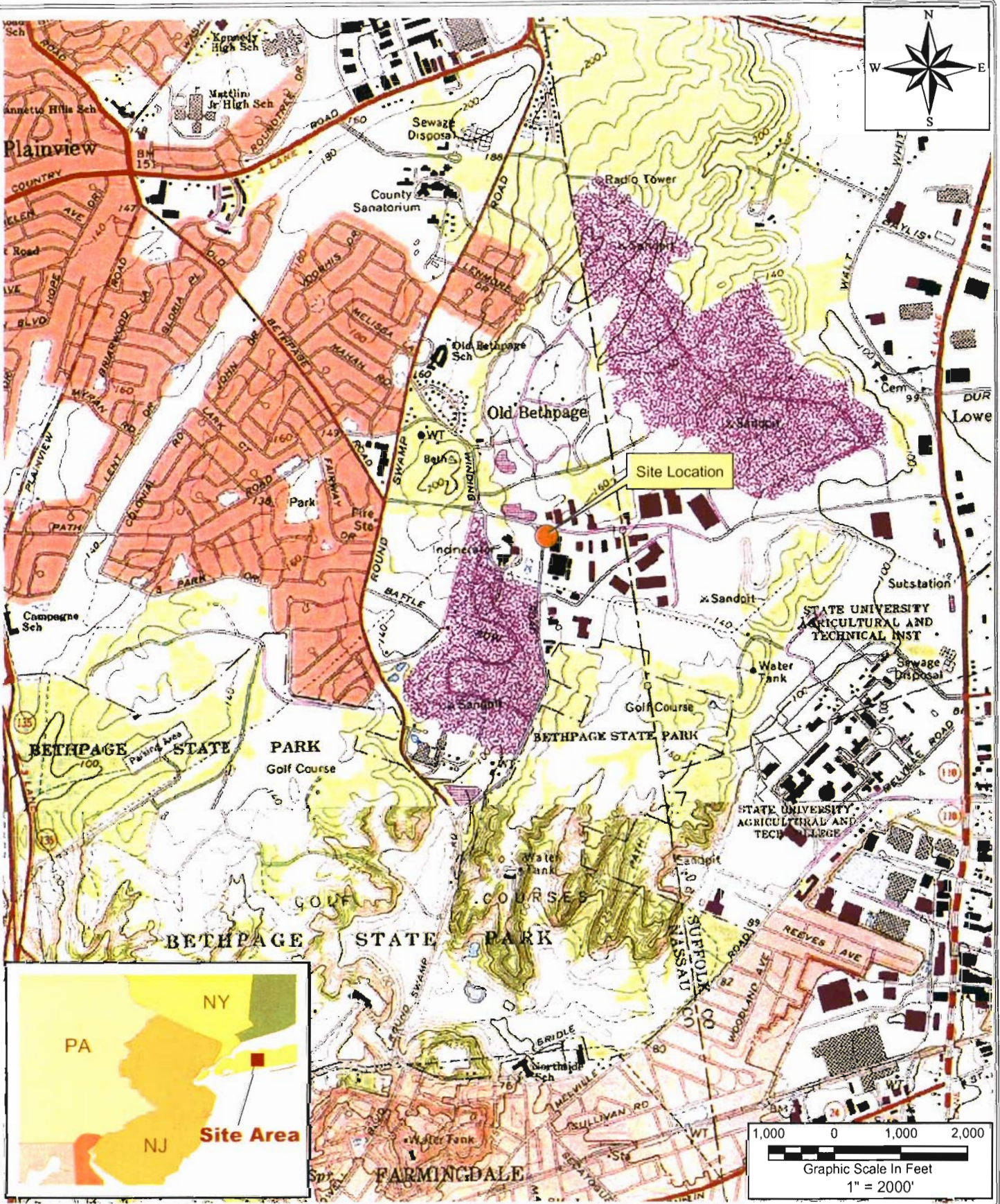
9. Report Approved by:  Date: 1/25/08
W. S. Butterfield, CHMM

FIGURE 1
SITE LOCATION MAP



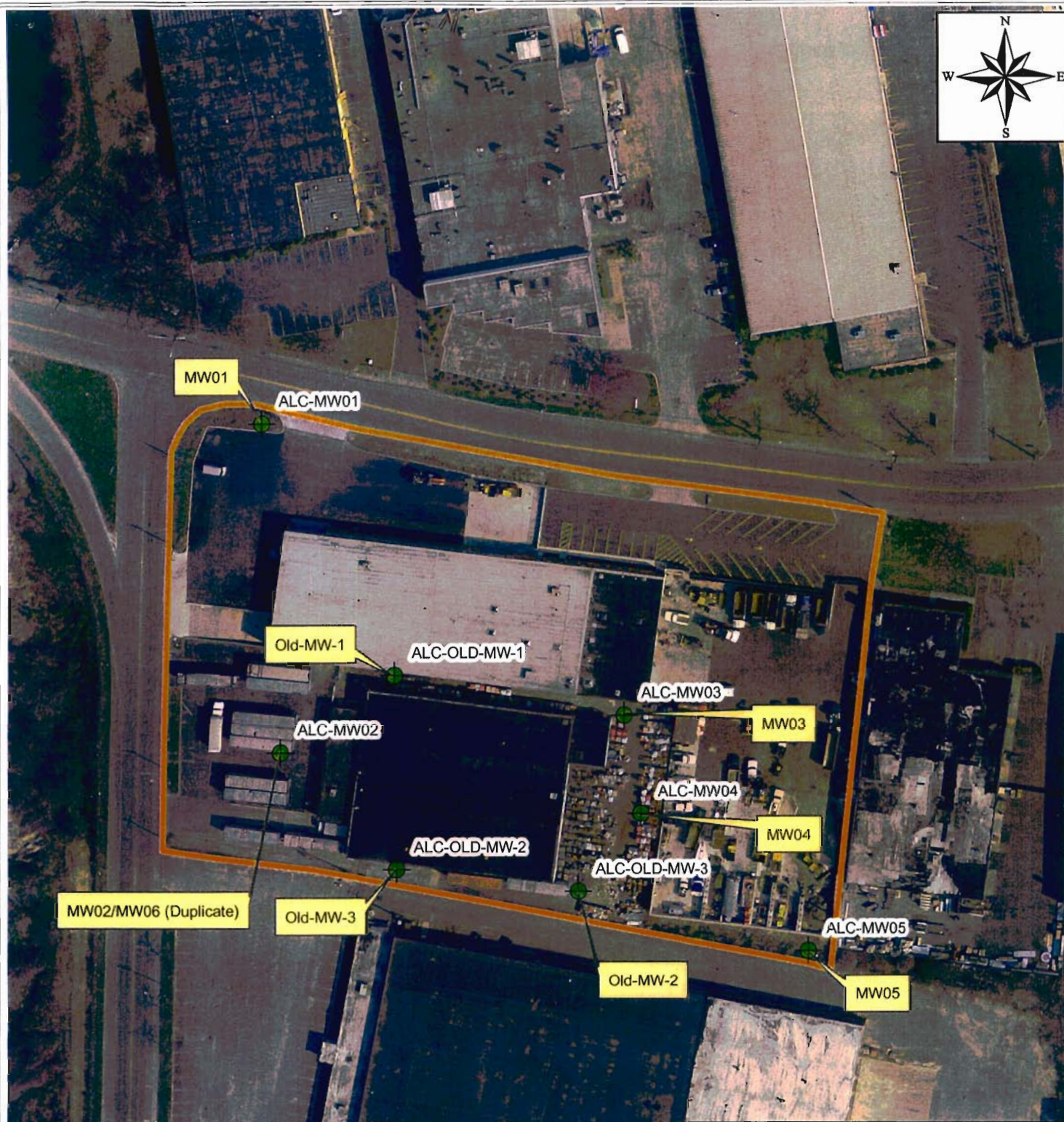
LEGEND:	Site Location
SOURCE:	National Geographic TOPO! U.S. Geologic Survey (USGS). 7.5 Minute Series (Topographic) Quadrangles: Huntington, NY 1979, revised 1992.
PROJECT:	Aluminum Louvre Corp.
CLIENT NAME:	EPA

TITLE:	Site Location Map Aluminum Louvre Corp. Old Bethpage Nassau County, NY
DATE:	May 2007
FIGURE #:	1

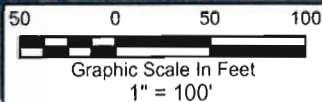


P:\SAT2\Aluminum Louvre\GIS\Map\041606_AL_Site.mxd

FIGURE 2
SAMPLE LOCATION MAP



Notes:
During the monitoring well sampling event, the sample IDs for monitoring wells Old-MW-2 and Old-MW-3 were inadvertently switched.



SOURCE:

1. NYS Office of Cyber Security & Critical Infrastructure Coordination "Nassau County 6-inch Resolution Natural Color Orthoimagery Geospatial Data Presentation Form remote-sensing image" Spring 2004.
2. Weston Solutions, Inc. Region 2 Site Assessment Team 2, Site Logbook SAT2.20113.081.001, December 11 - December 21, 2007 and January 15 - January 16, 2007.

LEGEND:

- Site Boundary
- ALC-MW01 ← Monitoring Well ID
- Sampling and Monitoring Well Location
- Sample Number (preceded by "ALC-")

PROJECT:

Aluminum Louvre Corp.

CLIENT NAME:

EPA

TITLE:

Monitoring Well Sample Location Map
January 15 and 16, 2008
Aluminum Louvre Corp.
Old Bethpage
Nassau County, NY



DATE:

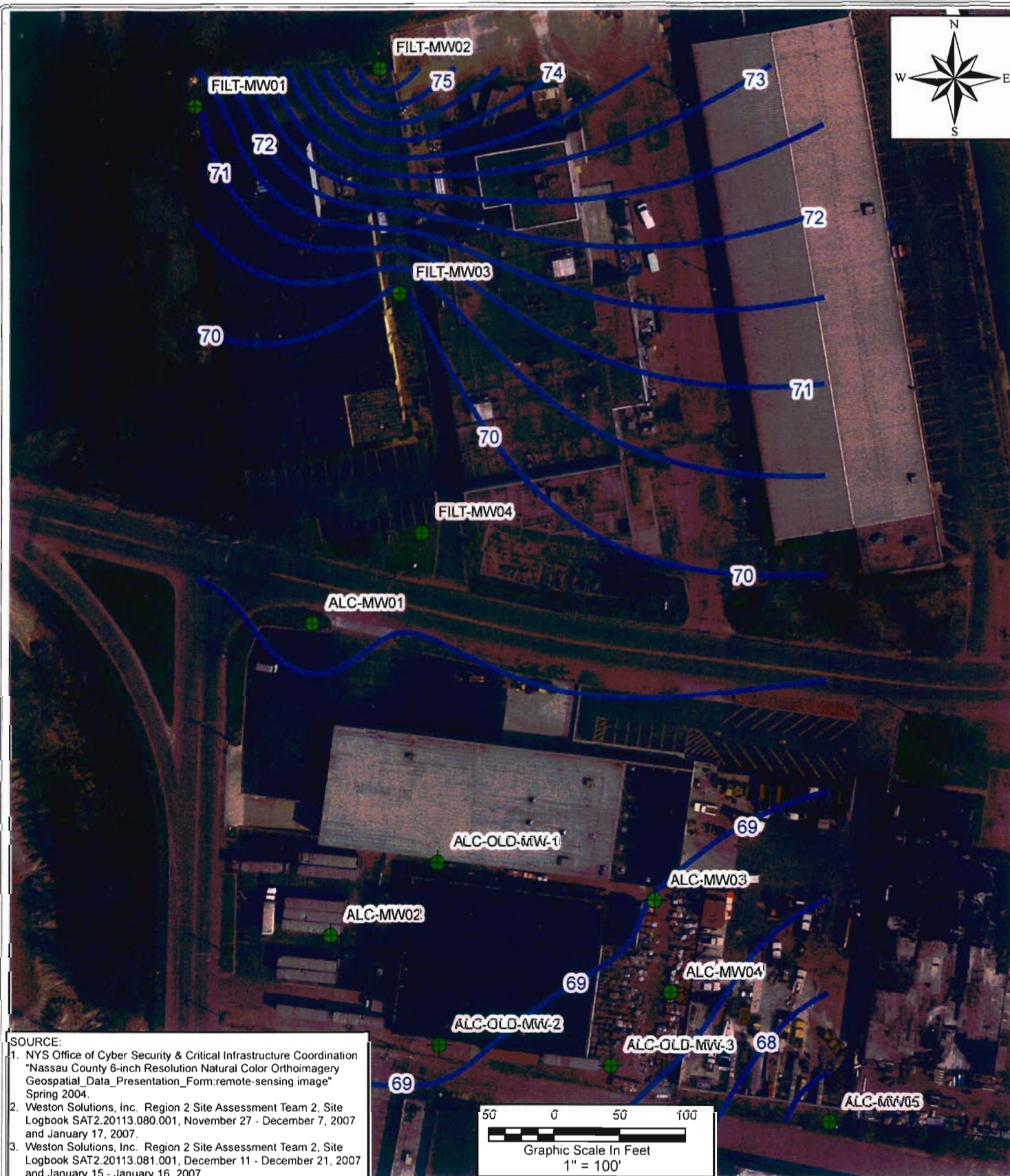
January 2008

FIGURE #:

2

FIGURE 3
GROUNDWATER CONTOUR MAP

P:\SAT2\Aluminum Louvre\GIS\MXD\05397_ALC_FIL_GW_Contour.mxd



ATTACHMENT 1

TRAFFIC REPORTS/CHAIN OF CUSTODY RECORDS AND AIRBILLS

EPA USEPA Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

Case No: 37153
DAS No:

R

Region: 2	Date Shipped: 1/16/2008	Chain of Custody Record	
Project Code:	Carrier Name: FedEx	Relinquished By	Sampler Signature: 
Account Code:	Airbill: 8541 0029 6636	(Date / Time)	Received By 
CERCLIS ID: NYD981488026	Shipped to: Liberty Analytical Corporation	1 	FEDEX 1/16/08 1735
Spill ID: ZZ	501 Madison Avenue	2	
Site Name/State: Aluminum Louvre Inc./NY	Cary NC 27513	3	
Project Leader: Gerry Gilliland	(919) 379-4080	4	
Action: Preliminary Assessment/ Site Inspection			
Sampling Co: ~~RESC~~			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4G12	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-OIG-MW-2	S: 1/16/2008 10:25		--
B4G13	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-OIG-MW-3	S: 1/16/2008 12:45		--
B4G15	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB08	S: 1/16/2008 8:00		Trip Blank
B4LM2	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MW03	S: 1/16/2008 10:45		--
B4LM3	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MW04	S: 1/16/2008 16:20		--
B4LM4	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MW05	S: 1/16/2008 17:15		--
B4LN0	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	ALC-RIN05	S: 1/16/2008 11:15		Rinsate

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

EPA USEPA Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

Case No: 37153
DAS No: R

Region: 2	Date Shipped: 1/15/2008	Chain of Custody Record	
Project Code:	Carrier Name: FedEx	Relinquished By	Sampler Signature
Account Code:	Airbill: 8541 0029 6566	(Date / Time)	(Date / Time)
CERCLIS ID: NYD981488026	Shipped to: Liberty Analytical Corporation	1	Received By
Spill ID: ZZ	501 Madison Avenue	2	Signature
Site Name/State: Aluminum Louvre Inc./NY	Cary NC 27513	3	(Date / Time)
Project Leader: Gerry Gilliland	(919) 379-4080	4	
Action: Preliminary Assessment/Site Inspection			
Sampling Co: (R&S)h			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
B4G11	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-Old-MW-1	S: 1/15/2008 15:55		--
B4G14	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-TB07	S: 1/15/2008 13:35		Trip Blank
B4LM0	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MMW01	S: 1/15/2008 13:50		--
B4LM1	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MMW02	S: 1/15/2008 15:55		--
B4LM5	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	ALC-MMW06	S: 1/15/2008 16:00		Field Duplicate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analyst's Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
VOC (aq) = TCL VOCs (aqueous)			



FedEx Tracking Number 8541 0029 6566

From Please print and press hard.

Date 1/15/08 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone 1732 1406 8640

Company Weston Solutions, Inc.

Address 205 Campus Drive Dept./Floor/Suite/Room

City Edison State NJ ZIP 08837

Your Internal Billing Reference 20113.011.001.008100 First 24 characters will appear on invoice.

To Recipient's Name Joan Purdie Phone 1919 379 4080

Company Liberty Analytical

Recipient's Address 501 Madison Ave. Dept./Floor/Suite/Room We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address To request a package be held at a specific FedEx location, print FedEx address here.

City Cary State NC ZIP 27513

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

Questions? Go to our Web site at fedex.com
or call 1.800.GoFedEx 1.800.463.3339.



FedEx Tracking Number 8541 0029 6636

From Please print and press hard.

Date 1/16/08 Sender's FedEx Account Number 396 778 823

Sender's Name Scott Snyder Phone 1732 1406 8640

Company Weston Solutions, Inc.

Address 205 Campus Drive Dept./Floor/Suite/Room

City Edison State NJ ZIP 08837

Your Internal Billing Reference 20113.011.001.008100 First 24 characters will appear on invoice.

To Recipient's Name Joan Purdie Phone 1919 379 4080

Company Liberty Analytical

Recipient's Address 501 Madison Ave. Dept./Floor/Suite/Room We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address To request a package be held at a specific FedEx location, print FedEx address here.

City Cary State NC ZIP 27513

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

Questions? Go to our Web site at fedex.com
or call 1.800.GoFedEx 1.800.463.3339.



4a Express Package Service To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. To most locations.

☒ FedEx Priority Overnight Next business morning.* ☐ FedEx Standard Overnight Next business afternoon.* ☐ FedEx First Overnight Earliest next business morning delivery to select locations.*

☐ FedEx 2Day Second business day.* ☐ FedEx Express Saver Third business day.*

FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service To add SATURDAY Delivery, see Section 6. Packages over 150 lbs. To most locations.

☐ FedEx 1Day Freight* Next business day.** ☐ FedEx 2Day Freight Second business day.** ☐ FedEx 3Day Freight Third business day.**

* Call for Confirmation.

5 Packaging

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling

☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes. ☐ HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight. ☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9, UN 1845 x kg ☐ Cargo Aircraft Only

7 Payment Bill to:

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☒ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. Credit Card No. 396 778 823 Exp. Date

Total Packages 1 Total Weight 16 Total Declared Value* \$.00

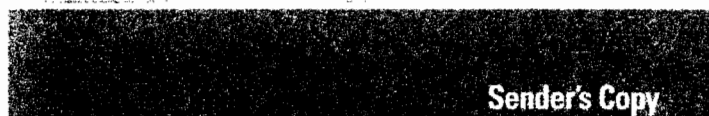
Our liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

☐ No Signature Required Package may be left without obtaining a signature for delivery. ☐ Direct Signature Anyone at recipient's address may sign for delivery. Fee applies. ☐ Indirect Signature If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.

520

Rev. Date 5/05 • Part #198281 • ©1994-2005 FedEx • PRINTED IN U.S.A. RY



4a Express Package Service To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. To most locations.

☒ FedEx Priority Overnight Next business morning.* ☐ FedEx Standard Overnight Next business afternoon.* ☐ FedEx First Overnight Earliest next business morning delivery to select locations.*

☐ FedEx 2Day Second business day.* ☐ FedEx Express Saver Third business day.*

FedEx Envelope rate not available. Minimum charge: One-pound rate.

4b Express Freight Service To add SATURDAY Delivery, see Section 6. Packages over 150 lbs. To most locations.

☐ FedEx 1Day Freight* Next business day.** ☐ FedEx 2Day Freight Second business day.** ☐ FedEx 3Day Freight Third business day.**

* Call for Confirmation.

5 Packaging

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling

☐ SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes. ☐ HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight. ☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9, UN 1845 x kg ☐ Cargo Aircraft Only

7 Payment Bill to:

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☒ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. Credit Card No. 396 778 823 Exp. Date

Total Packages 1 Total Weight 20 Total Declared Value* \$.00

Our liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only

8 NEW Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

☐ No Signature Required Package may be left without obtaining a signature for delivery. ☐ Direct Signature Anyone at recipient's address may sign for delivery. Fee applies. ☐ Indirect Signature If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.

520

Rev. Date 5/05 • Part #198281 • ©1994-2005 FedEx • PRINTED IN U.S.A. RY



Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
732-417-5800 • Fax 732-417-5801
www.westonsolutions.com

January 25, 2008

Mr. Ildefonso Acosta, Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway - 18th Floor
New York, NY 10007-1866

Document Control No.: SAT2.20113.080.624

Subject: Sampling Trip Report – Monitoring Well Samples
Work Assignment No.: 080, Filtron Corp.
Contract No.: EP-W-05-048

Dear Mr. Acosta:

Weston Solutions, Inc. (WESTON®) is pleased to submit the Sampling Trip Report for aqueous samples collected during the second phase of the Filtron Corp. Preliminary Assessment/Site Inspection (PA/SI) sampling event. The Region 2 Site Assessment Team 2 (SAT 2) collected groundwater samples from on-site monitoring wells on January 17, 2008. If you have any questions, please contact me at (732) 417-5826.

Very truly yours,

WESTON SOLUTIONS, INC.

Gerald V. Gilliland, P.G.
SAT 2 Project Manager

enclosure

cc: W.S. Butterfield, SAT 2 (w/o enclosure)
J. Feranda, EPA (w/o enclosure)
A. Michael, EPA
SAT 2 project file



**SAMPLING TRIP REPORT
MONITORING WELL SAMPLES**

SITE NAME: Filtron Corp.
DCN: SAT2.20113.080.624
W.O.: 20113.011.001.0080.00
Case No.: 37152

EPA I.D. NO.: NYN000206093

SAMPLING DATES: January 17, 2008

1. Site Location: Refer to Figure 1
2. Sample Locations: Refer to Figure 2
3. Sample Descriptions: Refer to Table 1
4. Laboratories Receiving Samples:

Analysis

Target Compound List (TCL)
Volatile Organic Compounds (VOCs)

Name and Address of Laboratory

Liberty Analytical Corporation
501 Madison Avenue
Cary, North Carolina 27513

5. Sample Dispatch Data:

- Seven aqueous samples for low-medium concentration TCL VOCs analysis were shipped to Liberty Analytical Corporation on 1/17/08 at 1430 hours via Federal Express Airbill No. 8541 0029 6614.

6. On-Site Personnel:

Name

Company

Duties on Site

Dan Gaughan

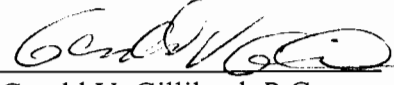
WESTON SAT 2

Field Lead, Sampler, Site Health and
Safety Coordinator (SHSC)

Scott Snyder

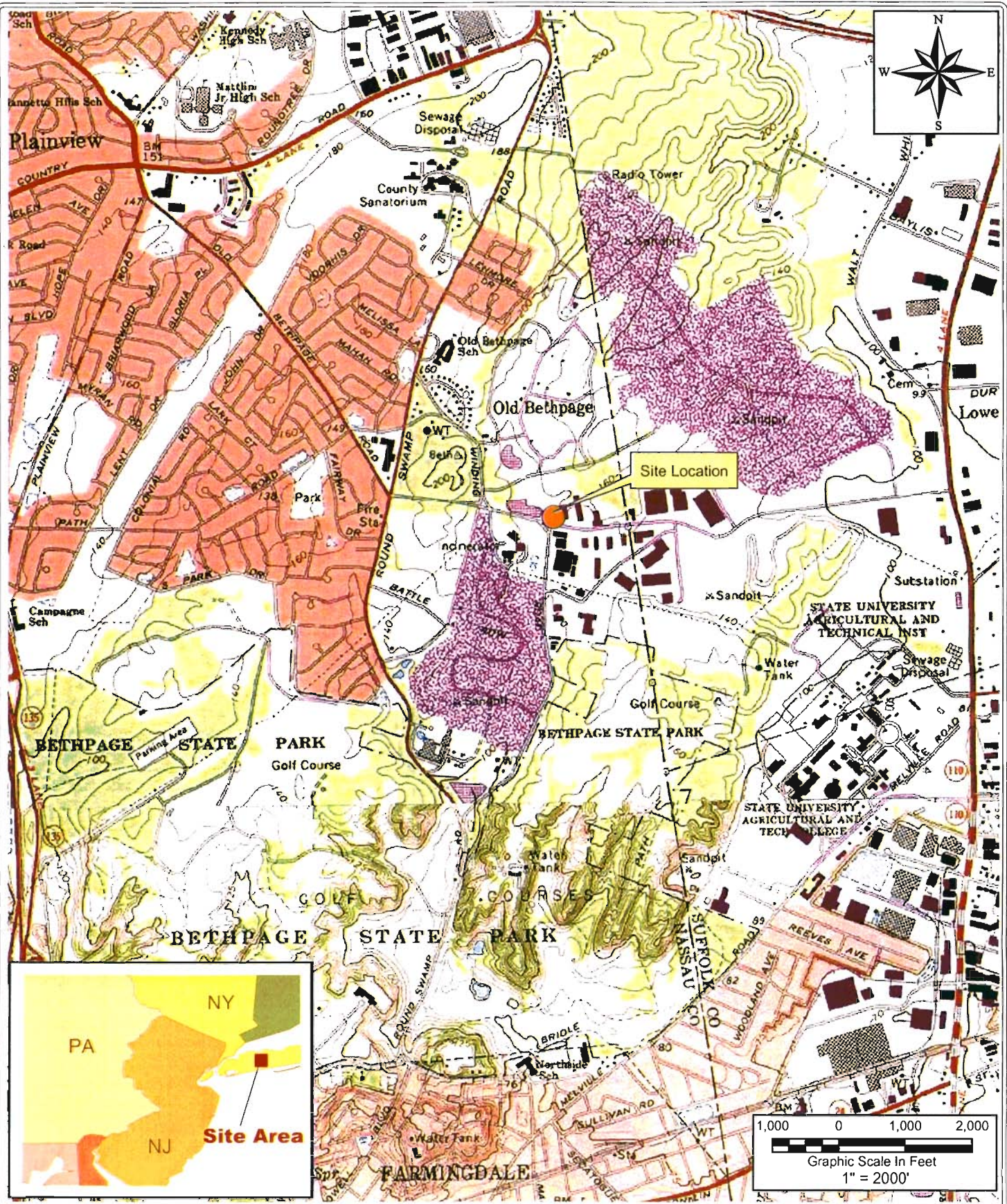
WESTON SAT 2

Sample Management Officer (SMO),
Sampler

8. Report Prepared by:  Date: 01/25/08
Gerald V. Gilliland, P.G.

9. Report Approved by:  Date: 1/25/08
W. S. Butterfield, CHMM

FIGURE 1
SITE LOCATION MAP



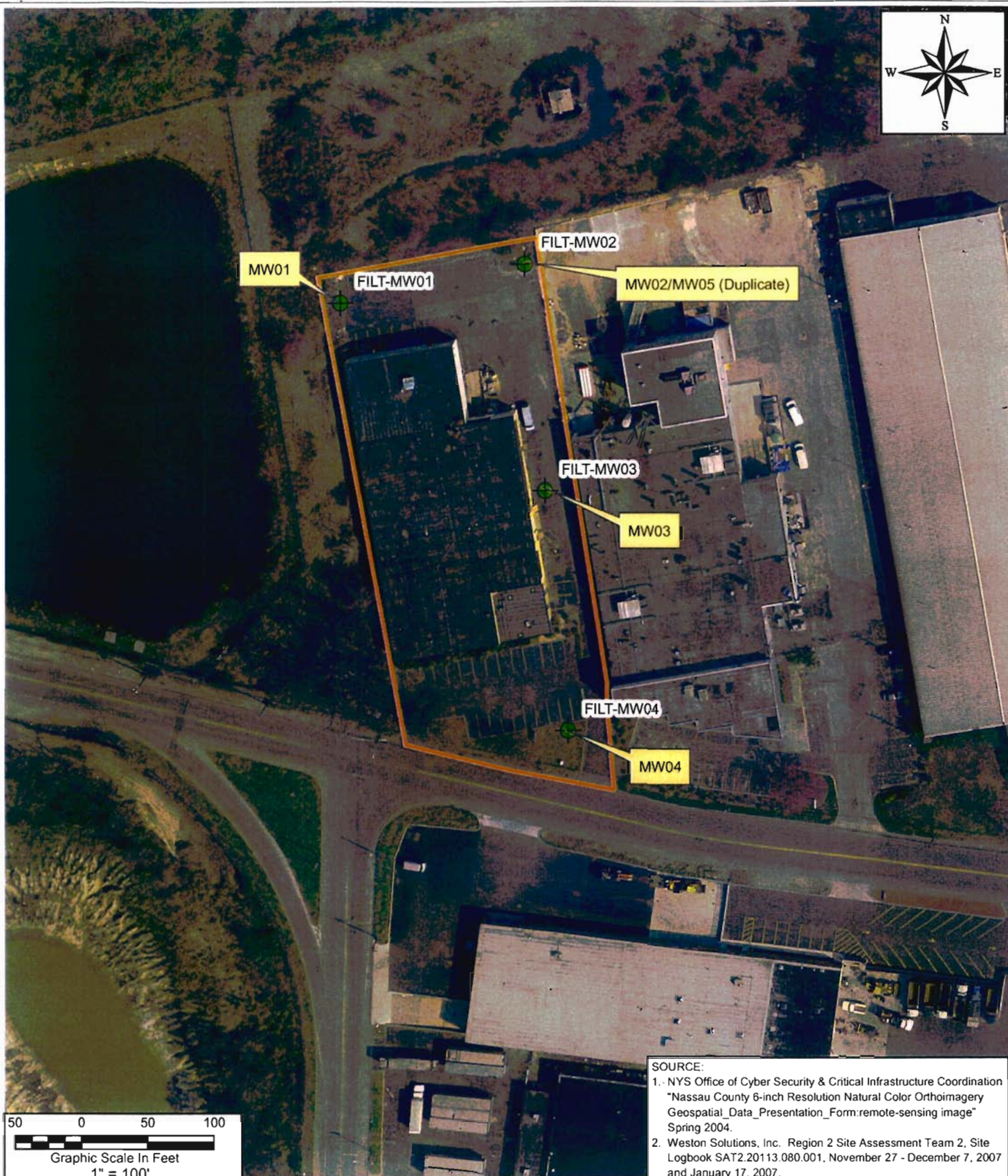
LEGEND: Site Location	
SOURCE: National Geographic TOPO! U.S. Geologic Survey (USGS). 7.5 Minute Series (Topographic) Quadrangles: Huntington, NY 1979, revised 1992.	
PROJECT: Filtron Corp.	
CLIENT NAME: EPA	

TITLE: Site Location Map Filtron Corp. Old Bethpage Nassau County, NY	
DATE: May 2007	FIGURE #: 1

P:\SAT2\Filtron_Corp\GIS\MXD\04534_FC_Site_Map.mxd



FIGURE 2
SAMPLE LOCATION MAP



LEGEND:

Site Boundary

FILT-MW01 ← Monitoring Well ID

← Sampling and Monitoring Well Location

MW01 Sample Number (preceded by "FILT-")

PROJECT:

Filtron Corp.

TITLE:

Monitoring Well Sample Location Map
January 17, 2008
Filtron Corp.
Old Bethpage
Nassau County, NY

WESTON
SOLUTIONS

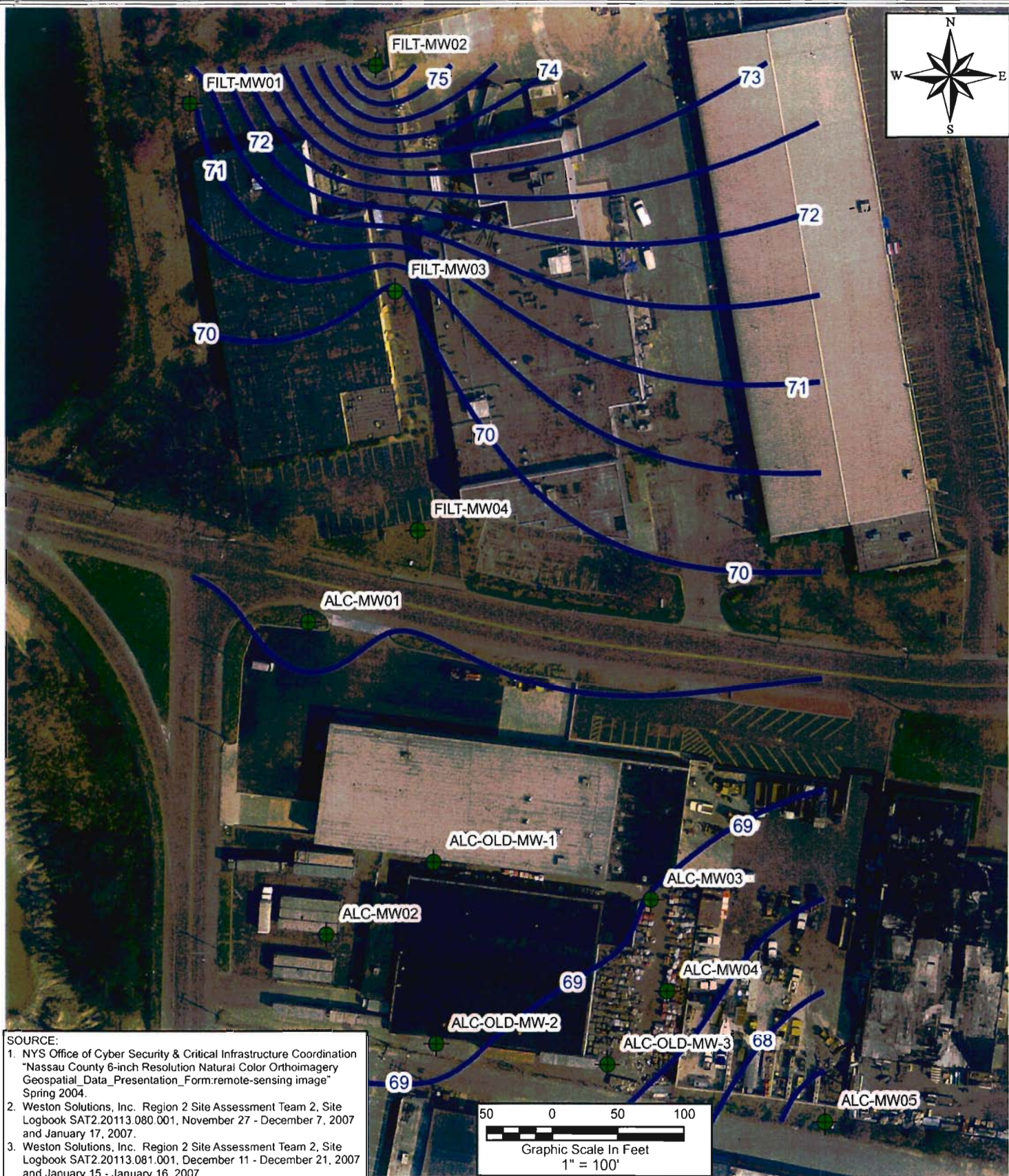
DATE:

January 2008

FIGURE #:

2

FIGURE 3
GROUNDWATER CONTOUR MAP



SOURCE:

1. NYS Office of Cyber Security & Critical Infrastructure Coordination "Nassau County 6-inch Resolution Natural Color Orthoimagery Geospatial_Data_Presentation_Form:remote-sensing image" Spring 2004.
2. Weston Solutions, Inc. Region 2 Site Assessment Team 2, Site Logbook SAT2.20113.080.001, November 27 - December 7, 2007 and January 17, 2007.
3. Weston Solutions, Inc. Region 2 Site Assessment Team 2, Site Logbook SAT2.20113.081.001, December 11 - December 21, 2007 and January 15 - January 16, 2007.

LEGEND:

-  Site Boundary
-  Sampling and Monitoring Well Location
-  Groundwater Contour (In Feet)

PROJECT:

Filtron Corp.

CLIENT NAME:

EPA

TITLE:

Groundwater Contour Map
January 2008
Filtron Corp.
Old Bethpage
Nassau County, NY

WESTON
SOLUTIONS

DATE:

January 2008

FIGURE #:

3

ATTACHMENT 1

TRAFFIC REPORTS/CHAIN OF CUSTODY RECORDS AND AIRBILLS

USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 37152
DAS No:

R

Region: 2	Date Shipped: 1/17/2008	Chain of Custody Record	
Project Code:	Carrier Name: FedEx	Relinquished By	Sampler Signature
Account Code:	Airbill: 8541 0029 6614	(Date / Time)	Received By
CERCLIS ID: NYN000206093	Shipped to: Liberty Analytical Corporation	1 1/17/2008 14:30	1/17/2008 14:30
Spill ID: ZZ	501 Madison Avenue	2	
Site Name/State: Filtron Corp/NY	Cary NC 27513	3	
Project Leader: Gerry Gilliland	(919) 379-4080	4	
Action: Preliminary Assessment/Site Inspection			
Sampling Co: (R/S)			

ORGANIC SAMPLE NO.	MATRIX SAMPLER	CONC TYPE	ANALYSIS TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
B4LX0	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-MMW01	S: 1/17/2008 13:45		--
B4LX1	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-MMW02	S: 1/17/2008 10:20		--
B4LX2	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-MMW03	S: 1/17/2008 10:55		--
B4LX3	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-MMW04	S: 1/17/2008 12:45		--
B4LX4	Monitor Well/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-MMW05	S: 1/17/2008 10:25		Field Duplicate
B4LX9	Field QC/ Dan Gaughan	M/G	VOC (aq) (21)	(HCL) (3)	FILT-RIN05	S: 1/17/2008 10:45		Rinsate
B4LY3	Field QC/ Scott Snyder	M/G	VOC (aq) (21)	(HCL) (3)	FILT-TB04	S: 1/17/2008 8:15		Trip Blank

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: B4LX0	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: VOC (aq) = TCL VOCs (aqueous)	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment lead? _____

PR Number: 2-291174636-011708-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office Attn: Mike Bernhoff, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Ph 703/818-4200; Fax 703/818-4602.



11/17/08	Sender's FedEx Account Number	306 778 823

Sender's Name: Scott Snyder
Phone: 732 406 8640

Company Western Solutions Inc

Address 203 Campus Drive
 Dept./Room/Suite/Floor _____

City Edison State NJ ZIP 08837

2 Your Internal Billing Reference
20113, 011, 001, 0080, 00

Recipient's Name John P. Davis Phone (919) 339-4080

Company: Liberty Analytics

Recipient's Address
501 Madison Ave
New York, New York 10022

Address

City Cincinnati State NC ZIP 27513

Try online shipping at fedex.com
By using this AdPost you agree to the service conditions on the back of this AdPost and in the current FedEx Service Guide, including terms that limit our liability.
Questions? Go to our Web site at fedex.com
or call 1.800.GoFedEx, 1.800.463.3339.

☒ **4a Express Package Service** To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. 1st class, 1st business morning.

☒ **FedEx Priority Overnight** Next business morning.*

☐ **FedEx Standard Overnight** Next business afternoon.*

☐ **FedEx First Overnight** Earliest next business morning delivery to select business.*

☐ **FedEx 2Day**
Second business day.*

☐ **FedEx Express Saver**
Third business day.*

4lb Express Freight Service To add SATURDAY Delivery, see Section 16

☐ **FedEx® 1Day Freight®**
Next business day**

☐ **FedEx 2Day Freight**
Second business day***

☐ **FedEx 3Day Freight**
Third business day***

^aDeclared value versus BVL.

☐ FEEDER Envelope*
☐ FEEDER Tube
☐ FEEDER Box
☐ FEEDER Tube

6 Special Handling

☐	Available ONLY for Federal Priority Overnight, FedEx 2Day, FedEx Priority Overnight, FedEx 2Day, FedEx Day, Priority and FedEx 2Day	☐	NOT Available for FedEx First Overnight	☐	Available ONLY for FedEx Priority Overnight and FedEx 2Day

Does this shipment contain dangerous goods?
One has to be checked

☐ I am interested
Shaper's Decision
not required

☐ Shaper's Decision
not required

Day 6, 9, 10, 105 — — — — —

Puma Aircraft Only

7 Payment Bill to: Enter FedEx Acct No. or Credit Card No. below

☐ Agree, Mr. in
Section 1 will
be added.

☐ I understand.

☒ I want a copy

☐ I will return your

☐ I will return your

396 118827

3

Your liability is limited to \$100 unless you declare a higher value. See back for details.

100

☐ required
Package may be left with-
out obtaining a signature

☐ address as telephone
address (see sign for delivery;
no special)

☐ if (U.S. or elsewhere in)
request address anyone
at a neighboring address (if)

520

Rev. Date: 5-10-2017 15:02:01 1954-2005 FamilyPRINT 24 11:5 A. CPT

RECORD OF COMMUNICATION

REGIONAL SAMPLE CONTROL CENTER

DATE: 1/29/2008
 SUBJECT: CLP Data Package for Quality Assurance Review
 FROM: Hazardous Waste Support Section (HWSS)/RSCC
 TO: HWSS ESAT-TOPO

TDF# HWSS

Attached is the following ORGANIC Data Package to be reviewed for Quality Assurance

SITE: Aluminum Louvre Corp.

CASE #: 37153

SDG#: B4G11

SAMPLER: W-SAT

PROJ. CODE: QB **SITE SPILL #:** ZZ

#SAMPLES

MATRIX

LAB: LIBRTY **OPERABLE UNIT:** 00

12

Water

TURN-AROUND-TIME: 21 day

CERCLIS ID #: NYD981488026

FRACTION: VOA

Contaminant(s) of Concern (If known)

REGION II RSCC DATA TRANSFER LOG

Relinquished By

Received By

Signature

Date/Time

Signature

Date/Time

Robert [Signature] 2/7/08 8:42 AM

Janet [Signature] 2/7/08 8:42 AM

Janet [Signature] 2/15/08 9:00 AM

Henry [Signature] 2/15/08 9:00 AM

Henry [Signature] 2/15/08 10 AM

[Signature] 2/15/08 10 AM

[Signature] 2/19/08 11:10

[Signature] 2/19/08 11:10

ALC-012-MW-1

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G11

Lab Name: COMPUCHEM Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11

Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457601

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457601A73

Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008

% Moisture: not dec. Date Analyzed: 01/16/2008

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10 ~~5.0~~	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 ~~2.2~~	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G11

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457601
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457601A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5 ~~10~~ <u>14</u>	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4G11

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457601
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457601A73
Level: (TRACE or LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-TB07

EPA SAMPLE NO.

B4G14

TB

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457602
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457602A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	2.5	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G14 **FR**

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457602
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457602A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.34	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	0.60	J

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4G14

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457602
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457602A73
Level: (TRACE or LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW01

EPA SAMPLE NO.

B4LM0

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457603
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457603A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 ~~2.4~~	~~U~~ 4
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM0

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457603
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457603A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	4.9	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0 0.29	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	1.6	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM0

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457603
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457603A73
Level: (TRACE or LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW02

EPA SAMPLE NO.

B4LM1

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457604
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457604A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM1

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457604
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457604A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM1

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457604

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457604A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/16/2008

% Moisture: not dec. _____

Date Analyzed: 01/16/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW06

EPA SAMPLE NO.

B4LM5

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457605
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457605A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 ~~2.5~~	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM5

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457605
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457605A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. _____ Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM5

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457605
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457605A73
Level: (TRACE or LOW/MED) LOW Date Received: 01/16/2008
% Moisture: not dec. Date Analyzed: 01/16/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-012-MW-2
(from existing well MW-3)

EPA SAMPLE NO.

B4G12

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457607
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457607B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 3.3
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	17	U
74-87-3	Chloromethane	17	U
75-01-4	Vinyl chloride	17	U
74-83-9	Bromomethane	17	U
75-00-3	Chloroethane	17	U
75-69-4	Trichlorofluoromethane	17	U
75-35-4	1,1-Dichloroethene	17	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	17	U
67-64-1	Acetone	33	U
75-15-0	Carbon disulfide	17	U
79-20-9	Methyl acetate	17	U
75-09-2	Methylene chloride	17	U
156-60-5	trans-1,2-Dichloroethene	17	U
1634-04-4	Methyl tert-butyl ether	17	U
75-34-3	1,1-Dichloroethane	17	U
156-59-2	cis-1,2-Dichloroethene	9.6	J
78-93-3	2-Butanone	33	U
74-97-5	Bromochloromethane	17	U
67-66-3	Chloroform	17	U
71-55-6	1,1,1-Trichloroethane	2.3	J
110-82-7	Cyclohexane	17	U
56-23-5	Carbon tetrachloride	17	U
71-43-2	Benzene	17	U
107-06-2	1,2-Dichloroethane	17	U
123-91-1	1,4-Dioxane	330	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G12

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457607
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457607B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 3.3
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	400	
108-87-2	Methylcyclohexane	17	U
78-87-5	1,2-Dichloropropane	17	U
75-27-4	Bromodichloromethane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
108-10-1	4-Methyl-2-pentanone	33	U
108-88-3	Toluene	17	U
10061-02-6	trans-1,3-Dichloropropene	17	U
79-00-5	1,1,2-Trichloroethane	17	U
127-18-4	Tetrachloroethene	23	
591-78-6	2-Hexanone	33	U
124-48-1	Dibromochloromethane	17	U
106-93-4	1,2-Dibromoethane	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
95-47-6	o-Xylene	17	U
179601-23-1	m,p-Xylene	17	U
100-42-5	Styrene	17	U
75-25-2	Bromoform	17	U
98-82-8	Isopropylbenzene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
541-73-1	1,3-Dichlorobenzene	17	U
106-46-7	1,4-Dichlorobenzene	17	U
95-50-1	1,2-Dichlorobenzene	17	U
96-12-8	1,2-Dibromo-3-chloropropane	17	U
120-82-1	1,2,4-Trichlorobenzene	17	U
87-61-6	1,2,3-Trichlorobenzene	17	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4G12

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457607

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457607B73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/17/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 3.3

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-012-MW-3
(from existing well MW-2)
EPA SAMPLE NO. CUG

B4G13

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457608
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457608B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10 ~~5.0~~	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 ~~3.2~~	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	2.6	J
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G13

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457608
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457608B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	24	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	1.7	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4G13

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457608

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457608B73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/17/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-TB08

EPA SAMPLE NO.

B4G15

TB

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457609
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457609B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	7.8	J
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	2.8	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.30	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4G15

FB

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457609
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457609B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.50	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4G15

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457609

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457609B73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/17/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW03

EPA SAMPLE NO.

B4LM2

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457610
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457610B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 33.3
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	170	U
74-87-3	Chloromethane	170	U
75-01-4	Vinyl chloride	170	U
74-83-9	Bromomethane	170	U
75-00-3	Chloroethane	170	U
75-69-4	Trichlorofluoromethane	170	U
75-35-4	1,1-Dichloroethene	170	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	170	U
67-64-1	Acetone	~~180~~ 330	U
75-15-0	Carbon disulfide	170	U
79-20-9	Methyl acetate	170	U
75-09-2	Methylene chloride	~~170~~ 170	U
156-60-5	trans-1,2-Dichloroethene	170	U
1634-04-4	Methyl tert-butyl ether	170	U
75-34-3	1,1-Dichloroethane	170	U
156-59-2	cis-1,2-Dichloroethene	72	J
78-93-3	2-Butanone	77	J
74-97-5	Bromochloromethane	170	U
67-66-3	Chloroform	170	U
71-55-6	1,1,1-Trichloroethane	17	J
110-82-7	Cyclohexane	170	U
56-23-5	Carbon tetrachloride	170	U
71-43-2	Benzene	170	U
107-06-2	1,2-Dichloroethane	170	U
123-91-1	1,4-Dioxane	3300	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM2

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457610
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457610B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 33.3
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	3000	
108-87-2	Methylcyclohexane	170	U
78-87-5	1,2-Dichloropropane	170	U
75-27-4	Bromodichloromethane	170	U
10061-01-5	cis-1,3-Dichloropropene	170	U
108-10-1	4-Methyl-2-pentanone	330	U
108-88-3	Toluene	170 96 4	U
10061-02-6	trans-1,3-Dichloropropene	170	U
79-00-5	1,1,2-Trichloroethane	170	U
127-18-4	Tetrachloroethene	94	J
591-78-6	2-Hexanone	330	U
124-48-1	Dibromochloromethane	170	U
106-93-4	1,2-Dibromoethane	170	U
108-90-7	Chlorobenzene	170	U
100-41-4	Ethylbenzene	170	U
95-47-6	o-Xylene	170	U
179601-23-1	m,p-Xylene	170	U
100-42-5	Styrene	170	U
75-25-2	Bromoform	170	U
98-82-8	Isopropylbenzene	170	U
79-34-5	1,1,2,2-Tetrachloroethane	170	U
541-73-1	1,3-Dichlorobenzene	170	U
106-46-7	1,4-Dichlorobenzene	170	U
95-50-1	1,2-Dichlorobenzene	170	U
96-12-8	1,2-Dibromo-3-chloropropane	170	U
120-82-1	1,2,4-Trichlorobenzene	170	U
87-61-6	1,2,3-Trichlorobenzene	170	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM2

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457610
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457610B73
Level: (TRACE or LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 33.3
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW04

EPA SAMPLE NO.

B4LM3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457611
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457611B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 10.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	50	U
74-87-3	Chloromethane	50	U
75-01-4	Vinyl chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
75-69-4	Trichlorofluoromethane	50	U
75-35-4	1,1-Dichloroethene	50	U <u>5</u>
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	U
67-64-1	Acetone	<u>100</u> ~~50~~	<u>U</u> ~~U~~
75-15-0	Carbon disulfide	50	U
79-20-9	Methyl acetate	50	U
75-09-2	Methylene chloride	<u>50</u> ~~50~~	<u>U</u> ~~U~~
156-60-5	trans-1,2-Dichloroethene	50	U <u>5</u>
1634-04-4	Methyl tert-butyl ether	50	U
75-34-3	1,1-Dichloroethane	50	U
156-59-2	cis-1,2-Dichloroethene	17	<u>U</u> ~~U~~
78-93-3	2-Butanone	100	U
74-97-5	Bromochloromethane	50	U
67-66-3	Chloroform	50	U
71-55-6	1,1,1-Trichloroethane	8.3	J
110-82-7	Cyclohexane	50	U
56-23-5	Carbon tetrachloride	50	U
71-43-2	Benzene	50	U
107-06-2	1,2-Dichloroethane	50	U
123-91-1	1,4-Dioxane	1000	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457611
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457611B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 10.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	940	
108-87-2	Methylcyclohexane	50	U
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-10-1	4-Methyl-2-pentanone	100	U
108-88-3	Toluene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
127-18-4	Tetrachloroethene	110	
591-78-6	2-Hexanone	100	U
124-48-1	Dibromochloromethane	50	U
106-93-4	1,2-Dibromoethane	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
95-47-6	o-Xylene	50	U
179601-23-1	m,p-Xylene	50	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U
98-82-8	Isopropylbenzene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
541-73-1	1,3-Dichlorobenzene	50	U
106-46-7	1,4-Dichlorobenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
87-61-6	1,2,3-Trichlorobenzene	50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM3

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457611

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457611B73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/17/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-MW05

EPA SAMPLE NO.

B4LM4

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457612
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457612B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	<u>10</u> ~~5.0~~ <u>U</u>	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	<u>5.0</u> ~~2.0~~ <u>U</u>	
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	160	
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	0.54	J
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	0.82	J
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM4

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457612
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457612B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/kg)	ug/L	
79-01-6	Trichloroethene		38	
108-87-2	Methylcyclohexane		5.0	U
78-87-5	1,2-Dichloropropane		5.0	U
75-27-4	Bromodichloromethane		5.0	U
10061-01-5	cis-1,3-Dichloropropene		5.0	U
108-10-1	4-Methyl-2-pentanone		10	U
108-88-3	Toluene		5.0	U
10061-02-6	trans-1,3-Dichloropropene		5.0	U
79-00-5	1,1,2-Trichloroethane		5.0	U
127-18-4	Tetrachloroethene		13	
591-78-6	2-Hexanone		10	U
124-48-1	Dibromochloromethane		5.0	U
106-93-4	1,2-Dibromoethane		5.0	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethylbenzene		5.0	U
95-47-6	o-Xylene		5.0	U
179601-23-1	m,p-Xylene		5.0	U
100-42-5	Styrene		5.0	U
75-25-2	Bromoform		5.0	U
98-82-8	Isopropylbenzene		5.0	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		5.0	U
106-46-7	1,4-Dichlorobenzene		5.0	U
95-50-1	1,2-Dichlorobenzene		5.0	U
96-12-8	1,2-Dibromo-3-chloropropane		5.0	U
120-82-1	1,2,4-Trichlorobenzene		5.0	U
87-61-6	1,2,3-Trichlorobenzene		5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM4

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1457612
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457612B73
Level: (TRACE or LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

ALC-RINOS

EPA SAMPLE NO.

B4LN0 **RB**

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457613
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457613B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	5.9	J
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	3.1	J J
156-60-5	trans-1,2-Dichloroethene	5.0	U J
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U J
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN0 **FB**

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: SDG No.: B4G11
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457613
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457613B73
Level: (TRACE/LOW/MED) LOW Date Received: 01/17/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.42	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN0

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37153 Mod. Ref No.: _____ SDG No.: B4G11

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457613

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457613B73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/17/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 1 of 85

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37153
LABORATORY: Liberty

SDG No.: SDG# B4G11
SITE: Aluminum Louvre Corp
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

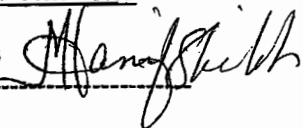
The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's

Signature: Israel Okwuonu

Date: February 13, 2008

Peer Reviewer's

Signature: 

Date: 2/15/08

Verified By: _____

Date: ____/____/2008

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 2 of 85

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC/Surrogate

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have one or more DMC/SMC recovery values less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

1,1-Dichloroethene-d2: B4LN0, B4LM3

1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 3 of 85

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment.

Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects,

"U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Methylene chloride: B4G11, B4G12, B4G13, B4LM0, B4LM1, B4LM2, B4LM3, B4LM4, B4LM5

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

1,2,3-Trichlorobenzene: B4G12

B) Field or rinse blank contamination:

The following volatile samples have analyte concentrations reported less than the CRQL. The associated field blank concentration is less than the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Toluene: B4G11, B4LM0, B4G12, B4G13, B4LM2

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

Storage Blank associated with VOA samples only

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated storage blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone: B4G11, B4G12, B4G13, B4LM2, B4LM3, B4LM4

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 4 of 85

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

No problem found for this qualification.

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 5 of 85

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problem found for this qualification.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS:

None.

13. This package contains re-extractions, re-analyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be

None

SOP HW-33/VOA

Revision 0

April 2006

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.1
Data Validation

Prepared by: George Karras
George Karras, Chemist
Hazardous Waste Support Section

Date: 12/05/06

Peer Reviewed by: Russell Arnone
Russell Arnone, Chemist
Hazardous Waste Support Section

Date: 12/5/06

Concurred by: Linda Mangel
Linda Mangel, Chief
Hazardous Waste Support Section

Date: 12/5/06

Approved by: Robert Runyon
Robert Runyon, Chief
Hazardous Waste Support Branch

Date: 12/11/06

Annual Review
Reviewed by: _____
Name

Date: _____

Reviewed by: _____
Name

Date: _____

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	6
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	15
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	19
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	21
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37153 LAB: Liberty

SITE NAME: Aluminum Louvre SDG No(s) : B4G11

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?

☒ ☐ ☐

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?

☒ ☐ ☐

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?

☒ ☐ ☐

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.

☒ ☐ ☐

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations?

☒ ☐ ☐

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative?

☒ ☐ ☐

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2:5.1.2)?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)?

☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

Low/Med Concentration Volatiles Data present?

☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the

• • • • •

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

• • • • •

results "J" and all non-detects "R".

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded?



Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

3.1 Are the Volatile SMC Recovery Summaries (Form II present?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were outliers marked correctly with an asterisk?

☒ ☐ ☐

ACTION: Circle all outliers in red.

3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits?

☐ ☒ ☐

If yes, were samples re-analyzed?

☐ ☐ ☒

Were method blanks re-analyzed?

☐ ☐ ☒

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "UJ" associated non-detects.

3. For any recovery less than 20%:

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.
As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

3.4 Are there any transcription/calculation errors between raw data and form II?

☒

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present?

☒

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)?

☒

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

using professional judgement, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Method Blanks (Form IV)

- 5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples? ☒ ☐ ☐
- 5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent? ☒ ☐ ☐
- 5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used? ☒ ☐ ☐
- 5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)? ☐ ☐ ☒

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ 1

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ 1

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ 1

ACTION: Use professional judgement to determine the effect on the data.

- 5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ 1

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs? ☒

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs? ☒

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)? ☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report blank concentration for sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- * 2x the CRQL for methylene chloride, 2-butanone and acetone
- ** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

☒ _____

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ _____

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ _____

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ _____

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95

☒ ☐ ☐

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V ?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 7.8 Is the spectrum of the mass calibration compound acceptable?

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

- 8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☐ ☐ ☒

c. Blanks (method, trip, etc)?

☒ ☐ ☐

- 8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☐ ☐ ☒

c. Blanks (method, trip, etc)?

☒ ☐ ☐

ACTION: If any data are missing, take action specified in 3.1 above.

- 8.3 Is chromatographic performance acceptable with respect to:

Baseline stability?

☒ ☐ ☐

Resolution?

☒ ☐ ☐

Peak shape?

☒ ☐ ☐

Full-scale graph (attenuation)?

☒ ☐ ☐

Other: _____?

☐ ☐ ☒

ACTION: Use professional judgement to determine the acceptability of the data.

- 8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?

☒ ☐ ☐

ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.

8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?

☒ ☐ ☐

8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?

☒ ☐ ☐

8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$?

☒ ☐ ☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier?

☒ ☐ ☐

9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Blanks?

☒ ☐ ☐

b. Are Alkanes listed in/or part of the Case Narrative?

☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

	YES	NO	N/A
9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)	☐	☒	☒

ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).

9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	☒	☐	☐
9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?	☒	☐	☐

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)	☒	☐	☐
10.2 Are the CRQLs adjusted to reflect sample dilutions and per cent moisture?	☒	☐	☐

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X"

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%? ☐ ☐ ☒

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration? ☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 $\mu\text{g/l}$ for non-ketones, 10, 20, 100, 200 and 400 $\mu\text{g/L}$ for ketones and 100, 200, 1250, 2000, and 4000 $\mu\text{g/L}$ for 1,4-dioxane. ☒ ☐ ☐

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD $\leq$ 20.%, $\leq$ 40% for poor performers (see table below), $\leq$ 50% for 1,4-dioxane)? ☒ ☐ ☐

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, $\overline{RRF}$ s or %RSD values? (Check at least 2 values, but if errors are found, check more.)

ACTION: Circle errors in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

☒ ☐ ☐

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

☒ ☐ ☐

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial RRF and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

☐ ☒ ☐

ACTION: Circle all outliers in red.

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

☐ ☒ ☐

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet RRF ≥ 0.010. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒

If no, were affected sample reanalyzed?

☐

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☒

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *
Area counts $\geq 50\%$ and $\leq 200\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts $< 50\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts $> 200\%$ of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference ≤ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

* For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis?

11 

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

-
1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media, Multi-Concentration, SOW/CLPSOM01.1, October 2004
 2. National Functional Guidelines for Superfund Organic Methods Data Review January 2005

CompuChem

a division of Liberty Analytical Corporation

501 Madison Avenue

Cary, N.C. 27513

Tel: 919/379-4100 Fax: 919/379-4050

RECEIVED

JAN 24 2008

HAZ. WASTE SUPPORT SEC

SDG NARRATIVE

CASE # 37153

SDG # B4G11

SOW: SOM01.2

CONTRACT # EPW05028

SAMPLE IDENTIFICATIONS: B4G11, B4G14, B4LM0, B4LM1, B4LM5, B4G12, B4G13, B4G15, B4LM2, B4LM3, B4LM4 and B4LN0

The aqueous samples listed above was received intact, properly refrigerated at 4.2°C, proper documentation, in sealed shipping containers, on January 17, 2008. No sample tags were received with the samples.

These sample were scheduled for the requested analysis of the volatile.

The samples was prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Low Concentration Statement of Work (SOW), Document SOM01.2 Low/Medium analysis. All pertinent Quality Assurance Notices are included in the narrative section. This narrative pertains to the volatile fraction only.

Volatiles

Analysis holding time requirements were met for the sample.

The pH value was one (1) for the sample.

The volatile Target Compound List (TCL) analytes were identified above the Contract Required Quantitation Limit (CRQL) in many of the samples. B4G12, B4LM2 and B4LM3 are all being reported at dilutions based on screen data.

Manual quantitations were performed on the process files associated with this SDG, including all initial and continuing calibration standards. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

There were no Tentatively Identified Compounds (TICs) or Total alkanes found in any of these sample.

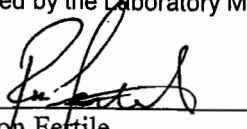
In a response to a Statement of Work Interpretation, the Organic Contract Laboratory Program Office stated that if the mass spectral interpretation specialist determines a TIC to be a laboratory artifact (including artifacts from the DMC solution), there is no need to report it. However, all TICs not reported due to a mass spectral interpretation specialist's assessment should be noted in the SDG Narrative. There are laboratory artifacts (including artifacts from the DMC solution) not reported on the Forms 1J. Their approximate retention times are as follows:

12.875 min. Laboratory artifact

16.028 min. Laboratory artifact

These peaks are present in the standards, blanks, and samples. All Bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG. Overall QC criteria were met for all initial and continuing calibration standards associated to this SDG. All of the deuterated monitoring compounds (DMCs) met recovery criteria in the analyses of these samples. All of the internal standards met response and retention time criteria in the analyses of these samples. The associated method blank and the storage blank met all quality control criteria. No matrix spike/matrix spike duplicate (MS/MSD) samples were requested with this SDG. As per the SOW, an example calculation is attached for Vinyl Chloride-d₃ in sample B4G11.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Ron Fertile
GC/GCMS Case Reviewer
January 22, 2008

3



CompuChem
a division of Liberty Analytical Corp.

RECEIVED

JAN 24 2008

HAZ. WASTE SUPPORT SEC

**Sample Delivery Group (SDG)
Cover Sheet**

ORIGINAL

SDG Number B4G11

Laboratory Name CompuChem VOA ONLY
Laboratory Code LIBRTY

Contract No. EPW05028 Case No. 37153

Analysis Price NA SDG Turnaround 21

EPA Sample Numbers in SDG (Listed in Numerical Order)

1)	B4G11	7)	B4LM1	13)		19)	
2)	B4G12	8)	B4LM2	14)		20)	
3)	B4G13	9)	B4LM3	15)		21)	
4)	B4G14	10)	B4LM4	16)		22)	
5)	B4G15	11)	B4LM5	17)		23)	
6)	B4LM0	12)	B4LN0	18)		24)	

B4G11
First Sample in SDG

B4LN0
Last Sample in SDG

1/16/2008
First Sample Receipt Date

1/17/2008
Last Sample Receipt Date

Note: There are a maximum of 20 **field** samples (excluding PE samples in an SDG). Attach TRs to this form in alphanumeric order (the order listed above on this form).

Signature

Date 01/17/08

RECORD OF COMMUNICATION

REGIONAL SAMPLE CONTROL CENTER

DATE: 1/11/2008
 SUBJECT: CLP Data Package for Quality Assurance Review
 FROM: Hazardous Waste Support Section (HWSS)/RSCC
 TO: HWSS ESAT-TOPO

TDF#

Attached is the following ORGANIC Data Package to be reviewed for Quality Assurance

SITE: Aluminum Louvre Corp. **CASE #:** 37047
B4GL0
SDG#: B4GL0, B4LL2, B4LL6 **SAMPLER:** W-SAT

PROJ. CODE: QB	SITE SPILL #: ZZ	#SAMPLES	MATRIX
LAB: SHEALY	OPERABLE UNIT: 00	21	Water
TURN-AROUND-TIME: 21 day		35	Soil
CERCLIS ID #: NYD981488026		FRACTION:	VOA

Contaminant(s) of Concern (If known)

REGION II RSCC DATA TRANSFER LOG

Relinquished By

Received By

<u>Signature</u>	<u>Date/Time</u>	<u>Signature</u>	<u>Date/Time</u>
Adly Michael	8/16/08 8:20am	Imokwum	1/16/08 8:20 AM
Imokwum	01/29/08 3pm	B. Karas	01/29/08 3pm
B. Karas	01/30/08 1:30pm	Imokwum	01/30/08 1:30pm
Imokwum	01/30/08 2:35pm	Bob Ad	1/30/08 2:35 PM

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG0

ALC-SOI

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-001

Sample wt/vol: 6.4 (g/mL) g

Lab File ID: 61217B07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.7

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.3	U
74-87-3	Chloromethane	4.3	U
75-01-4	Vinyl chloride	4.3	U
74-83-9	Bromomethane	4.3	U
75-00-3	Chloroethane	4.3	U
75-69-4	Trichlorofluoromethane	4.3	U
75-35-4	1,1-Dichloroethene	4.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.3	U
67-64-1	Acetone	<u>4.3</u>	<u>4 JB</u>
75-15-0	Carbon Disulfide	4.3	U
79-20-9	Methyl acetate	4.3	U
75-09-2	Methylene chloride	<u>4.3</u>	<u>0.84 4 JB</u>
156-60-5	trans-1,2-Dichloroethene	4.3	U
1634-04-4	Methyl tert-butyl ether	4.3	U
75-34-3	1,1-Dichloroethane	4.3	U
156-59-2	cis-1,2-Dichloroethene	2.2	J
78-93-3	2-Butanone	8.6	U
74-97-5	Bromochloromethane	4.3	U
67-66-3	Chloroform	4.3	U
71-55-6	1,1,1-Trichloroethane	4.3	U
110-82-7	Cyclohexane	4.3	U
56-23-5	Carbon tetrachloride	4.3	U
71-43-2	Benzene	4.3	U
107-06-2	1,2-Dichloroethane	4.3	U
123-91-1	1,4-Dioxane	86	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-001

Sample wt/vol: 6.4 (g/mL) g

Lab File ID: 61217B07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.7

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	0.78	J
108-87-2	Methylcyclohexane	4.3	U
78-87-5	1,2-Dichloropropane	4.3	U
75-27-4	Bromodichloromethane	4.3	U
10061-01-5	cis-1,3-Dichloropropene	4.3	U
108-10-1	4-Methyl-2-pentanone	8.6	U
108-88-3	Toluene	4.3	U
10061-02-6	trans-1,3-Dichloropropene	4.3	U
79-00-5	1,1,2-Trichloroethane	4.3	U
127-18-4	Tetrachloroethene	4.3	U
591-78-6	2-Hexanone	8.6	U
124-48-1	Dibromochloromethane	4.3	U
106-93-4	1,2-Dibromoethane	4.3	U
108-90-7	Chlorobenzene	4.3	U
100-41-4	Ethylbenzene	4.3	U
95-47-6	o-Xylene	0.44	J
179601-23-1	m,p-Xylene	4.3	U
100-42-5	Styrene	4.3	U
75-25-2	Bromoform	4.3	U
98-82-8	Isopropylbenzene	4.3	U
79-34-5	1,1,2,2-Tetrachloroethane	4.3	U
541-73-1	1,3-Dichlorobenzene	4.3	U
106-46-7	1,4-Dichlorobenzene	4.3	U
95-50-1	1,2-Dichlorobenzene	4.3	U
96-12-8	1,2-Dibromo-3-chloropropane	4.3	U
120-82-1	1,2,4-Trichlorobenzene	4.3	U
87-61-6	1,2,3-Trichlorobenzene	4.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-001

Sample wt/vol: 6.4 (g/mL) g

Lab File ID: 61217B07

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.7

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.429	7.6	J
02	5989-27-5	D-Limonene	11.337	12	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG1

ALC-SO2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-001

Sample wt/vol: 6.15 (g/mL) g

Lab File ID: 51217B09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 15

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	9.6	U
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.6	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	96	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-001

Sample wt/vol: 6.15 (g/mL) g

Lab File ID: 51217B09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 15

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.8	U
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	4.8	U
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-001

Sample wt/vol: 6.15 (g/mL) g

Lab. File ID: 51217B09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 15

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG2

ALC-S03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-002

Sample wt/vol: 5.68 (g/mL) g

Lab File ID: 51217B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 12

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-002

Sample wt/vol: 5.68 (g/mL) g

Lab File ID: 51217B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 12

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047 Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-002

Sample wt/vol: 5.68 (g/mL) g

Lab File ID: 51217B10

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 12

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG6

ALC-SS01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-002

Sample wt/vol: 5.12 (g/mL) g

Lab File ID: 61217B08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 9.9

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	<u>5.4</u> 0.58	<u>U</u> ~~U~~
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	<u>11</u> 4.1	<u>U</u> ~~U~~
75-15-0	Carbon Disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	<u>5.4</u> 1.8	<u>U</u> ~~U~~
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	0.75	J
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	<u>U</u> ~~U~~

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047 Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL13015-002

Sample wt/vol: 5.12 (g/mL) g Lab File ID: 61217B08

Level: (TRACE/LOW/MED) LOW Date Received: 12/12/2007

% Moisture: not dec. 9.9 Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-002

Sample wt/vol: 5.12 (g/mL) g

Lab File ID: 61217B08

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 9.9

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5989-27-5	D-Limonene	11.337	8.0	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG7

ALC-SS02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-003

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 5.7

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	11 5.7 11 JB	U
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	5.7 14 11 JB	U
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-003

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 5.7

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-003

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 5.7

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5989-54-8	Cyclohexene, 1-methyl-4-(1-m	11.337	9.6	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG8

ALC-SS03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-004

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	<u>12</u> <u>4.2</u>	<u>U</u> <u>JB</u>
75-15-0	Carbon Disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	<u>5.9</u> <u>1.3</u>	<u>U</u> <u>JB</u>
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	<u>U</u> <u>JB</u>

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-004

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-004

Sample wt/vol: 4.63 (g/mL) g

Lab File ID: 61217B10

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 8.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5989-27-5	D-Limonene	11.337	10	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG9

ALC-SS04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047 Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL13015-005

Sample wt/vol: 4.55 (g/mL) g Lab File ID: 61217B11

Level: (TRACE/LOW/MED) LOW Date Received: 12/12/2007

% Moisture: not dec. 7.4 Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	0.61	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	<u>12</u> ~~7.0~~	<u>U JB</u>
75-15-0	Carbon Disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	<u>5.9</u> 1.5	<u>U JB</u>
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-005

Sample wt/vol: 4.55 (g/mL) g

Lab File ID: 61217B11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 7.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-005

Sample wt/vol: 4.55 (g/mL) g

Lab File ID: 61217B11

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 7.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	138-86-3	Limonene	11.327	13	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH0

ALC-SS05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-006

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 61217B12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 9.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.7	U
74-87-3	Chloromethane	4.7	U
75-01-4	Vinyl chloride	4.7	U
74-83-9	Bromomethane	4.7	U
75-00-3	Chloroethane	4.7	U
75-69-4	Trichlorofluoromethane	4.7	U
75-35-4	1,1-Dichloroethene	0.49	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.7	U
67-64-1	Acetone	~~4.7~~ 4.4	~~U~~ JB
75-15-0	Carbon Disulfide	4.7	U
79-20-9	Methyl acetate	4.7	U
75-09-2	Methylene chloride	~~4.7~~ 1.1	~~U~~ JB
156-60-5	trans-1,2-Dichloroethene	4.7	U
1634-04-4	Methyl tert-butyl ether	4.7	U
75-34-3	1,1-Dichloroethane	4.7	U
156-59-2	cis-1,2-Dichloroethene	4.7	U
78-93-3	2-Butanone	9.3	U
74-97-5	Bromochloromethane	4.7	U
67-66-3	Chloroform	4.7	U
71-55-6	1,1,1-Trichloroethane	4.7	U
110-82-7	Cyclohexane	4.7	U
56-23-5	Carbon tetrachloride	4.7	U
71-43-2	Benzene	4.7	U
107-06-2	1,2-Dichloroethane	4.7	U
123-91-1	1,4-Dioxane	93	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LGO

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-006

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 61217B12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 9.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.7	U
108-87-2	Methylcyclohexane	4.7	U
78-87-5	1,2-Dichloropropane	4.7	U
75-27-4	Bromodichloromethane	4.7	U
10061-01-5	cis-1,3-Dichloropropene	4.7	U
108-10-1	4-Methyl-2-pentanone	9.3	U
108-88-3	Toluene	4.7	U
10061-02-6	trans-1,3-Dichloropropene	4.7	U
79-00-5	1,1,2-Trichloroethane	4.7	U
127-18-4	Tetrachloroethene	4.7	U
591-78-6	2-Hexanone	9.3	U
124-48-1	Dibromochloromethane	4.7	U
106-93-4	1,2-Dibromoethane	4.7	U
108-90-7	Chlorobenzene	4.7	U
100-41-4	Ethylbenzene	4.7	U
95-47-6	o-Xylene	4.7	U
179601-23-1	m,p-Xylene	0.51	JP
100-42-5	Styrene	4.7	U
75-25-2	Bromoform	4.7	U
98-82-8	Isopropylbenzene	4.7	U
79-34-5	1,1,2,2-Tetrachloroethane	4.7	U
541-73-1	1,3-Dichlorobenzene	4.7	U
106-46-7	1,4-Dichlorobenzene	4.7	U
95-50-1	1,2-Dichlorobenzene	4.7	U
96-12-8	1,2-Dibromo-3-chloropropane	4.7	U
120-82-1	1,2,4-Trichlorobenzene	4.7	U
87-61-6	1,2,3-Trichlorobenzene	4.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-006

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 61217B12

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 9.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5989-27-5	D-Limonene	11.327	11	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH1

ALC-SS06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-007

Sample wt/vol: 5.7 (g/mL) g

Lab File ID: 61217B13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 17

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	0.57	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	11 6.6	U JB
75-15-0	Carbon Disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3 1.4	U JB
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	1.5	JB
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-007

Sample wt/vol: 5.7 (g/mL) g

Lab File ID: 61217B13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. 17

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	0.80	J
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	0.55	J
179601-23-1	m,p-Xylene	0.53	J
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL13015-007

Sample wt/vol: 5.7 (g/mL) g

Lab File ID: 61217B13

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec.17

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.429	16	J
02		Unknown-02	8.877	11	J
03	5989-27-5	D-Limonene	11.327	13	NJ
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH2

ALC-SS07

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-003

Sample wt/vol: 3.44 (g/mL) g

Lab File ID: 51217B11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.7	U
74-87-3	Chloromethane	7.7	U
75-01-4	Vinyl chloride	7.7	U
74-83-9	Bromomethane	7.7	U
75-00-3	Chloroethane	7.7	U
75-69-4	Trichlorofluoromethane	7.7	U
75-35-4	1,1-Dichloroethene	7.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.7	U
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	7.7	U
79-20-9	Methyl acetate	7.7	U
75-09-2	Methylene chloride	7.7	U
156-60-5	trans-1,2-Dichloroethene	7.7	U
1634-04-4	Methyl tert-butyl ether	7.7	U
75-34-3	1,1-Dichloroethane	7.7	U
156-59-2	cis-1,2-Dichloroethene	7.7	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.7	U
67-66-3	Chloroform	7.7	U
71-55-6	1,1,1-Trichloroethane	7.7	U
110-82-7	Cyclohexane	7.7	U
56-23-5	Carbon tetrachloride	7.7	U
71-43-2	Benzene	7.7	U
107-06-2	1,2-Dichloroethane	7.7	U
123-91-1	1,4-Dioxane	150	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-003

Sample wt/vol: 3.44 (g/mL) g

Lab File ID: 51217B11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	7.7	U
108-87-2	Methylcyclohexane	7.7	U
78-87-5	1,2-Dichloropropane	7.7	U
75-27-4	Bromodichloromethane	7.7	U
10061-01-5	cis-1,3-Dichloropropene	7.7	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.7	U
10061-02-6	trans-1,3-Dichloropropene	7.7	U
79-00-5	1,1,2-Trichloroethane	7.7	U
127-18-4	Tetrachloroethene	7.7	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.7	U
106-93-4	1,2-Dibromoethane	7.7	U
108-90-7	Chlorobenzene	7.7	U
100-41-4	Ethylbenzene	7.7	U
95-47-6	o-Xylene	7.7	U
179601-23-1	m,p-Xylene	7.7	U
100-42-5	Styrene	7.7	U
75-25-2	Bromoform	7.7	U
98-82-8	Isopropylbenzene	7.7	U
79-34-5	1,1,2,2-Tetrachloroethane	7.7	U
541-73-1	1,3-Dichlorobenzene	7.7	U
106-46-7	1,4-Dichlorobenzene	7.7	U
95-50-1	1,2-Dichlorobenzene	7.7	U
96-12-8	1,2-Dibromo-3-chloropropane	7.7	U
120-82-1	1,2,4-Trichlorobenzene	7.7	U
87-61-6	1,2,3-Trichlorobenzene	7.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-003

Sample wt/vol: 3.44 (g/mL) g

Lab File ID: 51217B11

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH3

ALC-SS08

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-004

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 51217B12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.5	U
74-87-3	Chloromethane	4.5	U
75-01-4	Vinyl chloride	4.5	U
74-83-9	Bromomethane	4.5	U
75-00-3	Chloroethane	4.5	U
75-69-4	Trichlorofluoromethane	4.5	U
75-35-4	1,1-Dichloroethene	4.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.5	U
67-64-1	Acetone	<u>9.0</u> ~~6.9~~	~~U~~ <u>JB</u>
75-15-0	Carbon Disulfide	4.5	U
79-20-9	Methyl acetate	4.5	U
75-09-2	Methylene chloride	4.5	U
156-60-5	trans-1,2-Dichloroethene	4.5	U
1634-04-4	Methyl tert-butyl ether	4.5	U
75-34-3	1,1-Dichloroethane	4.5	U
156-59-2	cis-1,2-Dichloroethene	4.5	U
78-93-3	2-Butanone	9.0	~~U~~ <u>JB</u>
74-97-5	Bromochloromethane	4.5	U
67-66-3	Chloroform	4.5	U
71-55-6	1,1,1-Trichloroethane	4.5	U
110-82-7	Cyclohexane	4.5	U
56-23-5	Carbon tetrachloride	4.5	U
71-43-2	Benzene	4.5	U
107-06-2	1,2-Dichloroethane	4.5	U
123-91-1	1,4-Dioxane	90	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-004

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 51217B12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.5	U
108-87-2	Methylcyclohexane	4.5	U
78-87-5	1,2-Dichloropropane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
10061-01-5	cis-1,3-Dichloropropene	4.5	U
108-10-1	4-Methyl-2-pentanone	9.0	U
108-88-3	Toluene	4.5	U
10061-02-6	trans-1,3-Dichloropropene	4.5	U
79-00-5	1,1,2-Trichloroethane	4.5	U
127-18-4	Tetrachloroethene	4.5	U
591-78-6	2-Hexanone	9.0	U
124-48-1	Dibromochloromethane	4.5	U
106-93-4	1,2-Dibromoethane	4.5	U
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
95-47-6	o-Xylene	4.5	U
179601-23-1	m,p-Xylene	4.5	U
100-42-5	Styrene	4.5	U
75-25-2	Bromoform	4.5	U
98-82-8	Isopropylbenzene	4.5	U
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U
541-73-1	1,3-Dichlorobenzene	4.5	U
106-46-7	1,4-Dichlorobenzene	4.5	U
95-50-1	1,2-Dichlorobenzene	4.5	U
96-12-8	1,2-Dibromo-3-chloropropane	4.5	U
120-82-1	1,2,4-Trichlorobenzene	4.5	U
87-61-6	1,2,3-Trichlorobenzene	4.5	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-004

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 51217B12

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH4

ALC-SS09

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-005

Sample wt/vol: 4.57 (g/mL) g

Lab File ID: 51217B13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12 5.8	U
75-15-0	Carbon Disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8	U
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-005

Sample wt/vol: 4.57 (g/mL) g

Lab File ID: 51217B13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.8	U
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	0.75	J
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	5.8	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
95-47-6	o-Xylene	5.8	U
179601-23-1	m,p-Xylene	0.64	J
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-005

Sample wt/vol: 4.57 (g/mL) g

Lab File ID: 51217B13

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH5

ALC-SS10

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-006

Sample wt/vol: 5.35 (g/mL) g

Lab File ID: 51217B14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	<u>10</u> 5.2	<u>U</u> <u>JB</u>
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-006

Sample wt/vol: 5.35 (g/mL) g

Lab File ID: 51217B14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14035-006

Sample wt/vol: 5.35 (g/mL) g

Lab File ID: 51217B14

Level: (TRACE or LOW/MED) LOW

Date Received: 12/13/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH6

ALC-SS11

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-001

Sample wt/vol: 2.29 (g/mL) g

Lab File ID: 61219A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 11

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	12	U
74-87-3	Chloromethane	12	U
75-01-4	Vinyl chloride	12	U
74-83-9	Bromomethane	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-35-4	1,1-Dichloroethene	12	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	12	U
67-64-1	Acetone	25 12 35 4 JB	U
75-15-0	Carbon Disulfide	12	U
79-20-9	Methyl acetate	12	U
75-09-2	Methylene chloride	12 35 4 JB	U
156-60-5	trans-1,2-Dichloroethene	12	U
1634-04-4	Methyl tert-butyl ether	12	U
75-34-3	1,1-Dichloroethane	12	U
156-59-2	cis-1,2-Dichloroethene	12	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	12	U
67-66-3	Chloroform	12	U
71-55-6	1,1,1-Trichloroethane	12	U
110-82-7	Cyclohexane	12	U
56-23-5	Carbon tetrachloride	12	U
71-43-2	Benzene	12	U
107-06-2	1,2-Dichloroethane	12	U
123-91-1	1,4-Dioxane	250	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-001

Sample wt/vol: 2.29 (g/mL) g

Lab File ID: 61219A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 11

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	12	U
108-87-2	Methylcyclohexane	12	U
78-87-5	1,2-Dichloropropane	12	U
75-27-4	Bromodichloromethane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
127-18-4	Tetrachloroethene	12	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	12	U
106-93-4	1,2-Dibromoethane	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
95-47-6	o-Xylene	12	U
179601-23-1	m,p-Xylene	12	U
100-42-5	Styrene	12	U
75-25-2	Bromoform	12	U
98-82-8	Isopropylbenzene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
87-61-6	1,2,3-Trichlorobenzene	12	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-001

Sample wt/vol: 2.29 (g/mL) g

Lab File ID: 61219A17

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 11

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	29	J
02		Unknown-02	10.365	14	JB
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH7

ALC-SS12

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-002

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 61219A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 4.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	11 2.5 ~~U~~ ~~JB~~	
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	5.7 1.6 ~~U~~ ~~JB~~	
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-002

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 61219A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 4.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15014-002

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 61219A18

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. 4.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	13	J
02		Unknown-02	10.365	6.0	JB
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK9

ALC-GW01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-008

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	26	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-008

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-008

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B22

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL0

ALC-GW02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	0.66	J
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	1.9	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B23

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	8.810	100	J
02		Unknown-02	11.754	7.1	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL1

ALC-GW03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.8	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	2.4	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM6

ALC-RINOI

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-010

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-010

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-010

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B24

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN1

ALC-TB01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-011

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	21	J
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-011

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51218B25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LG0

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL13015-011

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51218B25

Level: (TRACE or LOW/MED) LOW

Date Received: 12/12/2007

% Moisture: not dec. _____

Date Analyzed: 12/18/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG3

ALC-304

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-001

Sample wt/vol: 4.75 (g/mL) g

Lab File ID: 61219A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 7.6

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	11 4.3 U ~~JE~~	
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	5.7	U
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2,
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-001

Sample wt/vol: 4.75 (g/mL) g

Lab File ID: 61219A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 7.6

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-001

Sample wt/vol: 4.75 (g/mL) g

Lab File ID: 61219A19

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 7.6

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.418	15	JB
02		Unknown-02	10.365	6.8	JB
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG4

ALC-SOS

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-001

Sample wt/vol: 5.58 (g/mL) g

Lab File ID: 61220B17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	4.8	U
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	0.49	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.6	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	96	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-001

Sample wt/vol: 5.58 (g/mL) g

Lab File ID: 61220B17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.8	U
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	4.8	U
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-001

Sample wt/vol: 5.58 (g/mL) g

Lab File ID: 61220B17

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.6

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	14	JB
02		Unknown-02	10.365	7.3	JB
03		Unknown-03	11.935	12	JB
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH8

ALC-SS13

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-002

Sample wt/vol: 6.01 (g/mL) g

Lab File ID: 61219A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 5.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.4	U
74-87-3	Chloromethane	4.4	U
75-01-4	Vinyl chloride	4.4	U
74-83-9	Bromomethane	4.4	U
75-00-3	Chloroethane	4.4	U
75-69-4	Trichlorofluoromethane	4.4	U
75-35-4	1,1-Dichloroethene	4.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U
67-64-1	Acetone	~~4.4~~ <u>7.3</u>	~~U~~ <u>JB</u>
75-15-0	Carbon Disulfide	4.4	U
79-20-9	Methyl acetate	4.4	U
75-09-2	Methylene chloride	4.4	U
156-60-5	trans-1,2-Dichloroethene	4.4	U
1634-04-4	Methyl tert-butyl ether	4.4	U
75-34-3	1,1-Dichloroethane	4.4	U
156-59-2	cis-1,2-Dichloroethene	4.4	U
78-93-3	2-Butanone	8.8	U
74-97-5	Bromochloromethane	4.4	U
67-66-3	Chloroform	4.4	U
71-55-6	1,1,1-Trichloroethane	4.4	U
110-82-7	Cyclohexane	4.4	U
56-23-5	Carbon tetrachloride	4.4	U
71-43-2	Benzene	4.4	U
107-06-2	1,2-Dichloroethane	4.4	U
123-91-1	1,4-Dioxane	88	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-002

Sample wt/vol: 6.01 (g/mL) g

Lab File ID: 61219A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 5.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.4	U
108-87-2	Methylcyclohexane	4.4	U
78-87-5	1,2-Dichloropropane	4.4	U
75-27-4	Bromodichloromethane	4.4	U
10061-01-5	cis-1,3-Dichloropropene	4.4	U
108-10-1	4-Methyl-2-pentanone	8.8	U
108-88-3	Toluene	4.4	U
10061-02-6	trans-1,3-Dichloropropene	4.4	U
79-00-5	1,1,2-Trichloroethane	4.4	U
127-18-4	Tetrachloroethene	4.4	U
591-78-6	2-Hexanone	8.8	U
124-48-1	Dibromochloromethane	4.4	U
106-93-4	1,2-Dibromoethane	4.4	U
108-90-7	Chlorobenzene	4.4	U
100-41-4	Ethylbenzene	4.4	U
95-47-6	o-Xylene	4.4	U
179601-23-1	m,p-Xylene	4.4	U
100-42-5	Styrene	4.4	U
75-25-2	Bromoform	4.4	U
98-82-8	Isopropylbenzene	4.4	U
79-34-5	1,1,2,2-Tetrachloroethane	4.4	U
541-73-1	1,3-Dichlorobenzene	4.4	U
106-46-7	1,4-Dichlorobenzene	4.4	U
95-50-1	1,2-Dichlorobenzene	4.4	U
96-12-8	1,2-Dibromo-3-chloropropane	4.4	U
120-82-1	1,2,4-Trichlorobenzene	4.4	U
87-61-6	1,2,3-Trichlorobenzene	4.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-002

Sample wt/vol: 6.01 (g/mL) g

Lab File ID: 61219A20

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 5.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	9.4	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH9

ALC-SS14

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-003

Sample wt/vol: 5.47 (g/mL) g

Lab File ID: 61219A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 4.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	1.1	J
78-93-3	2-Butanone	9.5	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	95	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LH9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-003

Sample wt/vol: 5.47 (g/mL) g

Lab File ID: 61219A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 4.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	<u>1300</u> <u>280</u>	<u>E</u>
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.5	U
108-88-3	Toluene	0.69	J
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	2.2	J
127-18-4	Tetrachloroethene	11	
591-78-6	2-Hexanone	9.5	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	0.74	<u>JB</u>
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

* *Handwritten signature/initials*

IJ - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LH9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-003

Sample wt/vol: 5.47 (g/mL) g

Lab File ID: 61219A22

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 4.2

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ0

ALC-SS15

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-004

Sample wt/vol: 5.89 (g/mL) g

Lab File ID: 61219A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec.16

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.1	U
74-87-3	Chloromethane	5.1	U
75-01-4	Vinyl chloride	5.1	U
74-83-9	Bromomethane	5.1	U
75-00-3	Chloroethane	5.1	U
75-69-4	Trichlorofluoromethane	5.1	U
75-35-4	1,1-Dichloroethene	34	B
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.1	U
67-64-1	Acetone	<u>111</u> <u>7.0</u> <u>U JB</u>	
75-15-0	Carbon Disulfide	5.1	U
79-20-9	Methyl acetate	5.1	U
75-09-2	Methylene chloride	<u>2.1</u> <u>2.2</u> <u>U JB</u>	
156-60-5	trans-1,2-Dichloroethene	5.1	U
1634-04-4	Methyl tert-butyl ether	5.1	U
75-34-3	1,1-Dichloroethane	3.9	J
156-59-2	cis-1,2-Dichloroethene	94	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.1	U
67-66-3	Chloroform	1.6	J
71-55-6	1,1,1-Trichloroethane	42	
110-82-7	Cyclohexane	5.1	U
56-23-5	Carbon tetrachloride	5.1	U
71-43-2	Benzene	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-004

Sample wt/vol: 5.89 (g/mL) g

Lab File ID: 61219A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 16

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	~~1140000~~ 12000	~~E~~
108-87-2	Methylcyclohexane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
75-27-4	Bromodichloromethane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
108-10-1	4-Methyl-2-pentanone	22	
108-88-3	Toluene	10	
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	10	
127-18-4	Tetrachloroethene	6.2	
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.1	U
106-93-4	1,2-Dibromoethane	5.1	U
108-90-7	Chlorobenzene	5.1	U
100-41-4	Ethylbenzene	5.1	U
95-47-6	o-Xylene	5.1	U
179601-23-1	m,p-Xylene	5.1	U
100-42-5	Styrene	5.1	U
75-25-2	Bromoform	5.1	U
98-82-8	Isopropylbenzene	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U
541-73-1	1,3-Dichlorobenzene	5.1	U
106-46-7	1,4-Dichlorobenzene	5.1	U
95-50-1	1,2-Dichlorobenzene	5.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.1	U
120-82-1	1,2,4-Trichlorobenzene	5.1	U
87-61-6	1,2,3-Trichlorobenzene	5.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-004

Sample wt/vol: 5.89 (g/mL) g

Lab File ID: 61219A23

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 16

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ1

ALC-SS16

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-005

Sample wt/vol: 5.74 (g/mL) g

Lab File ID: 61219A24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 9.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	0.84	J
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	3.3	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	<u>7.6</u> <u>8.1</u>	<u>U</u>
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	150	
78-93-3	2-Butanone	1.1	J
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	36	
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	96	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-005

Sample wt/vol: 5.74 (g/mL) g

Lab File ID: 61219A24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 9.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	* 520,000 3000	IE
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	1.0	J
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	43	J
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	0.57	J
179601-23-1	m,p-Xylene	0.54	J
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	0.71	JB
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

* 1 sample - ex. 13 + - 1 DL

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-005

Sample wt/vol: 5.74 (g/mL) g

Lab File ID: 61219A24

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 9.4

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ2

ALC-SS17

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-006

Sample wt/vol: 4.24 (g/mL) g

Lab File ID: 61219A25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 3.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.1	U
74-87-3	Chloromethane	6.1	U
75-01-4	Vinyl chloride	6.1	U
74-83-9	Bromomethane	6.1	U
75-00-3	Chloroethane	6.1	U
75-69-4	Trichlorofluoromethane	6.1	U
75-35-4	1,1-Dichloroethene	6.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.1	U
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	6.1	U
79-20-9	Methyl acetate	6.1	U
75-09-2	Methylene chloride	6.1	U
156-60-5	trans-1,2-Dichloroethene	6.1	U
1634-04-4	Methyl tert-butyl ether	6.1	U
75-34-3	1,1-Dichloroethane	6.1	U
156-59-2	cis-1,2-Dichloroethene	6.1	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.1	U
67-66-3	Chloroform	6.1	U
71-55-6	1,1,1-Trichloroethane	6.1	U
110-82-7	Cyclohexane	6.1	U
56-23-5	Carbon tetrachloride	6.1	U
71-43-2	Benzene	6.1	U
107-06-2	1,2-Dichloroethane	6.1	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-006

Sample wt/vol: 4.24 (g/mL) g

Lab File ID: 61219A25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 3.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	3.1	J
108-87-2	Methylcyclohexane	6.1	U
78-87-5	1,2-Dichloropropane	6.1	U
75-27-4	Bromodichloromethane	6.1	U
10061-01-5	cis-1,3-Dichloropropene	6.1	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	6.1	U
10061-02-6	trans-1,3-Dichloropropene	6.1	U
79-00-5	1,1,2-Trichloroethane	6.1	U
127-18-4	Tetrachloroethene	6.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.1	U
106-93-4	1,2-Dibromoethane	6.1	U
108-90-7	Chlorobenzene	6.1	U
100-41-4	Ethylbenzene	6.1	U
95-47-6	o-Xylene	6.1	U
179601-23-1	m,p-Xylene	6.1	U
100-42-5	Styrene	6.1	U
75-25-2	Bromoform	6.1	U
98-82-8	Isopropylbenzene	6.1	U
79-34-5	1,1,2,2-Tetrachloroethane	6.1	U
541-73-1	1,3-Dichlorobenzene	6.1	U
106-46-7	1,4-Dichlorobenzene	6.1	U
95-50-1	1,2-Dichlorobenzene	6.1	U
96-12-8	1,2-Dibromo-3-chloropropane	6.1	U
120-82-1	1,2,4-Trichlorobenzene	6.1	U
87-61-6	1,2,3-Trichlorobenzene	6.1	U

SOM01.2 (10/2006)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15022-006

Sample wt/vol: 4.24 (g/mL) g

Lab File ID: 61219A25

Level: (TRACE or LOW/MED) LOW

Date Received: 12/15/2007

% Moisture: not dec. 3.0

Date Analyzed: 12/19/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.418	12	JB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ3

ALC-SS18

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19001-001

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61220B16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. 31

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.6	U
74-87-3	Chloromethane	7.6	U
75-01-4	Vinyl chloride	7.6	U
74-83-9	Bromomethane	7.6	U
75-00-3	Chloroethane	7.6	U
75-69-4	Trichlorofluoromethane	7.6	U
75-35-4	1,1-Dichloroethene	7.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.6	U
67-64-1	Acetone	15 9.3 <u>U</u>	U
75-15-0	Carbon Disulfide	7.6	U
79-20-9	Methyl acetate	7.6	U
75-09-2	Methylene chloride	7.6	U
156-60-5	trans-1,2-Dichloroethene	7.6	U
1634-04-4	Methyl tert-butyl ether	7.6	U
75-34-3	1,1-Dichloroethane	7.6	U
156-59-2	cis-1,2-Dichloroethene	7.6	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.6	U
67-66-3	Chloroform	7.6	U
71-55-6	1,1,1-Trichloroethane	7.6	U
110-82-7	Cyclohexane	7.6	U
56-23-5	Carbon tetrachloride	7.6	U
71-43-2	Benzene	7.6	U
107-06-2	1,2-Dichloroethane	7.6	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19001-001

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61220B16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. 31

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	1.3	J
108-87-2	Methylcyclohexane	7.6	U
78-87-5	1,2-Dichloropropane	7.6	U
75-27-4	Bromodichloromethane	7.6	U
10061-01-5	cis-1,3-Dichloropropene	7.6	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.6	U
10061-02-6	trans-1,3-Dichloropropene	7.6	U
79-00-5	1,1,2-Trichloroethane	7.6	U
127-18-4	Tetrachloroethene	7.6	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.6	U
106-93-4	1,2-Dibromoethane	7.6	U
108-90-7	Chlorobenzene	7.6	U
100-41-4	Ethylbenzene	7.6	U
95-47-6	o-Xylene	7.6	U
179601-23-1	m,p-Xylene	7.6	U
100-42-5	Styrene	7.6	U
75-25-2	Bromoform	7.6	U
98-82-8	Isopropylbenzene	7.6	U
79-34-5	1,1,2,2-Tetrachloroethane	7.6	U
541-73-1	1,3-Dichlorobenzene	7.6	U
106-46-7	1,4-Dichlorobenzene	7.6	U
95-50-1	1,2-Dichlorobenzene	7.6	U
96-12-8	1,2-Dibromo-3-chloropropane	7.6	U
120-82-1	1,2,4-Trichlorobenzene	7.6	U
87-61-6	1,2,3-Trichlorobenzene	7.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.:

B4LJ3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19001-001

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61220B16

Level: (TRACE or LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. 31

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ4

ALC-SS19

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-002

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61220B18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	4.8	U
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.5	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	95	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-002

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61220B18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	0.55	J
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.5	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	4.8	U
591-78-6	2-Hexanone	9.5	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047 Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-002

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61220B18

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 6.9

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ5

ALC-SS20

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-003

Sample wt/vol: 4.34 (g/mL) g

Lab File ID: 61220B19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
75-71-8	Dichlorodifluoromethane	6.1	U
74-87-3	Chloromethane	6.1	U
75-01-4	Vinyl chloride	6.1	U
74-83-9	Bromomethane	6.1	U
75-00-3	Chloroethane	6.1	U
75-69-4	Trichlorofluoromethane	6.1	U
75-35-4	1,1-Dichloroethene	6.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.1	U
67-64-1	Acetone	12 4.3 4.3	U
75-15-0	Carbon Disulfide	6.1	U
79-20-9	Methyl acetate	6.1	U
75-09-2	Methylene chloride	6.1	U
156-60-5	trans-1,2-Dichloroethene	6.1	U
1634-04-4	Methyl tert-butyl ether	6.1	U
75-34-3	1,1-Dichloroethane	6.1	U
156-59-2	cis-1,2-Dichloroethene	6.1	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.1	U
67-66-3	Chloroform	6.1	U
71-55-6	1,1,1-Trichloroethane	6.1	U
110-82-7	Cyclohexane	6.1	U
56-23-5	Carbon tetrachloride	6.1	U
71-43-2	Benzene	6.1	U
107-06-2	1,2-Dichloroethane	6.1	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-003

Sample wt/vol: 4.34 (g/mL) g

Lab File ID: 61220B19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	1.1	J
108-87-2	Methylcyclohexane	6.1	U
78-87-5	1,2-Dichloropropane	6.1	U
75-27-4	Bromodichloromethane	6.1	U
10061-01-5	cis-1,3-Dichloropropene	6.1	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	6.1	U
10061-02-6	trans-1,3-Dichloropropene	6.1	U
79-00-5	1,1,2-Trichloroethane	6.1	U
127-18-4	Tetrachloroethene	6.1	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.1	U
106-93-4	1,2-Dibromoethane	6.1	U
108-90-7	Chlorobenzene	6.1	U
100-41-4	Ethylbenzene	6.1	U
95-47-6	o-Xylene	6.1	U
179601-23-1	m,p-Xylene	6.1	U
100-42-5	Styrene	6.1	U
75-25-2	Bromoform	6.1	U
98-82-8	Isopropylbenzene	6.1	U
79-34-5	1,1,2,2-Tetrachloroethane	6.1	U
541-73-1	1,3-Dichlorobenzene	6.1	U
106-46-7	1,4-Dichlorobenzene	6.1	U
95-50-1	1,2-Dichlorobenzene	6.1	U
96-12-8	1,2-Dibromo-3-chloropropane	6.1	U
120-82-1	1,2,4-Trichlorobenzene	6.1	U
87-61-6	1,2,3-Trichlorobenzene	6.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-003

Sample wt/vol: 4.34 (g/mL) g

Lab File ID: 61220B19

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/20/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ6

ALC-SS21

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4L12

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-004

Sample wt/vol: 6.35 (g/mL) g

Lab File ID: 61220B20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 10

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	4.4	U
74-87-3	Chloromethane	4.4	U
75-01-4	Vinyl chloride	4.4	U
74-83-9	Bromomethane	4.4	U
75-00-3	Chloroethane	4.4	U
75-69-4	Trichlorofluoromethane	4.4	U
75-35-4	1,1-Dichloroethene	4.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U
67-64-1	Acetone	0.4 3.7 UJB	UJB
75-15-0	Carbon Disulfide	4.4	U
79-20-9	Methyl acetate	4.4	U
75-09-2	Methylene chloride	0.44 0.44 UJB	UJB
156-60-5	trans-1,2-Dichloroethene	4.4	U
1634-04-4	Methyl tert-butyl ether	4.4	U
75-34-3	1,1-Dichloroethane	4.4	U
156-59-2	cis-1,2-Dichloroethene	4.4	U
78-93-3	2-Butanone	8.8	U
74-97-5	Bromochloromethane	4.4	U
67-66-3	Chloroform	4.4	U
71-55-6	1,1,1-Trichloroethane	4.4	U
110-82-7	Cyclohexane	4.4	U
56-23-5	Carbon tetrachloride	4.4	U
71-43-2	Benzene	4.4	U
107-06-2	1,2-Dichloroethane	4.4	U
123-91-1	1,4-Dioxane	88	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-004

Sample wt/vol: 6.35 (g/mL) g

Lab File ID: 61220B20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 10

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	25	
108-87-2	Methylcyclohexane	4.4	U
78-87-5	1,2-Dichloropropane	4.4	U
75-27-4	Bromodichloromethane	4.4	U
10061-01-5	cis-1,3-Dichloropropene	4.4	U
108-10-1	4-Methyl-2-pentanone	8.8	U
108-88-3	Toluene	4.4	U
10061-02-6	trans-1,3-Dichloropropene	4.4	U
79-00-5	1,1,2-Trichloroethane	4.4	U
127-18-4	Tetrachloroethene	0.67	J
591-78-6	2-Hexanone	8.8	U
124-48-1	Dibromochloromethane	4.4	U
106-93-4	1,2-Dibromoethane	4.4	U
108-90-7	Chlorobenzene	4.4	U
100-41-4	Ethylbenzene	4.4	U
95-47-6	o-Xylene	4.4	U
179601-23-1	m,p-Xylene	4.4	U
100-42-5	Styrene	4.4	U
75-25-2	Bromoform	4.4	U
98-82-8	Isopropylbenzene	4.4	U
79-34-5	1,1,2,2-Tetrachloroethane	4.4	U
541-73-1	1,3-Dichlorobenzene	4.4	U
106-46-7	1,4-Dichlorobenzene	4.4	U
95-50-1	1,2-Dichlorobenzene	4.4	U
96-12-8	1,2-Dibromo-3-chloropropane	4.4	U
120-82-1	1,2,4-Trichlorobenzene	4.4	U
87-61-6	1,2,3-Trichlorobenzene	4.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047 Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL19060-004

Sample wt/vol: 6.35 (g/mL) g Lab File ID: 61220B20

Level: (TRACE or LOW/MED) LOW Date Received: 12/19/2007

% Moisture: not dec. 10 Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ7

ALC-SS22

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-005

Sample wt/vol: 4.69 (g/mL) g

Lab File ID: 61220B21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.3

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.5	U
74-87-3	Chloromethane	5.5	U
75-01-4	Vinyl chloride	5.5	U
74-83-9	Bromomethane	5.5	U
75-00-3	Chloroethane	5.5	U
75-69-4	Trichlorofluoromethane	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.5	U
67-64-1	Acetone	~~6.0~~ 11	~~U~~ JB
75-15-0	Carbon Disulfide	5.5	U
79-20-9	Methyl acetate	5.5	U
75-09-2	Methylene chloride	5.5	U
156-60-5	trans-1,2-Dichloroethene	5.5	U
1634-04-4	Methyl tert-butyl ether	5.5	U
75-34-3	1,1-Dichloroethane	5.5	U
156-59-2	cis-1,2-Dichloroethene	5.5	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.5	U
67-66-3	Chloroform	5.5	U
71-55-6	1,1,1-Trichloroethane	5.5	U
110-82-7	Cyclohexane	5.5	U
56-23-5	Carbon tetrachloride	5.5	U
71-43-2	Benzene	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
123-91-1	1,4-Dioxane	110	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-005

Sample wt/vol: 4.69 (g/mL) g

Lab File ID: 61220B21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.3

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.5	U
108-87-2	Methylcyclohexane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
75-27-4	Bromodichloromethane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
127-18-4	Tetrachloroethene	5.5	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.5	U
106-93-4	1,2-Dibromoethane	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
95-47-6	o-Xylene	5.5	U
179601-23-1	m,p-Xylene	5.5	U
100-42-5	Styrene	5.5	U
75-25-2	Bromoform	5.5	U
98-82-8	Isopropylbenzene	5.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	5.5	U
95-50-1	1,2-Dichlorobenzene	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
120-82-1	1,2,4-Trichlorobenzene	5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	U

SOM01.2 (10/2006)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-005

Sample wt/vol: 4.69 (g/mL) g

Lab File ID: 61220B21

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.3

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ8

ALC-SS23

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-006

Sample wt/vol: 4.04 (g/mL) g

Lab File ID: 61220B22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.4

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.4	U
74-87-3	Chloromethane	6.4	U
75-01-4	Vinyl chloride	6.4	U
74-83-9	Bromomethane	6.4	U
75-00-3	Chloroethane	6.4	U
75-69-4	Trichlorofluoromethane	6.4	U
75-35-4	1,1-Dichloroethene	6.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.4	U
67-64-1	Acetone	<u>13</u> ~~6.4~~	<u>UJB</u>
75-15-0	Carbon Disulfide	6.4	U
79-20-9	Methyl acetate	6.4	U
75-09-2	Methylene chloride	6.4	U
156-60-5	trans-1,2-Dichloroethene	6.4	U
1634-04-4	Methyl tert-butyl ether	6.4	U
75-34-3	1,1-Dichloroethane	6.4	U
156-59-2	cis-1,2-Dichloroethene	6.4	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.4	U
67-66-3	Chloroform	6.4	U
71-55-6	1,1,1-Trichloroethane	6.4	U
110-82-7	Cyclohexane	6.4	U
56-23-5	Carbon tetrachloride	6.4	U
71-43-2	Benzene	6.4	U
107-06-2	1,2-Dichloroethane	6.4	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-006

Sample wt/vol: 4.04 (g/mL) g

Lab File ID: 61220B22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.4

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	6.4	U
108-87-2	Methylcyclohexane	6.4	U
78-87-5	1,2-Dichloropropane	6.4	U
75-27-4	Bromodichloromethane	6.4	U
10061-01-5	cis-1,3-Dichloropropene	6.4	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.76	J
10061-02-6	trans-1,3-Dichloropropene	6.4	U
79-00-5	1,1,2-Trichloroethane	6.4	U
127-18-4	Tetrachloroethene	6.4	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.4	U
106-93-4	1,2-Dibromoethane	6.4	U
108-90-7	Chlorobenzene	6.4	U
100-41-4	Ethylbenzene	6.4	U
95-47-6	o-Xylene	6.4	U
179601-23-1	m,p-Xylene	6.4	U
100-42-5	Styrene	6.4	U
75-25-2	Bromoform	6.4	U
98-82-8	Isopropylbenzene	6.4	U
79-34-5	1,1,2,2-Tetrachloroethane	6.4	U
541-73-1	1,3-Dichlorobenzene	6.4	U
106-46-7	1,4-Dichlorobenzene	6.4	U
95-50-1	1,2-Dichlorobenzene	6.4	U
96-12-8	1,2-Dibromo-3-chloropropane	6.4	U
120-82-1	1,2,4-Trichlorobenzene	6.4	U
87-61-6	1,2,3-Trichlorobenzene	6.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL19060-006

Sample wt/vol: 4.04 (g/mL) g

Lab File ID: 61220B22

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. 3.4

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL2

ALC-GW04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec.

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.6	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	2.3	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A10

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL3

ALC-GW05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4.L3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A11

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	66-25-1	Hexanal	8.805	11	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL4

ALC-GW06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	3.8	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	21	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.3	J
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	0.84	J
156-59-2	cis-1,2-Dichloroethene	87	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	1.9	J
71-55-6	1,1,1-Trichloroethane	11	
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec.

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	~~2600~~ <u>3100</u>	~~E~~ <u>E</u>
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	2.7	J
127-18-4	Tetrachloroethene	130	
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A16

Level: (TRACE or LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	66-25-1	Hexanal	8.805	7.0	NJ
02	124-19-6	Nonanal	11.757	6.2	NJ
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL5

ALC-GW07

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	17	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	0.73	J
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	7.2	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	1.5	J
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	190	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	12	
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

SOM01.2 (10/2006)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A17

Level: (TRACE or LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number..

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMELE NO.

B4LM7

ALC-RIN02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	2.9	J
75-15-0	Carbon Disulfide	10	
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.51	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A12

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN2

ALC-TB02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	3.4	J
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.52	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

SOM01.2 (10/2006)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL15015-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A13

Level: (TRACE or LOW/MED) LOW

Date Received: 12/14/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN3

ALC-T803

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec.

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	15	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.50	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	1.4	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL2

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19001-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A18

Level: (TRACE or LOW/MED) LOW

Date Received: 12/18/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG5

ALC-S06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-001

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 61225A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 6.7

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	~~4.8~~ 9.6	~~U~~ JB
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	~~4.8~~ 0.96	~~U~~ JB
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.6	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	96	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LG5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-001

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 61225A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 6.7

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.8	U
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	4.8	U
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LG5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-001

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 61225A18

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 6.7

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.429	12	J
02		Unknown-02	10.375	6.1	J
03		Unknown-03	11.935	12	J
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ9

ALC-SS24

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-002

Sample wt/vol: 4.39 (g/mL) g

Lab File ID: 61225A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	12 10 <u>U JB</u>	
75-15-0	Carbon Disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	5.9 0.90 <u>U JB</u>	
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LJ9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-002

Sample wt/vol: 4.39 (g/mL) g

Lab File ID: 61225A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LJ9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-002

Sample wt/vol: 4.39 (g/mL) g

Lab File ID: 61225A19

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.418	13	J
02		Unknown-02	11.935	12	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK0

ALC-SS25

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-003

Sample wt/vol: 4.4 (g/mL) g

Lab File ID: 61225A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 4.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	5.9	U
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.:

B4LK0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-003

Sample wt/vol: 4.4 (g/mL) g

Lab File ID: 61225A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 4.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-003

Sample wt/vol: 4.4 (g/mL) g

Lab File ID: 61225A20

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 4.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.418	14	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK1

ALC-SS26

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-004

Sample wt/vol: 4.48 (g/mL) g

Lab File ID: 61225A21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U*
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	<u>12.14</u>	<u>U JB</u>
75-15-0	Carbon Disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	<u>5.8</u> <u>0.94</u>	<u>U JB</u>
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-004

Sample wt/vol: 4.48 (g/mL) g

Lab File ID: 61225A21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.8	U
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	5.8	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
95-47-6	o-Xylene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

SOM01.2 (10/2006)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-004

Sample wt/vol: 4.48 (g/mL) g

Lab File ID: 61225A21

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 3.2

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	13.109	5.9	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK2

ALC-SS27

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-005

Sample wt/vol: 6.62 (g/mL) g

Lab File ID: 61225A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 10

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.2	U
74-87-3	Chloromethane	4.2	U
75-01-4	Vinyl chloride	4.2	U
74-83-9	Bromomethane	4.2	U
75-00-3	Chloroethane	4.2	U
75-69-4	Trichlorofluoromethane	4.2	U
75-35-4	1,1-Dichloroethene	4.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	U
67-64-1	Acetone	8.3	U JB
75-15-0	Carbon Disulfide	4.2	U
79-20-9	Methyl acetate	4.2	U
75-09-2	Methylene chloride	0.75	U JB
156-60-5	trans-1,2-Dichloroethene	4.2	U
1634-04-4	Methyl tert-butyl ether	4.2	U
75-34-3	1,1-Dichloroethane	4.2	U
156-59-2	cis-1,2-Dichloroethene	4.2	U
78-93-3	2-Butanone	8.4	U
74-97-5	Bromochloromethane	4.2	U
67-66-3	Chloroform	4.2	U
71-55-6	1,1,1-Trichloroethane	4.2	U
110-82-7	Cyclohexane	4.2	U
56-23-5	Carbon tetrachloride	4.2	U
71-43-2	Benzene	4.2	U
107-06-2	1,2-Dichloroethane	4.2	U
123-91-1	1,4-Dioxane	84	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-005

Sample wt/vol: 6.62 (g/mL) g

Lab File ID: 61225A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 10

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	4.2	U
108-87-2	Methylcyclohexane	4.2	U
78-87-5	1,2-Dichloropropane	4.2	U
75-27-4	Bromodichloromethane	4.2	U
10061-01-5	cis-1,3-Dichloropropene	4.2	U
108-10-1	4-Methyl-2-pentanone	0.58	J
108-88-3	Toluene	4.2	U
10061-02-6	trans-1,3-Dichloropropene	4.2	U
79-00-5	1,1,2-Trichloroethane	4.2	U
127-18-4	Tetrachloroethene	4.2	U
591-78-6	2-Hexanone	8.4	U
124-48-1	Dibromochloromethane	4.2	U
106-93-4	1,2-Dibromoethane	4.2	U
108-90-7	Chlorobenzene	4.2	U
100-41-4	Ethylbenzene	4.2	U
95-47-6	o-Xylene	4.2	U
179601-23-1	m,p-Xylene	4.2	U
100-42-5	Styrene	4.2	U
75-25-2	Bromoform	4.2	U
98-82-8	Isopropylbenzene	4.2	U
79-34-5	1,1,2,2-Tetrachloroethane	4.2	U
541-73-1	1,3-Dichlorobenzene	4.2	U
106-46-7	1,4-Dichlorobenzene	4.2	U
95-50-1	1,2-Dichlorobenzene	4.2	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	4.2	U
87-61-6	1,2,3-Trichlorobenzene	4.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-005

Sample wt/vol: 6.62 (g/mL) g

Lab File ID: 61225A22

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 10

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.418	5.5	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK3

ALC-SS28

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-006

Sample wt/vol: 3.64 (g/mL) g

Lab File ID: 61225A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.3	U
74-87-3	Chloromethane	7.3	U
75-01-4	Vinyl chloride	7.3	U
74-83-9	Bromomethane	7.3	U
75-00-3	Chloroethane	7.3	U
75-69-4	Trichlorofluoromethane	7.3	U
75-35-4	1,1-Dichloroethene	7.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U
67-64-1	Acetone	15 9.4	U JB
75-15-0	Carbon Disulfide	7.3	U
79-20-9	Methyl acetate	7.3	U
75-09-2	Methylene chloride	7.3 1.4	U JB
156-60-5	trans-1,2-Dichloroethene	7.3	U
1634-04-4	Methyl tert-butyl ether	7.7	
75-34-3	1,1-Dichloroethane	7.3	U
156-59-2	cis-1,2-Dichloroethene	7.3	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.3	U
67-66-3	Chloroform	7.3	U
71-55-6	1,1,1-Trichloroethane	7.3	U
110-82-7	Cyclohexane	7.3	U
56-23-5	Carbon tetrachloride	7.3	U
71-43-2	Benzene	7.3	U
107-06-2	1,2-Dichloroethane	7.3	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-006

Sample wt/vol: 3.64 (g/mL) g

Lab File ID: 61225A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	2.3	J
108-87-2	Methylcyclohexane	7.3	U
78-87-5	1,2-Dichloropropane	7.3	U
75-27-4	Bromodichloromethane	7.3	U
10061-01-5	cis-1,3-Dichloropropene	7.3	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.3	U
10061-02-6	trans-1,3-Dichloropropene	7.3	U
79-00-5	1,1,2-Trichloroethane	7.3	U
127-18-4	Tetrachloroethene	3.1	J
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.3	U
106-93-4	1,2-Dibromoethane	7.3	U
108-90-7	Chlorobenzene	7.3	U
100-41-4	Ethylbenzene	7.3	U
95-47-6	o-Xylene	7.3	U
179601-23-1	m,p-Xylene	7.3	U
100-42-5	Styrene	7.3	U
75-25-2	Bromoform	7.3	U
98-82-8	Isopropylbenzene	7.3	U
79-34-5	1,1,2,2-Tetrachloroethane	7.3	U
541-73-1	1,3-Dichlorobenzene	7.3	U
106-46-7	1,4-Dichlorobenzene	7.3	U
95-50-1	1,2-Dichlorobenzene	7.3	U
96-12-8	1,2-Dibromo-3-chloropropane	7.3	U
120-82-1	1,2,4-Trichlorobenzene	7.3	U
87-61-6	1,2,3-Trichlorobenzene	7.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL21014-006

Sample wt/vol: 3.64 (g/mL) g

Lab File ID: 61225A23

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. 5.3

Date Analyzed: 12/25/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK4

ALC-SS29

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL22019-001

Sample wt/vol: 4.9 (g/mL) g

Lab File ID: 51231B14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/31/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.5	U
74-87-3	Chloromethane	5.5	U
75-01-4	Vinyl chloride	5.5	U
74-83-9	Bromomethane	5.5	U
75-00-3	Chloroethane	5.5	U
75-69-4	Trichlorofluoromethane	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.5	U
67-64-1	Acetone	4.3	J
75-15-0	Carbon Disulfide	5.5	U
79-20-9	Methyl acetate	5.5	U
75-09-2	Methylene chloride	5.5	U
156-60-5	trans-1,2-Dichloroethene	5.5	U
1634-04-4	Methyl tert-butyl ether	0.95	J
75-34-3	1,1-Dichloroethane	5.5	U
156-59-2	cis-1,2-Dichloroethene	5.5	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.5	U
67-66-3	Chloroform	5.5	U
71-55-6	1,1,1-Trichloroethane	5.5	U
110-82-7	Cyclohexane	5.5	U
56-23-5	Carbon tetrachloride	5.5	U
71-43-2	Benzene	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL22019-001

Sample wt/vol: 4.9 (g/mL) g

Lab File ID: 51231B14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/31/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.5	U
108-87-2	Methylcyclohexane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
75-27-4	Bromodichloromethane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
108-10-1	4-Methyl-2-pentanone	0.62	JB
108-88-3	Toluene	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
127-18-4	Tetrachloroethene	5.5	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.5	U
106-93-4	1,2-Dibromoethane	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
95-47-6	o-Xylene	5.5	U
179601-23-1	m,p-Xylene	5.5	U
100-42-5	Styrene	5.5	U
75-25-2	Bromoform	5.5	U
98-82-8	Isopropylbenzene	5.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	5.5	U
95-50-1	1,2-Dichlorobenzene	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
120-82-1	1,2,4-Trichlorobenzene	5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL22019-001

Sample wt/vol: 4.9 (g/mL) g

Lab File ID: 51231B14

Level: (TRACE or LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/31/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK8

ALC-TB06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B26

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LK8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B26

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LK8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B26

Level: (TRACE or LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL6

ALC-GW08

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	4.6	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	0.63	J
75-34-3	1,1-Dichloroethane	1.2	J
156-59-2	cis-1,2-Dichloroethene	51	
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	1.4	J
71-55-6	1,1,1-Trichloroethane	15	
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	1900	E
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	0.75	J
127-18-4	Tetrachloroethene	110	
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A19

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL7

ALC-GW09

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	22	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	0.97	J
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	63	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	3.1	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A22

Level: (TRACE or LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	66-25-1	Hexanal	8.805	8.0	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL8

ALC-GW10

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B27

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	27	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B27

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	26	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B27

Level: (TRACE or LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL9

ALC-GW11

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B28

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec.

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	29	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LL9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B28

Level: (TRACE/LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	23	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LL9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL22019-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B28

Level: (TRACE or LOW/MED) LOW

Date Received: 12/22/2007

% Moisture: not dec. _____

Date Analyzed: 12/27/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	66-25-1	Hexanal	8.877	12	NJ
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM8

ALC-RIN03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-002

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51221A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	22	
75-15-0	Carbon Disulfide	1.2	J
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	0.66	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A23

Level: (TRACE or LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM9

ALC-RIN04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL21014-007

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 61226B17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. _____

Date Analyzed: 12/26/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	20	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LM9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL21014-007

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. _____

Date Analyzed: 12/26/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	2.6	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LM9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL21014-007

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 61226B17

Level: (TRACE or LOW/MED) LOW

Date Received: 12/21/2007

% Moisture: not dec. _____

Date Analyzed: 12/26/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN4

ALC-TB04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	18	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	3.3	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL19061-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221A20

Level: (TRACE or LOW/MED) LOW

Date Received: 12/19/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN5

ALC-TR05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	21	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LN5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221B10

Level: (TRACE/LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LN5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37047

Mod. Ref No.: _____ SDG No.: B4LL6

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL20022-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51221B10

Level: (TRACE or LOW/MED) LOW

Date Received: 12/20/2007

% Moisture: not dec. _____

Date Analyzed: 12/21/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

THIS PAGE
INTENTIONALLY
LEFT BLANK

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37047
LABORATORY: Shealy

SDG No.: SDG# B4LG0
SITE: Aluminum Louvre Corp
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's

Signature: Israel Okwuonu

Date: January 30, 2008

Peer Reviewer's

Signature: SK

Date: 01/29/08

Verified By: _____

Date: ____/____/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non detected compounds are qualified UJ.

1,4-Dioxane-d8: B4LG6, B4LG7, B4LG8, B4LH3, B4LH4, B4LH6, B4LH7, VBLK20, VBLK68, VBLK91
1,4-Dioxane

2-Butanone-d5: B4LK9RE, B4LL0RE, B4LM6RE, B4LN1RE
2-Butanone, Acetone

The following volatile samples have one or more DMC/SMC recovery values are less than 20%. Detected compounds are qualified J. Non detected compounds are qualified R

2-Butanone-d5: B4LH3
2-Butanone, Acetone

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Chloromethane: B4LG6

B) Field or rinse blank contamination:

Not Applicable.

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

Storage Blank associated with VOA samples only

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated storage blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone: B4LG0, B4LG6, B4LG7, B4LG8, B4LG9, B4LH0, B4LH1, B4LH3, B4LH4, B4LH5, B4LH6, B4LH7

Methylene chloride: B4LG0, B4LG6, B4LG7, B4LG8, B4LG9, B4LH0, B4LH1, B4LH6, B4LH7

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

The following volatile samples are associated with a opening and closing CCV that are not analyzed at the correct frequency. Detected compounds are qualified R. Non-detected compounds are qualified R.

B4LK9RE, B4LL0RE, B4LM6RE, B4LN1RE, VBLK19

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

The following volatile samples are associated with an opening or closing CCV percent difference (%D) outside criteria. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

1,2,4-Trichlorobenzene: VSTD05017

B4LG1, B4LG2, B4LH2, B4LH3, B4LH4, B4LH5, VBLK17

2-Butanone-d5: VSTD050B8

B4LK9, B4LL0, B4LM6, B4LN1, VBLK18

2-Butanone, Acetone

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problem found for this qualification.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS: None

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 6 of 6

- 13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.
B4LK9RE, B4LL0RE, B4LM6RE, B4LN1RE, VBLK19.**

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37047
LABORATORY: Shealy

SDG No.: SDG# B4LL2
SITE: Aluminum Louvre Corp
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

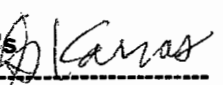
The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's 
Signature: Israel Okwuonu

Date: January 23, 2008

Peer Reviewer's 
Signature: _____

Date: 01/29/08

Verified By: _____

Date: ____/____/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non detected compounds are qualified UJ.

Benzene-d6: B4LH8, B4LJ1, B4LJ3

Benzene

1,2-Dichloroethane-d4: B4LJ1, B4LJ3

1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2-Dibromoethane, 1,2-Dichloroethane, Carbon tetrachloride, Methyl acetate, Methyl tert-butyl ether, Methylene chloride, Trichlorofluoromethane

1,4-Dioxane-d8: B4LG3, B4LG4, B4LH8, B4LH9, B4LJ1, B4LJ4, B4LJ8, VBLK20, VBLK66, VBLK91

1,4-Dioxane

Chloroethane-d5: B4LJ1

Bromomethane, Carbon disulfide, Chloroethane, Chloromethane, Dichlorodifluoromethane

Toluene-d8: B4LH8, B4LJ1, B4LJ3

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

1,2-Dichlorobenzene-d4: B4LJ1, B4LJ3

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene

1,1,1,2-Tetrachloroethane-d2: B4LJ3

1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-chloropropane

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 3 of 6

Vinyl chloride-d3: B4LJ1, B4LL5RE

Vinyl chloride

Chloroform-d: B4LJ1

1,1-Dichloroethane, Bromochloromethane, Bromoform, Chloroform, Dibromochloromethane

trans-1,3-Dichloropropene-d4: B4LJ1, B4LJ3

1,1,2-Trichloroethane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene

1,2-Dichloropropane-d6: B4LJ1

1,2-Dichloropropane, Bromodichloromethane, Cyclohexane, Methylcyclohexane

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the concentration criteria. Detected compounds are qualified U. Nondetected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Ethylbenzene: B4LJ1ME

Toluene: B4LJ0ME

m,p-Xylene: B4LJ1ME

Chloroform: B4LH9ME, B4LJ0ME, B4LJ1ME

B) Field or rinse blank contamination:

Not Applicable.

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 4 of 6

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

Storage Blank associated with VOA samples only

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated storage blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone: B4LG3, B4LG4, B4LH8, B4LH9, B4LJ0, B4LJ0DL, B4LJ1, B4LJ1DL, B4LJ1ME, B4LJ2, B4LJ3, B4LJ4, B4LJ5, B4LJ6, B4LJ7, B4LJ8, B4LM7, B4LN2

Methylene chloride: B4LG4, B4LJ0, B4LJ0DL, B4LJ0ME, B4LJ1DL, B4LJ1ME, B4LJ6

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 5 of 6

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 20%, < 40% for the poor performers, and < 50% for 1,4-Dioxane. %D must be < 25%, < 40% for the poor performers, and < 50% for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria (> 90%), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

The following volatile samples are associated with an opening or closing CCV percent difference (%D) outside criteria. Detected compounds are qualified J. None detected compounds are qualified UJ.

Tetrachloroethene: VST05065

B4LJ0DL, B4LJ1DL, VBLK65, VBLKM5, VHBLK01

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

The following volatile samples have internal standard area counts that are outside the lower limit of primary criteria. Detected compounds are qualified J. Non-detected compounds are qualified R.

1,4-Dichlorobenzene-d4: B4LJ3

1,3-Dichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,4-Dichlorobenzene, Bromoform, 1,2-Dichlorobenzene, 1,2,3-Trichlorobenzene

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In

the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS:

None.

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.

B4LJ0DL, B4LJ1DL, B4LL4DL, B4LL5RE, B4LH9ME, B4LJ0ME, B4LJ1ME

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37047
LABORATORY: Shealy

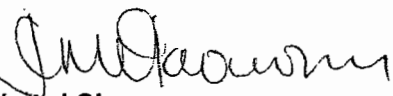
SDG No.: SDG# B4LL6
SITE: Aluminum Corporation
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's 
Signature: Israel Okwuonu

Date: January 24, 2008

Peer Reviewer's 
Signature: _____

Date: 01/29/08

Verified By: _____

Date: ____/____/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified J. Nondetected compounds are not qualified

Toluene-d8: VBLK31

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

2-Butanone-d5: VBLK67

2-Butanone, Acetone

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

Benzene-d6: B4LK4RE

Benzene

1,2-Dichloroethane-d4: B4LK4RE

1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2-Dibromoethane, 1,2-Dichloroethane, Carbon tetrachloride, Methyl acetate, Methyl tert-butyl ether, Methylene chloride, Trichlorofluoromethane

1,4-Dioxane-d8: VBLK66

1,4-Dioxane

Toluene-d8: B4LK4RE

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

Vinyl chloride-d3: B4LK4RE
Vinyl chloride

Chloroform-d: B4LK4RE
1,1-Dichloroethane, Bromochloromethane, Bromoform, Chloroform, Dibromochloromethane

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone: B4LG5, B4LJ9, B4LK0, B4LK1, B4LK2, B4LK3

Methylene chloride: B4LG5, B4LJ9, B4LK0, B4LK1, B4LK2, B4LK3, B4LK4, B4LK4RE

B) Field or rinse blank contamination:

Not Applicable.

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

Storage Blank associated with VOA samples only

No problem found for this qualification.

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

The following volatile samples are associated with an opening or closing CCV percent difference (%D) outside criteria. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

Tetrachloroethene: VSTD05065
B4LG5, B4LJ9, B4LK0, B4LK1, B4LK2, B4LK3, VBLK65

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS:

No problems found for this qualification

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.
B4LK6, B4LL6DL, B4LL6RE, B4M9RE

THIS PAGE
INTENTIONALLY
LEFT BLANK

SOP HW-33/VOA

Revision 1
August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: George Karras
George Karras, Chemist
Hazardous Waste Support Section

Date: 8/13/07

Peer Reviewed by: Russell Arnone
Russell Arnone, Chemist
Hazardous Waste Support Section

Date: 10/3/07

Concurred by: Linda Marel
Linda Marel, Chief
Hazardous Waste Support Section

Date: 10/9/07

Approved by: Robert Runyon
Robert Runyon, Chief
Hazardous Waste Support Branch

Date: 10/10/07

Annual Review

Reviewed by: _____
Name

Date: _____

Reviewed by: _____
Name

Date: _____

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	7
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	16
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	20
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	22
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37047 LAB: Shady

SITE NAME: Aluminum Louvre Corp SDG No(s) : BUGLO

1.0 Chain of Custody and Sampling Trip Reports

1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒ 1 1

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

1.2 Is the Sampling Trip Report present for all samples?

☒ 1 1

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

2.1 Have any missing deliverables been received and added to the data package?

1 1 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

2.2 Was CLASS CCS checklist included with the package?

☒ 1 1

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report? M

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present? M

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken? M

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights. M

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations? M

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative? M

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)? M

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)?

☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

Low/Med Concentration Volatiles Data present?

☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? M

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)3.1 Are the Volatile SMC Recovery Summaries (Form II present? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were outliers marked correctly with an asterisk? ☒ ☐ ☐

ACTION: Circle all outliers in red.

3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits? ☒ ☒ ☐If yes, were samples re-analyzed? ☒ ☐ ☐Were method blanks re-analyzed? ☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "UJ" associated non-detects.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

3. For any recovery less than 20%:

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

3.4 Are there any transcription/calculation errors between raw data and form II?

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present?

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)?

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS and MSD results in conjunction with other

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

QC criteria and determine the need for some qualification of the data. If any MS/MSD % recovery or RPD is out of specification, qualify data to include the consideration of the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Criteria	Action	
	Detected Spiked Compounds	Non-detected Spiked Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use Professional Judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limits	No qualification	

5.0 Method Blanks (Form IV)

5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples?

☒ 1

5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent?

☒ 1

5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used?

☒ 1

5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)?

☒ 1

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed? ☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

- 5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

- 6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

- 6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)?

 M

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

* 2x the CRQL for methylene chloride, 2-butanone and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

[] — ✓

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ ☐ ☐

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ ☐ ☐

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

YES NO N/A

If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V ?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

7.8 Is the spectrum of the mass calibration compound acceptable?

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☐ ☐ ☒

c. Blanks (method, trip, etc)?

☒ ☐ ☐

8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	☒	☐	☐
b. Regional Control/MS/MSD samples?	☐	☐	☒
c. Blanks (method, trip, etc)?	☒	☐	☐
ACTION: If any data are missing, take action specified in 3.1 above.			
8.3 Is chromatographic performance acceptable with respect to:			
Baseline stability?	☒	☐	☐
Resolution?	☒	☐	☐
Peak shape?	☒	☐	☐
Full-scale graph (attenuation)?	☒	☐	☐
Other: _____?	☐	☐	☒
ACTION: Use professional judgement to determine the acceptability of the data.			
8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?	☒	☐	☐
ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra, make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.			
8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?	☒	☐	☐
8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	☒	☐	☐
8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$?	☒	☐	☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier?

☒ 1 — —

9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate?

☒ 1 — —

b. Blanks?

☒ 1 — —

b. Are Alkanes listed in/or part of the Case Narrative?

☐ 1 — ☒

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)

— ☒ 1 —

ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).

9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?

☒ 1 — —

9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?

☒ 1 — —

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

— ☒ —

10.2 Are the CRQLs adjusted to reflect sample dilutions and per cent moisture?

☐ — ☒

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%?

☒ — —

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration?

☒ — —

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 µg/l for non-ketones, 10, 20, 100, 200 and 400 µg/L for ketones and 100, 200, 1000, 2000, and 4000 µg/L for 1,4-dioxane.

☒ 1

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD ≤ 20.%, ≤ 40% for poor performers (see table below), ≤ 50% for 1,4-dioxane)?

☒ 1

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

✓ 11

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, $\overline{RRF}$ s or %RSD values? (Check at least 2 values, but if errors are found, check more.)

✓ 1

ACTION: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

✓ 1

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

✓ 1

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial $\overline{RRF}$ and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

✓ 1

ACTION: Circle all outliers in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

- 13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

✓ 11

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

If no, were affected sample reanalyzed?

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Area counts $\geq$ 50% and $\leq$ 200% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts < 50% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts > 200% of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference $\leq$ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

- * For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

- ** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis? [] ☒

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles SOP HW-33/VOA, Revision 1

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media,
Multi-Concentration, SOW/CLPSOM01.1, October 2004
2. National Functional Guidelines for Superfund Organic Methods Data Review
January 2005

SOP HW-33/VOA

Revision 1

August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by:

George Karras
George Karras, Chemist
Hazardous Waste Support Section

Date:

8/13/07

Peer Reviewed by:

Russell Arnone
Russell Arnone, Chemist
Hazardous Waste Support Section

Date:

10/3/07

Concurred by:

Linda Mavel
Linda Mavel, Chief
Hazardous Waste Support Section

Date:

10/9/07

Approved by:

Robert Runyon
Robert Runyon, Chief
Hazardous Waste Support Branch

Date:

10/10/07

Annual Review

Reviewed by:

Name

Date:

Reviewed by:

Name

Date:

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: _____ Date: _____
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: _____ Date: _____
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: _____ Date: _____
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: _____ Date: _____
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review
Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	7
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	16
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	20
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	22
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37047 LAB: Shealy

SITE NAME: Aluminum Loure Corp SDG No(s): B4LL2

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

.

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?

___ ☒ ___

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?

☒ ___

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?

☒ ___

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.

☒ ___

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations?

☒ ___

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative?

☒ ___

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)?

☒ ___

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)? ☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative? ☒ ☐ ☐

b. Are all forms and copies legible? ☒ ☐ ☐

c. Assembled in the order set forth in the SOW? ☒ ☐ ☐

Low/Med Concentration Volatiles Data present? ☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data? ☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? ✓

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)3.1 Are the Volatile SMC Recovery Summaries (Form II present? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were outliers marked correctly with an asterisk? ☒ ☐ ☐

ACTION: Circle all outliers in red.

3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits? ☒ ☐ ☐If yes, were samples re-analyzed? ☒ ☐ ☐Were method blanks re-analyzed? ☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "UJ" associated non-detects.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

3. For any recovery less than 20%:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/
Non-Compliance if the Lab did not perform reanalysis.

- 3.4 Are there any transcription/calculation errors between raw data and form II?

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

- 4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present?

- 4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)?

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS and MSD results in conjunction with other

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

QC criteria and determine the need for some qualification of the data. If any MS/MSD % recovery or RPD is out of specification, qualify data to include the consideration of the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Criteria	Action	
	Detected Spiked Compounds	Non-detected Spiked Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use Professional Judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limits	No qualification	

5.0 Method Blanks (Form IV)

5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples?

☒ _____

5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent?

☒ _____

5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used?

☒ _____

5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)?

☒ _____

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ _____

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ _____

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)?

☒

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

* 2x the CRQL for methylene chloride, 2-butanone and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

☐ ☐ ☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

- 7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)? ☒ ☐ ☐
- 7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift? ☒ ☐ ☐
- 7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV? ☒ ☐ ☐

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	- BFB tunes meet instrument performance criteria. - The five initial calibration standards meet initial calibration criteria. - CCV A meets both opening and closing CCV criteria - CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

7.8 Is the spectrum of the mass calibration compound acceptable?

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☐ ☐ ☒

c. Blanks (method, trip, etc)?

☒ ☐ ☐

8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	☒	☐	☐
b. Regional Control/MS/MSD samples?	☐	☐	☒
c. Blanks (method, trip, etc)?	☒	☐	☐

ACTION: If any data are missing, take action specified in 3.1 above.

8.3 Is chromatographic performance acceptable with respect to:

Baseline stability?	☒	☐	☐
Resolution?	☒	☐	☐
Peak shape?	☒	☐	☐
Full-scale graph (attenuation)?	☒	☐	☐
Other: _____?	☐	☐	☒

ACTION: Use professional judgement to determine the acceptability of the data.

8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?

☒	☐	☐

ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra, make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.

8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?

☒	☐	☐

8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?

☒	☐	☐

8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$?

☒	☐	☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier?

☒ ☐ ☐

9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Blanks?

☒ ☐ ☐

b. Are Alkanes listed in/or part of the Case Narrative?

☒ ☐ ☐

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)

☐ ☒ ☐

ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).

9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?

☒ ☐ ☐

9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?

☒ ☐ ☐

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂(m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

☒ ☐ ☐

10.2 Are the CRQLs adjusted to reflect sample dilutions and per cent moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%?

☒ ☐ ☐

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 µg/l for non-ketones, 10, 20, 100, 200 and 400 ug/L for ketones and 100, 200, 1000, 2000, and 4000 ug/L for 1,4-dioxane.

✓ — —

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD ≤ 20.%, < 40% for poor performers (see table below), ≤ 50% for 1,4-dioxane)?

✓ — —

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, RRFs or %RSD values? (Check at least 2 values, but if errors are found, check more.)

ACTION: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial $\overline{RRF}$ and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

ACTION: Circle all outliers in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers? ✓

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

☒

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒

If no, were affected sample reanalyzed?

☐

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☒

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Area counts $\geq$ 50% and $\leq$ 200% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts < 50% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts > 200% of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference $\leq$ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

- * For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

- ** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis?

11

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
mL - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media,
Multi-Concentration, SOW/CLPSOM01.1, October 2004
2. National Functional Guidelines for Superfund Organic Methods Data Review
January 2005

SOP HW-33/VOA
Revision 1
August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: George Karras Date: 8/13/07
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: Russell Arnone Date: 10/3/07
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mavel Date: 10/9/07
Linda Mavel, Chief
Hazardous Waste Support Section

Approved by: Robert Runyon Date: 10/10/07
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review
Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: _____ Date: _____
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: _____ Date: _____
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: _____ Date: _____
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: _____ Date: _____
Robert Runyon, Chief
Hazardous Waste Support Branch

Reviewed by: _____ Date: _____
Annual Review
Name

Reviewed by: _____ Date: _____
Name

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	7
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	16
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	20
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	22
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37047 LAB: Shady

SITE NAME: Aluminum Louvre Corp SDG No(s): BULL6

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

 11 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report? ✓

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present? ✓

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken? ✓

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights. ✓

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations? ✓

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative? ✓

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)? ✓

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)? ☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative? ☒ ☐ ☐

b. Are all forms and copies legible? ☒ ☐ ☐

c. Assembled in the order set forth in the SOW? ☒ ☐ ☐

Low/Med Concentration Volatiles Data present? ☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data? ☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? ☒

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

- 3.1 Are the Volatile SMC Recovery Summaries (Form II present? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

- 3.2 Were outliers marked correctly with an asterisk? ☒ ☐ ☐

ACTION: Circle all outliers in red.

- 3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits? ☒ ☐ ☐

If yes, were samples re-analyzed? ☒ ☐ ☐

Were method blanks re-analyzed? ☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "UJ" associated non-detects.

SOP HW-33/VOA, Revision 1

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

QC criteria and determine the need for some qualification of the data. If any MS/MSD % recovery or RPD is out of specification, qualify data to include the consideration of the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Criteria	Action	
	Detected Spiked Compounds	Non-detected Spiked Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use Professional Judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limits	No qualification	

5.0 Method Blanks (Form IV)

5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples?

☒

5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent?

☒

5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used?

☒

5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)?

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed? ☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs?

☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)?

☒

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

* 2x the CRQL for methylene chloride, 2-butanone and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ _____

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ _____

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ _____

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II.

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95



STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

7.8 Is the spectrum of the mass calibration compound acceptable?

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☒ ☐ ☐

c. Blanks (method, trip, etc)?

☒ ☐ ☐

8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	☐	☐	☐
b. Regional Control/MS/MSD samples?	☐	☐	☐
c. Blanks (method, trip, etc)?	☐	☐	☐
ACTION: If any data are missing, take action specified in 3.1 above.			
8.3 Is chromatographic performance acceptable with respect to:			
Baseline stability?	☐	☐	☐
Resolution?	☐	☐	☐
Peak shape?	☐	☐	☐
Full-scale graph (attenuation)?	☐	☐	☐
Other: _____?	☐	☐	☐
ACTION: Use professional judgement to determine the acceptability of the data.			
8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?	☐	☐	☐
ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra, make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.			
8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?	☐	☐	☐
8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	☐	☐	☐
8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$?	☐	☐	☐
ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be			

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier? ☐ ☐ ☐

9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate? ☐ ☐ ☐

b. Blanks? ☐ ☐ ☐

b. Are Alkanes listed in/or part of the Case Narrative? ☐ ☐ ☐

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.) ☐ ☐ ☐

ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).

9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum? ☐ ☐ ☐

9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☐

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

___ 11 ___

10.2 Are the CRQLs adjusted to reflect sample dilutions and percent moisture?

11 ___

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%?

11 ___

Action: If the % moisture ≥ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture ≥ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration?

11 ___

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

- 12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 µg/l for non-ketones, 10, 20, 100, 200 and 400 µg/L for ketones and 100, 200, 1000, 2000, and 4000 µg/L for 1,4-dioxane.

[] — —

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

- 12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD ≤ 20.%, ≤ 40% for poor performers (see table below), ≤ 50% for 1,4-dioxane)?

[] — —

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)? 11

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, $\overline{RRF}$ s or %RSD values? (Check at least 2 values, but if errors are found, check more.) 11

ACTION: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction? 11

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument? 11

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial $\overline{RRF}$ and CCV $\overline{RRF}$ exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds? 11

ACTION: Circle all outliers in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

- 13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

— [] —

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

[] — —

If no, were affected sample reanalyzed?

[] — —

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

[] — —

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Area counts $\geq$ 50% and $\leq$ 200% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts < 50% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts > 200% of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference $\leq$ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

- * For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

- ** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis? []

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media,
Multi-Concentration, SOW/CLPSOM01.1, October 2004
2. National Functional Guidelines for Superfund Organic Methods Data Review
January 2005

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 12/28/2007

RECEIVED
 JAN 17 2008 RG
 HAZ. WASTE SUPPORT SE

SDG Narrative

Case 37047

SDG B4LG0

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LG0	Yes	No	N/A
B4LG1	Yes	No	N/A
B4LG2	Yes	No	N/A
B4LG6	Yes	No	N/A
B4LG7	Yes	No	N/A
B4LG8	Yes	No	N/A
B4LG9	Yes	No	N/A
B4LH0	Yes	No	N/A
B4LH1	Yes	No	N/A
B4LH2	Yes	No	N/A
B4LH3	Yes	No	N/A
B4LH4	Yes	No	N/A
B4LH5	Yes	No	N/A
B4LH6	Yes	No	N/A
B4LH7	Yes	No	N/A
B4LK9	Yes	Yes	<2
B4LL0	Yes	Yes	<2
B4LL1	Yes	No	<2
B4LM6	Yes	Yes	<2
B4LN1	Yes	Yes	<2

Columns	VOA DB-624, 30m x 0.25mm x 1.4um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where A_x is the area of the characteristic ion (EICP) for the compound to be measured. A_{is} is the area of the characteristic ion (EICP) for the internal standard. I_s is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. V_o is total volume of water purged, in mL. W_s is the weight of sample added to the purge tubing. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 3.1, 4.7 and 3.5°C

VOA Fraction

The peak eluting at ~5.3min on MSD5 and MSD6 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

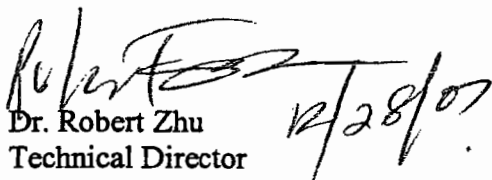
Manual integration was performed on 1,2-dichloropropane and 1,4-dioxane for VSTD0056A due to incorrect auto integration.

Manual integration was performed on acetone for B4LN1RE due to incorrect auto integration.

The recovery of 2-butanone-d5 in the closing CCV VSTD050B8 was marginally low and outside the acceptance limit. The affected samples B4LK9, B4LL0, B4LM6 and B4LN1 were reanalyzed.

* The closing CCV, VSTD050B9, was analyzed outside the 12-hour time window due to a computer malfunction. There were insufficient volume of sample to perform reanalysis on the affected samples, B4LK9RE, B4LL0RE, B4LM6RE and B4LN1RE.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Dr. Robert Zhu
Technical Director

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 01/03/2008

RECEIVED

JAN 07 2008

HAZ. WASTE SUPPORT SEC

SDG Narrative

Case 37047

SDG B4LL2

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LG3	Yes	No	N/A
B4LG4	Yes	No	N/A
B4LH8	Yes	No	N/A
B4LH9	Yes	Yes	N/A
B4LJ0	Yes	Yes	N/A
B4LJ1	Yes	Yes	N/A
B4LJ2	Yes	No	N/A
B4LJ3	Yes	No	N/A
B4LJ4	Yes	No	N/A
B4LJ5	Yes	No	N/A
B4LJ6	Yes	No	N/A
B4LJ7	Yes	No	N/A
B4LJ8	Yes	No	N/A
B4LL2	Yes	No	<2
B4LL3	Yes	No	<2
B4LL4	Yes	Yes	<2
B4LL5	Yes	Yes	<2
B4LM7	Yes	No	<2
B4LN2	Yes	No	<2
B4LN3	Yes	No	<2

Columns	VOA DB-624, 30m x 0.25mm x 1.4um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(L_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(L_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where A_x is the area of the characteristic ion (EICP) for the compound to be measured. A_{is} is the area of the characteristic ion (EICP) for the internal standard. L_s is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. V_o is total volume of water purged, in mL. W_s is the weight of sample added to the purge tubing. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 3.5, 4.6, 2.9 and 3.2 °C

VOA Fraction

Manual integration was performed on 1,2,2-trichloro-1,2,2-trifluoro, carbon disulfide, 1,1-dichloroethane, carbon tetrachloride, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dioxane, and bromodichloromethane for standard VSTD01066 due to incorrect auto integration.

Manual integration was performed on 1,2-dichloropropane and 1,4-dioxane for standard VSTD0056A due to incorrect auto integration.

One of the internal standard recoveries for sample B4LJ3 was marginally low and just outside the acceptance limits. Due to analyst oversight, this sample was not reanalyzed.

Multiple DMC recoveries for sample B4LJ1 were low and outside the acceptance limit. Due to the over range concentration of target compound, sample B4LJ1 was not re-analyzed by low level method.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Robert Zhu 1/3/08

Dr. Robert Zhu
Technical Director

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 01/08/2008

RECEIVED

JAN 09 2008

HAZ. WASTE SUPPORT SEC

SDG Narrative

Case 37047

SDG B4LL6

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LG5	Yes	No	N/A
B4LJ9	Yes	No	N/A
B4LK0	Yes	No	N/A
B4LK1	Yes	No	N/A
B4LK2	Yes	No	N/A
B4LK3	Yes	No	N/A
B4LK4	Yes	Yes	N/A
B4LK8	Yes	No	<2
B4LL6	Yes	Yes	<2
B4LL7	Yes	No	<2
B4LL8	Yes	No	<2
B4LL9	Yes	No	<2
B4LM8	Yes	No	<2
B4LM9	Yes	Yes	<2
B4LN4	Yes	No	<2
B4LN5	Yes	No	<2

Columns	VOA DB-624, 30m x 0.25mm x 1.4um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where Ax is the area of the characteristic ion (EICP) for the compound to be measured. Ais is the area of the characteristic ion (EICP) for the internal standard. Is is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. Vo is total volume of water purged, in mL. Ws is the weight of sample added to the purge tubing. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 3.7, 2.6, 5.4 and 3.2 °C

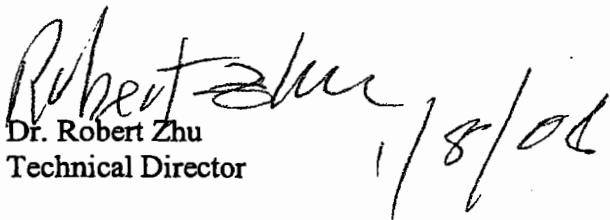
VOA Fraction

Manual integration was performed on 1,2,2-trichloro-1,2,2-trifluoro, carbon disulfide, 1,1-dichloroethane, carbon tetrachloride, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dioxane, and bromodichloromethane for standard VSTD01066 due to incorrect auto integration.

Manual integration was performed on 1,2-dichloropropane and 1,4-dioxane for standard VSTD0056A due to incorrect auto integration.

Sample B4LK4 was initially analyzed under a calibration that did not meet the acceptance criteria. The reanalysis was performed outside the 10-day holding time but within 14-day of collection.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Dr. Robert Zhu
Technical Director



Contract Laboratory Program

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: B4LG0

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37047

Analysis Price: \$440

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LG0	7) B4LG9	13) B4LH5	19) B4LM6
2) B4LG1	8) B4LH0	14) B4LH6	20) B4LN1
3) B4LG2	9) B4LH1	15) B4LH7	21) N/A
4) B4LG6	10) B4LH2	16) B4LK9	22) N/A
5) B4LG7	11) B4LH3	17) B4LL0	23) N/A
6) B4LG8	12) B4LH4	18) B4LL1	24) N/A

B4LG0

First Sample in SDG

B4LL1

Last Sample in SDG

12/12/07

First Sample Receipt Date

12/14/07

Last Sample Receipt Date

Note: There are a maximum of 20 **field** samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: *Julie M. Mangan*

Date: 12/20/07



Contract Laboratory Program

RECEIVED

JAN 07 2008

HAZ. WASTE SUPPORT SEC

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: B4LL2

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37047

Analysis Price: \$440

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: NA

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LL2	7) B4LH9	13) B4LL5	19) B4LJ7
2) B4LL3	8) B4LJ0	14) B4LN3	20) B4LJ8
3) B4LM7	9) B4LJ1	15) B4LG4	21) N/A
4) B4LN2	10) B4LJ2	16) B4LJ4	22) N/A
5) B4LG3	11) B4LJ3	17) B4LJ5	23) N/A
6) B4LH8	12) B4LL4	18) B4LJ6	24) N/A

B4LL2

First Sample in SDG

B4LJ8

Last Sample in SDG

12/14/07

First Sample Receipt Date

12/19/07

Last Sample Receipt Date

Note: There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: [Signature]

Date: 1/2/2008



Contract Laboratory Program

RECEIVED

JAN 09 2008

HAZ. WASTE SUPPORT SEC

Sample Delivery Group (SDG) Cover Sheet

SDG Number: B4LL6

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37047

Analysis Price: \$440

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LG5	7) B4LK4	13) B4LM8	19) N/A
2) B4LJ9	8) B4LK8	14) B4LM9	20) N/A
3) B4LK0	9) B4LL6	15) B4LN4	21) N/A
4) B4LK1	10) B4LL7	16) B4LN5	22) N/A
5) B4LK2	11) B4LL8	17) N/A	23) N/A
6) B4LK3	12) B4LL9	18) N/A	24) N/A

B4LL6

First Sample in SDG

B4LL9

Last Sample in SDG

12/19/07

First Sample Receipt Date

12/22/07

Last Sample Receipt Date

Note: There are a maximum of 20 **field** samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: gullumamanghe

Date: 01/02/08

RECORD OF COMMUNICATION

REGIONAL SAMPLE CONTROL CENTER

DATE: 1/29/2008
 SUBJECT: CLP Data Package for Quality Assurance Review
 FROM: Hazardous Waste Support Section (HWSS)/RSCC
 TO: HWSS ESAT-TOPO

TDF# 08-0228

Attached is the following ORGANIC Data Package to be reviewed for Quality Assurance

SITE: Filtron Corp. **CASE #:** 37152

SDG#: B4LX0 **SAMPLER:** W-SAT

PROJ. CODE: QB **SITE SPILL #:** ZZ **#SAMPLES** 7 **MATRIX** Water

LAB: LIBRTY **OPERABLE UNIT:** 00

TURN-AROUND-TIME: 21 day

CERCLIS ID #: NYN000206093 **FRACTION:** VOA

Contaminant(s) of Concern (If known) _____

REGION II RSCC DATA TRANSFER LOG

Relinquished By

Received By

Signature

Date/Time

Signature

Date/Time

Rolando Pena 2/10/08 9:50 AM

Dorinda Christina Miller 2/11/08 9:15 am.

Dorinda Christina Miller 2/11/08

C. Starnes 2/14/08

C. Starnes 2/19/08 10:06 am

Rolando Pena 2/15/08 10:06 am

Rolando Pena 2/15/08 11:05 AM

Hany Shih 2/15/08 11:05 AM

Hany Shih 2/19/08 11:10 AM

R. Amore 2/19/08 11:10

R. Amore 2/19/08 3:07

Rolando Pena 2/19/08 3:07 PM

Michelle J. Pena 2/19/08 3:08 PM

Rolando Pena 2/19/08 3:45 PM

Rolando Pena 2/19/08 3:08 PM

Michelle J. Pena 2/19/08 3:08 PM

Michelle J. Pena 2/19/08 3:45 PM

Rolando Pena 2/15/08 3:45 PM

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-MW01

EPA SAMPLE NO.

B4LX0

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459701
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459701A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	B
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 3.5	JBV
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	12

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX0

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): Water

Lab Sample ID: 1459701

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459701A73

Level: (TRACE/LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	~~5.0~~ <u>0.61</u>	~~U~~ <u>BU</u>
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX0

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1459701

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459701A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹ :	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-MW02

EPA SAMPLE NO.

B4LX1

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459704
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459704A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	<u>10</u> ~~5.0~~	<u>JU</u>
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	<u>5.0</u> ~~2.5~~	<u>JBU</u>
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	<u>✓ R</u>

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX1

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459704
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459704A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	1.2	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	<u>5.0</u> ~~9.53~~	<u>JB</u>
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	1.0	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX1

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1459704

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459704A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-MW03

EPA SAMPLE NO.

B4LX2

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459705
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459705A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10 7.5	J U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 2.7	JB U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	0.72	J
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	✓ R

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX2

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459705
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459705A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	56	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	~~5.0~~ 0.60	~~U~~ JB-U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	3.5	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX2

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1459705

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459705A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Laboratory Artifact	16.03	8.1	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-MW04

EPA SAMPLE NO.

B4LX3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459706
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459706A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	~~5.0~~ 2.5	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	2.4	J
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	R

AMENDED
DATA

SOM01.2 (8/2007)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459706
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459706A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	68	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0 0.45	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	3.3	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBERTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1459706
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459706A73
Level: (TRACE or LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Laboratory Artifact	16.03	5.3	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-MW05

EPA SAMPLE NO.

B4LX4

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459707
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459707A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	<u>10</u> ~~5.4~~ <u>U</u>	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	<u>5.0</u> ~~2.5~~ <u>U</u>	
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	<u>R</u>

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX4

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459707
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459707A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	1.0	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0 0.39 ~~JB~~ ✓	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	0.91	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX4

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1459707

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459707A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-RINOS

EPA SAMPLE NO.

FB B4LX9

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459708
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459708A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	7.9	J
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	3.4	JP
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	PR

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX9

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459708
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459708A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.52	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX9

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1459708

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459708A73

Level: (TRACE or LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

FILT-TB04

EPA SAMPLE NO.

TB B4LY3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459709
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459709A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	8.3	JP
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	3.8	JP
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	PR

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY3

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459709
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459709A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	1.1	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY3

Lab Name: COMPUCHEM Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 1459709

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459709A73

Level: (TRACE or LOW/MED) LOW Date Received: 01/18/2008

% Moisture: not dec. _____ Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A	7.1	J

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJC

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 161246
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 161246RA73
Level: (TRACE/LOW/MED) LOW Date Received:
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	3.3	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJC

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 161246
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 161246RA73
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.75	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	0.40	J

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBKJJC

Lab Name: COMPUCHEM Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER Lab Sample ID: 161246

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 161246RA73

Level: (TRACE or LOW/MED) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJE

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 161247
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 161247RA73
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	2.8	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U R

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJE

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 161247
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 161247RA73
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.65	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBKJE

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 161247

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 161247RA73

Level: (TRACE or LOW/MED) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLKYB

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457306
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457306RA73
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	2.5	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	R

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLKYB

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1457306
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1457306RA73
Level: (TRACE/LOW/MED) LOW Date Received: _____
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	0.33	JE
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLKYB

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): WATER

Lab Sample ID: 1457306

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1457306RA73

Level: (TRACE or LOW/MED) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹ EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX0MS

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459702
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459702A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. _____ Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	61	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10 8.6	J U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 2.9	J U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	57	
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	J R

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LXOMS

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459702
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459702A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	57	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	58	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	58	
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX0MSD

Lab Name: COMPUCHEM Contract: EPW05028
Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: SDG No.: B4LX0
Matrix (SOIL/SED/WATER): Water Lab Sample ID: 1459703
Sample wt/vol: 5.00 (g/mL) mL Lab File ID: 1459703A73
Level: (TRACE/LOW/MED) LOW Date Received: 01/18/2008
% Moisture: not dec. Date Analyzed: 01/18/2008
GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	55	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	~~10~~ ~~6.2~~ ~~5~~ U	
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	~~5.0~~ ~~2.6~~ ~~5~~ U	
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	54	
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	~~U~~ R

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX0MSD

Lab Name: COMPUCHEM

Contract: EPW05028

Lab Code: LIBRTY Case No.: 37152 Mod. Ref No.: _____ SDG No.: B4LX0

Matrix (SOIL/SED/WATER): Water

Lab Sample ID: 1459703

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 1459703A73

Level: (TRACE/LOW/MED) LOW

Date Received: 01/18/2008

% Moisture: not dec. _____

Date Analyzed: 01/18/2008

GC Column: SPB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	53	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	56	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	56	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37152
LABORATORY: LIBERTY
SAMPLER: W-SAT

SDG No.: B4LX0
SITE: FILTRON CORP.
ANALYSIS: VOA-LOW

DATA ASSESSMENT

The current SOP HW-33/VOA (Revision 1) October 2005, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

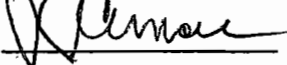
The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's 
Signature: Constantin Stanca

Date: 02/17/08

Peer Reviewer's 
Signature: R. Balu

Date: Feb 11 / 2008

Verified By: 
R. Amore

Date: 2 / 19 / 2008

SDG# B4LX0

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this criterion.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are not qualified.

1,1-Dichloroethene-d2

1,1-Dichloroethene -> B4LX0MS

Toluene-d8

Toluene -> B4LY3

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

No problems found for this criterion.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

The same contaminants were found in field, trip, method and storage blank. The larger values from the trip blank were used to qualify data. No qualifications were applied using this criterion

B) Field or rinse blank contamination:

The same contaminants were found in field, trip, method and storage blank. The larger values from the trip blank were used to qualify data. No qualifications were applied using this criterion

C) Trip blank contamination for VOA aqueous samples:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated trip blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone -> B4LX0MS, B4LX0MSD, B4LX1, B4LX2, B4LX4

Methylene chloride -> B4LX0, B4LX0MS, B4LX0MSD, B4LX1, B4LX2, B4LX3, B4LX4

The following volatile samples have analyte concentrations reported less than the CRQL. The associated trip blank concentration is less than the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Toluene -> B4LX0, B4LX1, B4LX2, B4LX3, B4LX4

D) Storage Blank associated with VOA samples only:

The same contaminants were found in field, trip, method and storage blank. The larger values from the trip blank were used to qualify data. No qualifications were applied using this criterion

E) Tics "R" rejected:

None.

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found for this criterion.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

The following volatile samples are associated with initial and continuing calibrations in which an analyte did not meet the relative response factors (RRFs) criteria. Detects are qualified "J" and non-detects are qualified "R".

1, 4 Dioxane -> B4LX0, B4LX0MS, B4LX0MSD, B4LX1, B4LX2, B4LX3, B4LX4, B4LX9, B4LY3, VBLKJC, VBLKJE, VHBLKYB

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1, 4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1, 4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

No problems found for this criterion.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to $+200\%$) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to $+200\%$) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problems found for this criterion.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have ion spectra which have a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this criterion.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

1, 4-Dioxane - Average response factor (RRF) is below contractual criteria in initial and continuing calibration.

1, 4-Dioxane-d8 - Average response factor (RRF) is below contractual criteria in initial and continuing calibration.

11. FIELD DOCUMENTATION: None.

12. OTHER PROBLEMS: None.

13. This package contains re-extractions, re-analyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used: None.

SOP HW-33/VOA

Revision 1

August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by:

George Karras
George Karras, Chemist
Hazardous Waste Support Section

Date:

8/13/07

Peer Reviewed by:

Russell Arnone
Russell Arnone, Chemist
Hazardous Waste Support Section

Date:

10/3/07

Concurred by:

Linda Marel
Linda Marel, Chief
Hazardous Waste Support Section

Date:

10/9/07

Approved by:

Robert Runyon
Robert Runyon, Chief
Hazardous Waste Support Branch

Date:

10/10/07

Annual Review

Reviewed by:

Name

Date:

Reviewed by:

Name

Date:

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	7
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	16
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	20
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	22
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.2, February 2007". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, July 2007". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.2 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37152 LAB: LIBERTY

SITE NAME: FILTRON CORP SDG No(s): B4LX0

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒ 11 — —

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒ 14 — —

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

☒ 11 — —

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒ 11 — —

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?

☒ ☐ ☐

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?

☒ ☐ ☐

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?

☒ ☐ ☐

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.

☒ ☐ ☐

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations?

☒ ☐ ☐

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative?

☒ ☐ ☐

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)? ☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative? ☒ ☐ ☐

b. Are all forms and copies legible? ☒ ☐ ☐

c. Assembled in the order set forth in the SOW? ☒ ☐ ☐

Low/Med Concentration Volatiles Data present? ☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data? ☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? ✓

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 3.1 Are the Volatile SMC Recovery Summaries (Form II present?) ☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

- 3.2 Were outliers marked correctly with an asterisk? ☒ ☐ ☐

ACTION: Circle all outliers in red.

- 3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits? ☐ ☒ ☐

If yes, were samples re-analyzed? ☐ ☐ ☒

Were method blanks re-analyzed? ☐ ☐ ☒

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> 1,1-DICHLOROETHENE trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane ~~1,1-Dichloroethene~~ 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "UJ" associated non-detects.
3. For any recovery less than 20%:

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

- 3.4 Are there any transcription/calculation errors between raw data and form II? ☒ ☐ ☐

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

- 4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present? ☒ ☐ ☐

- 4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)? ☒ ☐ ☐

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data. If any MS/MSD % recovery or RPD is out of specification, qualify data to include the consideration of

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Criteria	Action	
	Detected Spiked Compounds	Non-detected Spiked Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use Professional Judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limits	No qualification	

5.0 Method Blanks (Form IV)

5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples?

☒ ☐ ☐

5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent?

☒ ☐ ☐

5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used?

☒ ☐ ☐

5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)?

☐ ☐ ☒

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs?

☒ ☐ ☐

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs?

☒ ☐ ☐

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)?

✓ []

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field,	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Trip, Storage, Instrument **	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

* 2x the CRQL for methylene chloride, 2-butanone and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample? ☒ ☐ ☐

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

YES NO N/A

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ ☐ ☐

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ ☐ ☐

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	- BFB tunes meet instrument performance criteria. - The five initial calibration standards meet initial calibration criteria. - CCV A meets both opening and closing CCV criteria - CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If time remains on the 12 hour clock after initial calibration sequence	- BFB tunes meet instrument performance criteria. - The five initial calibration standards meet initial calibration criteria. - CCV A meets closing CCV criteria (but does not meet opening CCV criteria). - CCV B meets opening CCV criteria. - CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95 ☒ ☐ ☐

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable. (R).

7.5 Have the ion abundance criteria been met for each instrument used? ☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

— ☒ —

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V?

☒ — —

ACTION: If large errors exist, take action as specified in section 3.1 above.

7.8 Is the spectrum of the mass calibration compound acceptable?

☒ — —

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ — —

b. Regional Control/MS/MSD samples?

☒ — —

c. Blanks (method, trip, etc)?

☒ — —

8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

a. Samples and/or fractions as appropriate?

☒ — —

b. Regional Control/MS/MSD samples?

☒ — —

c. Blanks (method, trip, etc)?

☒ — —

ACTION: If any data are missing, take action specified in 3.1 above.

8.3 Is chromatographic performance acceptable with respect to:

Baseline stability?

☒ — —

Resolution?

☒ — —

Peak shape?

☒ — —

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

		YES	NO	N/A
Full-scale graph (attenuation)?		<u>11</u> ✓	—	—
Other: _____?		<u>11</u>	—	✓
ACTION: Use professional judgement to determine the acceptability of the data.				
8.4	Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?	<u>11</u> ✓	—	—
ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra, make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.				
8.5	Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?	<u>11</u> ✓	—	—
8.6	Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	<u>11</u> ✓	—	—
8.7	Do sample and standard relative ion intensities agree to within $\pm 20\%$?	<u>11</u> ✓	—	—
ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.				
ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.				

9.0 Tentatively Identified Compounds (TIC)

- 9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier? 11 ✓
- 9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	☒	☐	☐
b. Blanks?	☒	☐	☐
b. Are Alkanes listed in/or part of the Case Narrative?	☒	☐	☐
ACTION: If any TIC data are missing, take action specified in 3.1 above.			
ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.			
9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)	☐	☒	☐
ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).			
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	☒	☐	☐
9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?	☒	☐	☐
ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.			
Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO ₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldo condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.)			

10.0 Compound Quantitation and Reported Detection Limits

- 10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

☐ ☒ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 10.2 Are the CRQLs adjusted to reflect sample dilutions and per cent moisture? 11 — ✓

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's not to be used, including any in the data summary package.

- 10.3 For non-aqueous samples, were the percent moisture < 70%? 11 — ✓

Action: If the % moisture $\geq 70.0\%$ and $< 90.0\%$, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq 90\%$, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

- 11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration? 11 — ✓

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

- 12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 $\mu\text{g/l}$ for non-ketones, 10, 20, 100, 200 and 400 $\mu\text{g/L}$ for ketones and 100, 200, 1000, 2000, and 4000 $\mu\text{g/L}$ for 1,4-dioxane. 11 — ✓

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

- 12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., $\%RSD \leq 20\%$, $\leq 40\%$ for poor performers (see table below), $\leq 50\%$ for 1,4-dioxane)? 11 — ✓

ACTION: Circle all outliers in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

✓ 11

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of $\overline{RRF}$ s, RRFs or %RSD values? (Check at least 2 values, but if errors are found, check more.)

✓ 11

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

✓
11 — —

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

✓
11 — —

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial RRF and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

— 11 ✓ —

ACTION: Circle all outliers in red.

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

✓
— 11 —

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF $\geq$ 0.010 (poor responders) RRF $\geq$ 0.050 (for all other compounds)	RRF $\geq$ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D $\leq$ 50.0 or $\geq$ -50.0 (1,4-Dioxane) %D $\leq$ 40.0 or $\geq$ -40.0 (poor responders) %D $\leq$ 25.0 or $\geq$ -25.0 (all other volatile target compounds)	%D $\leq$ 50.0 or $\geq$ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet RRF $\geq$ 0.010. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/%Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

14.0 Internal Standard (Form VIII)

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒ ☐ ☐

If no, were affected sample reanalyzed?

☐ ☐ ☒

ACTION: 1. Circle all outliers with red pencil.

- 14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☒ ☐ ☐

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *
Area counts $\geq 50\%$ and $\leq 200\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts $< 50\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts $> 200\%$ of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference ≤ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

- * For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

- ** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis? ✓
11

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media, Multi-Concentration, SOW/CLPSOM01.2, February 2007
2. National Functional Guidelines for Superfund Organic Methods Data Review July 2007.

CompuChem

a division of Liberty Analytical Corporation

501 Madison Avenue

Cary, N.C. 27513

Tel: 919/379-4100 Fax: 919/379-4050

RECEIVED

JAN 24 2008

HAZ. WASTE SUPPORT SEC

SDG NARRATIVE

CASE # 37152

SDG # B4LX0

SOW # SOM01.2

CONTRACT # EPW05028

SAMPLE IDENTIFICATIONS:

B4LX0	B4LX2	B4LX4	B4LY3
B4LX1	B4LX3	B4LX9	

The seven aqueous samples listed above were received intact, at temperature of 0.3°C, with proper documentation, in sealed shipping containers, on January 18, 2008. These samples were scheduled for the requested analyses of the volatile fraction only. There were no Tags received with these samples. For additional receiving information, please refer to the traffic report. The samples were prepared and analyzed following the current EPA Contract Laboratory Program (CLP) Statement of Work (SOW), Document SOM01.2. The pH values for these samples were determined to be 1.0.

Volatiles

Analysis holding time requirements were met for all of these samples.

The volatile target compound list (TCL) analyte acetone was identified above the Contract Required Quantitation Limit (CRQL) in sample B4LX0, and trichloroethene in samples B4LX2 and B4LX3. Tentatively Identified Compounds (TICs) were found in samples B4LX2 and B4LX3 only. The TICs were identified as laboratory artifact. TICs characterized as alkane was found in sample B4LY3 only.

The following artifacts are present in the DMC solution and should be disregarded as TICs.

VBLKJC	VBLKJE
12.893 min.	12.892 min
13.276 min.	

Manual quantitations were performed on one or more of the process files associated with this SDG, including all samples in the SDG. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

All of the DMCs met overall recovery criteria in the analyses of these samples.

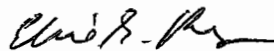
All of the internal standards met response and retention time criteria in the analyses of these samples.

All the associated method blanks met all quality control criteria.

Sample B4LX0 was used as the original to prepare the duplicate matrix spikes (MS/MSD) as requested. The associated duplicate matrix spikes met all accuracy and precision criteria.

Per the SOW an example calculation is attached. The example given is for vinylchloride-d3 in sample B4LX0.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Elsie S. Byrd
Senior Scientist I
January 23, 2008

CASE: 37152
SDG: B4LX0

Example Calculation for the Volatile Fraction

RRF Calculation

$$RRF = (A_x \cdot C_{is}) / (A_{is} \cdot C_x)$$

Where: A_x =Area of the characteristic ion (EICP) for the compound to be measured
 A_{is} =Area of the characteristic ion (EICP) for the specific internal standard
 C_{is} =Concentration of the internal standard
 C_x =Concentration of the compound to be measured

Example: Vinyl chloride-d3 from GZ008117B73

A_x =	125693
A_{is} =	382335
C_{is} =	250
C_x =	250

RRF=	0.32875

Mean RRF from ICAL 0.30642

Concentration Calculation

$$\text{Concentration (ug/L)} = (A_x \cdot I_s \cdot D_f) / (A_{is} \cdot \text{Mean RRF} \cdot V_o)$$

Where: A_x =Area of the characteristic ion (EICP) for the compound to be measured
 A_{is} =Area of the characteristic ion (EICP) for the specific internal standard
 I_s =Amount of the internal standard added, in nanograms
Mean RRF=Relative response factor from the Initial calibration standard
 V_o =Total volume of water purged, in milliliters
 D_f =Dilution factor

Example: Vinyl chloride-d3 from B4LX0

A_x =	97129
A_{is} =	314381
I_s =	250
Mean RRF=	0.306
V_o =	5
D_f =	1

Concentration(ug/L)=	50



CompuChem
a division of Liberty Analytical Corp.

RECEIVED

JAN 24 2008

HAZ. WASTE SUPPORT SEC

Sample Delivery Group (SDG)
Cover Sheet

ORIGINAL

SDG Number B4LX0

Laboratory Name CompuChem VOA ONLY Laboratory Code LIBRTY
Contract No. EPW05028 Case No. 37152
Analysis Price NA SDG Turnaround 21

EPA Sample Numbers in SDG (Listed in Numerical Order)

1)	B4LX0	7)	B4LY3	13)		19)	
2)	B4LX1	8)		14)		20)	
3)	B4LX2	9)		15)		21)	
4)	B4LX3	10)		16)		22)	
5)	B4LX4	11)		17)		23)	
6)	B4LX9	12)		18)		24)	

B4LX0
First Sample in SDG

B4LY3
Last Sample in SDG

1/18/2008
First Sample Receipt Date

1/18/2008
Last Sample Receipt Date

Note: There are a maximum of 20 **field** samples (excluding PE samples in an SDG). Attach TRs to this form in alphanumeric order (the order listed above on this form).

Signature 

Date 01/18/08

RECORD OF COMMUNICATION

REGIONAL SAMPLE CONTROL CENTER

DATE: 1/11/2008
 SUBJECT: CLP Data Package for Quality Assurance Review
 FROM: Hazardous Waste Support Section (HWSS)/RSCC
 TO: HWSS ESAT-TOPO

TDF#

Attached is the following ORGANIC Data Package to be reviewed for Quality Assurance

SITE: Filtron Corp. **CASE #:** 37045

SDG#: B4LW5, B4LR1, B4LT8 **SAMPLER:** W-SAT

<u>PROJ. CODE:</u> QB <u>SITE SPILL #:</u> ZZ	<u>#SAMPLES</u>	<u>MATRIX</u>
<u>LAB:</u> SHEALY <u>OPERABLE UNIT:</u> 00	13	Water
<u>TURN-AROUND-TIME:</u> 21 day	35	Soil
<u>CERCLIS ID #:</u> NYN000206093	<u>FRACTION:</u>	VOA

Contaminant(s) of Concern (If known)

REGION II RSCC DATA TRANSFER LOG

Relinquished By

Received By

<u>Signature</u>	<u>Date/Time</u>	<u>Signature</u>	<u>Date/Time</u>
Adly Michael	1/16/08 8:15am	Israel Okun	1/16/08 8:16am
Isygel Okun	1/24/08 1:45pm	D. Farras	01/29/08 1:45pm
D Farras	01/29/08 3pm	Israel Okun	01/29/08 3pm
Isygel Okun	01/30/08 2:35pm	Palma Eto	1/30/08 2:35pm

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR2

FILT-S03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-001

Sample wt/vol: 5.65 (g/mL) g

Lab File ID: 51212A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.5	U
74-87-3	Chloromethane	4.5	U
75-01-4	Vinyl chloride	4.5	U
74-83-9	Bromomethane	4.5	U
75-00-3	Chloroethane	4.5	U
75-69-4	Trichlorofluoromethane	4.5	U
75-35-4	1,1-Dichloroethene	4.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.5	U
67-64-1	Acetone	9.1	U
75-15-0	Carbon Disulfide	4.5	U
79-20-9	Methyl acetate	4.5	U
75-09-2	Methylene chloride	4.5 0.46 U JB	U
156-60-5	trans-1,2-Dichloroethene	4.5	U
1634-04-4	Methyl tert-butyl ether	4.5	U
75-34-3	1,1-Dichloroethane	4.5	U
156-59-2	cis-1,2-Dichloroethene	4.5	U
78-93-3	2-Butanone	9.1	U
74-97-5	Bromochloromethane	4.5	U
67-66-3	Chloroform	4.5	U
71-55-6	1,1,1-Trichloroethane	4.5	U
110-82-7	Cyclohexane	4.5	U
56-23-5	Carbon tetrachloride	4.5	U
71-43-2	Benzene	4.5	U
107-06-2	1,2-Dichloroethane	4.5	U
123-91-1	1,4-Dioxane	91	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-001

Sample wt/vol: 5.65 (g/mL) 9

Lab File ID: 51212A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	3.3	J
108-87-2	Methylcyclohexane	4.5	U
78-87-5	1,2-Dichloropropane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
10061-01-5	cis-1,3-Dichloropropene	4.5	U
108-10-1	4-Methyl-2-pentanone	9.1	U
108-88-3	Toluene	4.5	U
10061-02-6	trans-1,3-Dichloropropene	4.5	U
79-00-5	1,1,2-Trichloroethane	4.5	U
127-18-4	Tetrachloroethene	4.5	U
591-78-6	2-Hexanone	9.1	U
124-48-1	Dibromochloromethane	4.5	U
106-93-4	1,2-Dibromoethane	4.5	U
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
95-47-6	o-Xylene	4.5	U
179601-23-1	m,p-Xylene	4.5	U
100-42-5	Styrene	4.5	U
75-25-2	Bromoform	4.5	U
98-82-8	Isopropylbenzene	4.5	U
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U
541-73-1	1,3-Dichlorobenzene	4.5	U
106-46-7	1,4-Dichlorobenzene	4.5	U
95-50-1	1,2-Dichlorobenzene	4.5	U
96-12-8	1,2-Dibromo-3-chloropropane	4.5	U
120-82-1	1,2,4-Trichlorobenzene	4.5	U
87-61-6	1,2,3-Trichlorobenzene	4.5	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-001

Sample wt/vol: 5.65 (g/mL) g

Lab File ID: 51212A11

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR3

FILT-S04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-002

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.2	U
74-87-3	Chloromethane	4.2	U
75-01-4	Vinyl chloride	4.2	U
74-83-9	Bromomethane	4.2	U
75-00-3	Chloroethane	4.2	U
75-69-4	Trichlorofluoromethane	4.2	U
75-35-4	1,1-Dichloroethene	0.59	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	U
67-64-1	Acetone	8.4	U
75-15-0	Carbon Disulfide	4.2	U
79-20-9	Methyl acetate	4.2	U
75-09-2	Methylene chloride	4.2 0.49	V JB
156-60-5	trans-1,2-Dichloroethene	4.2	U
1634-04-4	Methyl tert-butyl ether	4.2	U
75-34-3	1,1-Dichloroethane	4.2	U
156-59-2	cis-1,2-Dichloroethene	4.2	U
78-93-3	2-Butanone	8.4	U
74-97-5	Bromochloromethane	4.2	U
67-66-3	Chloroform	0.44	J
71-55-6	1,1,1-Trichloroethane	4.2	U
110-82-7	Cyclohexane	4.2	U
56-23-5	Carbon tetrachloride	4.2	U
71-43-2	Benzene	4.2	U
107-06-2	1,2-Dichloroethane	4.2	U
123-91-1	1,4-Dioxane	84	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-002

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	3.6	J
108-87-2	Methylcyclohexane	4.2	U
78-87-5	1,2-Dichloropropane	4.2	U
75-27-4	Bromodichloromethane	4.2	U
10061-01-5	cis-1,3-Dichloropropene	4.2	U
108-10-1	4-Methyl-2-pentanone	8.4	U
108-88-3	Toluene	4.2	U
10061-02-6	trans-1,3-Dichloropropene	4.2	U
79-00-5	1,1,2-Trichloroethane	4.2	U
127-18-4	Tetrachloroethene	4.2	U
591-78-6	2-Hexanone	8.4	U
124-48-1	Dibromochloromethane	4.2	U
106-93-4	1,2-Dibromoethane	4.2	U
108-90-7	Chlorobenzene	4.2	U
100-41-4	Ethylbenzene	4.2	U
95-47-6	o-Xylene	4.2	U
179601-23-1	m,p-Xylene	4.2	U
100-42-5	Styrene	4.2	U
75-25-2	Bromoform	4.2	U
98-82-8	Isopropylbenzene	4.2	U
79-34-5	1,1,2,2-Tetrachloroethane	4.2	U
541-73-1	1,3-Dichlorobenzene	4.2	U
106-46-7	1,4-Dichlorobenzene	4.2	U
95-50-1	1,2-Dichlorobenzene	4.2	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	4.2	U
87-61-6	1,2,3-Trichlorobenzene	4.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-002

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A12

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 2.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR4

FILT-S05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-001

Sample wt/vol: 6.22 (g/mL) g

Lab File ID: 51212A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.6	U
74-87-3	Chloromethane	4.6	U
75-01-4	Vinyl chloride	4.6	U
74-83-9	Bromomethane	4.6	U
75-00-3	Chloroethane	4.6	U
75-69-4	Trichlorofluoromethane	4.6	U
75-35-4	1,1-Dichloroethene	4.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U
67-64-1	Acetone	9.1	U
75-15-0	Carbon Disulfide	4.6	U
79-20-9	Methyl acetate	4.6	U
75-09-2	Methylene chloride	4.6 0.80	U JB
156-60-5	trans-1,2-Dichloroethene	4.6	U
1634-04-4	Methyl tert-butyl ether	4.6	U
75-34-3	1,1-Dichloroethane	4.6	U
156-59-2	cis-1,2-Dichloroethene	4.6	U
78-93-3	2-Butanone	9.1	U
74-97-5	Bromochloromethane	4.6	U
67-66-3	Chloroform	4.6	U
71-55-6	1,1,1-Trichloroethane	4.6	U
110-82-7	Cyclohexane	4.6	U
56-23-5	Carbon tetrachloride	4.6	U
71-43-2	Benzene	4.6	U
107-06-2	1,2-Dichloroethane	4.6	U
123-91-1	1,4-Dioxane	91	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-001

Sample wt/vol: 6.22 (g/mL) g

Lab File ID: 51212A19

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	4.6	U
108-87-2	Methylcyclohexane	4.6	U
78-87-5	1,2-Dichloropropane	4.6	U
75-27-4	Bromodichloromethane	4.6	U
10061-01-5	cis-1,3-Dichloropropene	4.6	U
108-10-1	4-Methyl-2-pentanone	9.1	U
108-88-3	Toluene	4.6	U
10061-02-6	trans-1,3-Dichloropropene	4.6	U
79-00-5	1,1,2-Trichloroethane	4.6	U
127-18-4	Tetrachloroethene	4.6	U
591-78-6	2-Hexanone	9.1	U
124-48-1	Dibromochloromethane	4.6	U
106-93-4	1,2-Dibromoethane	4.6	U
108-90-7	Chlorobenzene	4.6	U
100-41-4	Ethylbenzene	4.6	U
95-47-6	o-Xylene	4.6	U
179601-23-1	m,p-Xylene	4.6	U
100-42-5	Styrene	4.6	U
75-25-2	Bromoform	4.6	U
98-82-8	Isopropylbenzene	4.6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.6	U
541-73-1	1,3-Dichlorobenzene	4.6	U
106-46-7	1,4-Dichlorobenzene	4.6	U
95-50-1	1,2-Dichlorobenzene	4.6	U
96-12-8	1,2-Dibromo-3-chloropropane	4.6	U
120-82-1	1,2,4-Trichlorobenzene	4.6	U
87-61-6	1,2,3-Trichlorobenzene	4.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-001

Sample wt/vol: 6.22 (g/mL) g

Lab File ID: 51212A19

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS8

FILT-SS14

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-003

Sample wt/vol: 5.01 (g/mL) g

Lab File ID: 51212A13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	5.4	U, JB
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-003

Sample wt/vol: 5.01 (g/mL) g

Lab File ID: 51212A13

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	0.89	J
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-003

Sample wt/vol: 5.01 (g/mL) g

Lab File ID: 51212A13

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS9

FILT-SSIS

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-004

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 3.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8 0.66 <u>U JB</u>	U
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-004

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A14

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 3.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	8.4	J
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	0.85	J
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
95-47-6	o-Xylene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-004

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A14

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 3.8

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT0

FILT-SS16

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-005

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 51212A15

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 6.5

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2 0.60	U JB
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-005

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 51212A15

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 6.5

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.2	U
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-005

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 51212A15

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 6.5

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT1

FILT-SS17

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-006

Sample wt/vol: 5.64 (g/mL) g

Lab File ID: 51212A16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8	U
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	1.3	J
156-59-2	cis-1,2-Dichloroethene	2.4	J
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-006

Sample wt/vol: 5.64 (g/mL) g

Lab File ID: 51212A16

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	58	
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	2.2	J
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
95-47-6	o-Xylene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-006

Sample wt/vol: 5.64 (g/mL) g

Lab File ID: 51212A16

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT2

FILT-SS18

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-007

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 5.0

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	5.9	U
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-007

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A17

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 5.0

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
95-47-6	o-Xylene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-007

Sample wt/vol: 4.45 (g/mL) g

Lab File ID: 51212A17

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 5.0

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT3

FILT-SS19

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-008

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 51212A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.5	U
74-87-3	Chloromethane	4.5	U
75-01-4	Vinyl chloride	4.5	U
74-83-9	Bromomethane	4.5	U
75-00-3	Chloroethane	4.5	U
75-69-4	Trichlorofluoromethane	4.5	U
75-35-4	1,1-Dichloroethene	4.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.5	U
67-64-1	Acetone	9.1	U
75-15-0	Carbon Disulfide	4.5	U
79-20-9	Methyl acetate	4.5	U
75-09-2	Methylene chloride	0.45	JB
156-60-5	trans-1,2-Dichloroethene	4.5	U
1634-04-4	Methyl tert-butyl ether	4.5	U
75-34-3	1,1-Dichloroethane	4.5	U
156-59-2	cis-1,2-Dichloroethene	4.5	U
78-93-3	2-Butanone	9.1	U
74-97-5	Bromochloromethane	4.5	U
67-66-3	Chloroform	4.5	U
71-55-6	1,1,1-Trichloroethane	4.5	U
110-82-7	Cyclohexane	4.5	U
56-23-5	Carbon tetrachloride	4.5	U
71-43-2	Benzene	4.5	U
107-06-2	1,2-Dichloroethane	4.5	U
123-91-1	1,4-Dioxane	91	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-008

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 51212A18

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	12	
108-87-2	Methylcyclohexane	4.5	U
78-87-5	1,2-Dichloropropane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
10061-01-5	cis-1,3-Dichloropropene	4.5	U
108-10-1	4-Methyl-2-pentanone	9.1	U
108-88-3	Toluene	4.5	U
10061-02-6	trans-1,3-Dichloropropene	4.5	U
79-00-5	1,1,2-Trichloroethane	4.5	U
127-18-4	Tetrachloroethene	4.5	U
591-78-6	2-Hexanone	9.1	U
124-48-1	Dibromochloromethane	4.5	U
106-93-4	1,2-Dibromoethane	4.5	U
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
95-47-6	o-Xylene	4.5	U
179601-23-1	m,p-Xylene	4.5	U
100-42-5	Styrene	4.5	U
75-25-2	Bromoform	4.5	U
98-82-8	Isopropylbenzene	4.5	U
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U
541-73-1	1,3-Dichlorobenzene	4.5	U
106-46-7	1,4-Dichlorobenzene	4.5	U
95-50-1	1,2-Dichlorobenzene	4.5	U
96-12-8	1,2-Dibromo-3-chloropropane	4.5	U
120-82-1	1,2,4-Trichlorobenzene	4.5	U
87-61-6	1,2,3-Trichlorobenzene	4.5	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL05057-008

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 51212A18

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. 12

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT4

FILT-SS20

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL06014-001

Sample wt/vol: 6.19 (g/mL) g

Lab File ID: 51212A28

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2 0.55	U JB
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL06014-001

Sample wt/vol: 6.19 (g/mL) g

Lab File ID: 51212A28

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	3.6	J
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL06014-001

Sample wt/vol: 6.19 (g/mL) g

Lab File ID: 51212A28

Level: (TRACE or LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. 23

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT5

FILT-SS21

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-002

Sample wt/vol: 4.89 (g/mL) g

Lab File ID: 51212A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	5.4 0.97	U JB
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-002

Sample wt/vol: 4.89 (g/mL) g

Lab File ID: 51212A20

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
95-47-6	o-Xylene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-002

Sample wt/vol: 4.89 (g/mL) g

Lab File ID: 51212A20

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.1

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT6

FILT-SS22

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-003

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 51212A21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.9

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Trichlorofluoromethane	4.8	U
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U
67-64-1	Acetone	9.5	U
75-15-0	Carbon Disulfide	4.8	U
79-20-9	Methyl acetate	4.8	U
75-09-2	Methylene chloride	4.8	U
156-60-5	trans-1,2-Dichloroethene	4.8	U
1634-04-4	Methyl tert-butyl ether	4.8	U
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
78-93-3	2-Butanone	9.5	U
74-97-5	Bromochloromethane	4.8	U
67-66-3	Chloroform	4.8	U
71-55-6	1,1,1-Trichloroethane	4.8	U
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
123-91-1	1,4-Dioxane	95	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-003

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 51212A21

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.9

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	4.8	U
108-87-2	Methylcyclohexane	4.8	U
78-87-5	1,2-Dichloropropane	4.8	U
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.5	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	4.8	U
591-78-6	2-Hexanone	9.5	U
124-48-1	Dibromochloromethane	4.8	U
106-93-4	1,2-Dibromoethane	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethylbenzene	4.8	U
95-47-6	o-Xylene	4.8	U
179601-23-1	m,p-Xylene	4.8	U
100-42-5	Styrene	4.8	U
75-25-2	Bromoform	4.8	U
98-82-8	Isopropylbenzene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-003

Sample wt/vol: 5.59 (g/mL) g

Lab File ID: 51212A21

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 5.9

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT7

FILT-SS23

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-004

Sample wt/vol: 5.01 (g/mL) g

Lab File ID: 51212A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.2	U
74-87-3	Chloromethane	5.2	U
75-01-4	Vinyl chloride	5.2	U
74-83-9	Bromomethane	5.2	U
75-00-3	Chloroethane	5.2	U
75-69-4	Trichlorofluoromethane	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.2	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.2	U
79-20-9	Methyl acetate	5.2	U
75-09-2	Methylene chloride	5.2 0.84	U JB
156-60-5	trans-1,2-Dichloroethene	5.2	U
1634-04-4	Methyl tert-butyl ether	5.2	U
75-34-3	1,1-Dichloroethane	5.2	U
156-59-2	cis-1,2-Dichloroethene	5.2	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.2	U
67-66-3	Chloroform	5.2	U
71-55-6	1,1,1-Trichloroethane	5.2	U
110-82-7	Cyclohexane	5.2	U
56-23-5	Carbon tetrachloride	5.2	U
71-43-2	Benzene	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07035-004

Sample wt/vol: 5.01 (g/mL) g

Lab File ID: 51212A22

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	2.0	J
108-87-2	Methylcyclohexane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
75-27-4	Bromodichloromethane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.2	U
10061-02-6	trans-1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
127-18-4	Tetrachloroethene	5.2	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.2	U
106-93-4	1,2-Dibromoethane	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
95-47-6	o-Xylene	5.2	U
179601-23-1	m,p-Xylene	5.2	U
100-42-5	Styrene	5.2	U
75-25-2	Bromoform	5.2	U
98-82-8	Isopropylbenzene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	5.2	U
95-50-1	1,2-Dichlorobenzene	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
120-82-1	1,2,4-Trichlorobenzene	5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045 Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL07035-004

Sample wt/vol: 5.01 (g/mL) g Lab File ID: 51212A22

Level: (TRACE or LOW/MED) LOW Date Received: 12/07/2007

% Moisture: not dec. 4.7 Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW5

FILT-GW05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-001

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51205A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	2.9	J
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.76	U JE
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U.
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A07

Level: (TRACE or LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW6

FILT-GW06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	0.59	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A05

Level: (TRACE or LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW7

FILT-GW07

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A04

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	35	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.86	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A04

Level: (TRACE or LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	1.886	8.5	J
02	66-25-1	Hexanal	8.810	100	NJ
03	124-13-0	Octanal	10.962	5.5	NJ
04	124-19-6	Nonanal	11.754	12	NJ
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A04

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	11	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	0.97	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A04

Level: (TRACE or LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	1.886	8.5	J
02	66-25-1	Hexanal	8.810	100	NJ
03	124-13-0	Octanal	10.962	5.5	NJ
04	124-19-6	Nonanal	11.754	12	NJ
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX7

FILT-RIN03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A08

Level: (TRACE or LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX8

FILT-RIN04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05057-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	28	
75-15-0	Carbon Disulfide	8.5	
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	<u>5.0</u> <u>0.99</u>	<u>U</u> <u>JB</u>
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05057-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC.
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix; (SOIL/SED/WATER) Water

Lab Sample ID: IL05057-009

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/05/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY0

FILT-TB01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	0.93	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL05002-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY1

FILT-T802

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	17	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.95	UJB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.50	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LW5

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL06014-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51207A06

Level: (TRACE or LOW/MED) LOW

Date Received: 12/06/2007

% Moisture: not dec. _____

Date Analyzed: 12/07/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR0

FILT-SOI

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-001

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 61205A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 9.9

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.3	UJ
74-87-3	Chloromethane	0.77	11 JB
75-01-4	Vinyl chloride	5.3	UJ
74-83-9	Bromomethane	5.3	UJ
75-00-3	Chloroethane	5.3	UJ
75-69-4	Trichlorofluoromethane	5.3	UJ
75-35-4	1,1-Dichloroethene	5.3	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	UJ
67-64-1	Acetone	11	UJ
75-15-0	Carbon Disulfide	5.3	UJ
79-20-9	Methyl acetate	5.3	UJ
75-09-2	Methylene chloride	0.89	11 JB
156-60-5	trans-1,2-Dichloroethene	5.3	UJ
1634-04-4	Methyl tert-butyl ether	5.3	UJ
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	UJ
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	UJ
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	UJ
71-43-2	Benzene	5.3	U
107-06-2	1,2-Dichloroethane	5.3	UJ
123-91-1	1,4-Dioxane	110	UJ

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-001

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 61205A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 9.9

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.3	UJ
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	UJ
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	UJ
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	UJ
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	UJ
95-47-6	o-Xylene	5.3	UJ
179601-23-1	m,p-Xylene	5.3	UJ
100-42-5	Styrene	5.3	UJ
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	UJ
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-001

Sample wt/vol: 5.19 (g/mL) g

Lab File ID: 61205A06

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 9.9

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR1

FILT-SO2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-001

Sample wt/vol: 6.93 (g/mL) g

Lab File ID: 61128A23

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	3.6	U
74-87-3	Chloromethane	3.6	U
75-01-4	Vinyl chloride	3.6	U
74-83-9	Bromomethane	3.6	U
75-00-3	Chloroethane	3.6	U
75-69-4	Trichlorofluoromethane	3.6	U
75-35-4	1,1-Dichloroethene	0.38	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6	U
67-64-1	Acetone	3.2	JB
75-15-0	Carbon Disulfide	3.6	U
79-20-9	Methyl acetate	3.6	U
75-09-2	Methylene chloride	0.66	JB
156-60-5	trans-1,2-Dichloroethene	3.6	U
1634-04-4	Methyl tert-butyl ether	3.6	U
75-34-3	1,1-Dichloroethane	3.6	U
156-59-2	cis-1,2-Dichloroethene	3.6	U
78-93-3	2-Butanone	7.2	U
74-97-5	Bromochloromethane	3.6	U
67-66-3	Chloroform	3.6	U
71-55-6	1,1,1-Trichloroethane	3.6	U
110-82-7	Cyclohexane	3.6	U
56-23-5	Carbon tetrachloride	3.6	U
71-43-2	Benzene	3.6	U
107-06-2	1,2-Dichloroethane	3.6	U
123-91-1	1,4-Dioxane	72	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-001

Sample wt/vol: 6.93 (g/mL) g

Lab File ID: 61128A23

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	2.1	J
108-87-2	Methylcyclohexane	3.6	U
78-87-5	1,2-Dichloropropane	3.6	U
75-27-4	Bromodichloromethane	3.6	U
10061-01-5	cis-1,3-Dichloropropene	3.6	U
108-10-1	4-Methyl-2-pentanone	7.2	U
108-88-3	Toluene	3.6	U
10061-02-6	trans-1,3-Dichloropropene	3.6	U
79-00-5	1,1,2-Trichloroethane	3.6	U
127-18-4	Tetrachloroethene	3.6	U
591-78-6	2-Hexanone	7.2	U
124-48-1	Dibromochloromethane	3.6	U
106-93-4	1,2-Dibromoethane	3.6	U
108-90-7	Chlorobenzene	3.6	U
100-41-4	Ethylbenzene	3.6	U
95-47-6	o-Xylene	3.6	U
179601-23-1	m,p-Xylene	3.6	U
100-42-5	Styrene	3.6	U
75-25-2	Bromoform	3.6	U
98-82-8	Isopropylbenzene	3.6	U
79-34-5	1,1,2,2-Tetrachloroethane	3.6	U
541-73-1	1,3-Dichlorobenzene	3.6	U
106-46-7	1,4-Dichlorobenzene	3.6	U
95-50-1	1,2-Dichlorobenzene	3.6	U
96-12-8	1,2-Dibromo-3-chloropropane	3.6	U
120-82-1	1,2,4-Trichlorobenzene	3.6	U
87-61-6	1,2,3-Trichlorobenzene	3.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-001

Sample wt/vol: 6.93 (g/mL) g

Lab File ID: 61128A23

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	1.333	810	J
02		Unknown-02	7.428	7.6	JB
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR5

FILT-SS01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-002

Sample wt/vol: 3.78 (g/mL) g

Lab File ID: 61205A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.1	UJ
74-87-3	Chloromethane	7.1 1.2	11 JB J
75-01-4	Vinyl chloride	7.1	UJ
74-83-9	Bromomethane	7.1	UJ
75-00-3	Chloroethane	7.1	UJ
75-69-4	Trichlorofluoromethane	7.1	UJ
75-35-4	1,1-Dichloroethene	7.1	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.1	UJ
67-64-1	Acetone	17	B
75-15-0	Carbon Disulfide	7.1	UJ
79-20-9	Methyl acetate	7.1	UJ
75-09-2	Methylene chloride	7.1 1.1	11 JB J
156-60-5	trans-1,2-Dichloroethene	7.1	UJ
1634-04-4	Methyl tert-butyl ether	7.1	UJ
75-34-3	1,1-Dichloroethane	7.1	UJ
156-59-2	cis-1,2-Dichloroethene	7.1	UJ
78-93-3	2-Butanone	3.1	J
74-97-5	Bromochloromethane	7.1	UJ
67-66-3	Chloroform	7.1	UJ
71-55-6	1,1,1-Trichloroethane	7.1	UJ
110-82-7	Cyclohexane	7.1	UJ
56-23-5	Carbon tetrachloride	7.1	UJ
71-43-2	Benzene	7.1	UJ
107-06-2	1,2-Dichloroethane	7.1	UJ
123-91-1	1,4-Dioxane	140	UJ

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-002

Sample wt/vol: 3.78 (g/mL) g

Lab File ID: 61205A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	7.1	U <u>J</u>
108-87-2	Methylcyclohexane	7.1	U
78-87-5	1,2-Dichloropropane	7.1	U
75-27-4	Bromodichloromethane	7.1	U
10061-01-5	cis-1,3-Dichloropropene	7.1	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	7.1	U <u>J</u>
10061-02-6	trans-1,3-Dichloropropene	7.1	U
79-00-5	1,1,2-Trichloroethane	7.1	U
127-18-4	Tetrachloroethene	7.1	U <u>J</u>
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	7.1	U <u>J</u>
106-93-4	1,2-Dibromoethane	7.1	U <u>J</u>
108-90-7	Chlorobenzene	7.1	U
100-41-4	Ethylbenzene	7.1	U <u>J</u>
95-47-6	o-Xylene	7.1	U <u>J</u>
179601-23-1	m,p-Xylene	7.1	U <u>J</u>
100-42-5	Styrene	7.1	U <u>J</u>
75-25-2	Bromoform	7.1	U <u>J</u>
98-82-8	Isopropylbenzene	7.1	U <u>J</u>
79-34-5	1,1,2,2-Tetrachloroethane	7.1	U
541-73-1	1,3-Dichlorobenzene	7.1	U
106-46-7	1,4-Dichlorobenzene	7.1	U
95-50-1	1,2-Dichlorobenzene	7.1	U
96-12-8	1,2-Dibromo-3-chloropropane	7.1	U
120-82-1	1,2,4-Trichlorobenzene	7.1	U
87-61-6	1,2,3-Trichlorobenzene	7.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-002

Sample wt/vol: 3.78 (g/mL) g

Lab File ID: 61205A05

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 6.4

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR6

FILT-SS02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-003

Sample wt/vol: 4.58 (g/mL) g

Lab File ID: 61205A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 2.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.6	U ³
74-87-3	Chloromethane	<u>5.6</u> 0.61	U ³ JES
75-01-4	Vinyl chloride	5.6	U ³
74-83-9	Bromomethane	5.6	U ³
75-00-3	Chloroethane	5.6	U ³
75-69-4	Trichlorofluoromethane	5.6	U ³
75-35-4	1,1-Dichloroethene	5.6	U ³
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.6	U ³
67-64-1	Acetone	<u>11.0</u> 7.7	U ³ JES
75-15-0	Carbon Disulfide	5.6	U ³
79-20-9	Methyl acetate	5.6	U ³
75-09-2	Methylene chloride	<u>5.6</u> 0.86	U ³ JES
156-60-5	trans-1,2-Dichloroethene	5.6	U ³
1634-04-4	Methyl tert-butyl ether	5.6	U ³
75-34-3	1,1-Dichloroethane	5.6	U ³
156-59-2	cis-1,2-Dichloroethene	5.6	U ³
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.6	U ³
67-66-3	Chloroform	5.6	U ³
71-55-6	1,1,1-Trichloroethane	5.6	U ³
110-82-7	Cyclohexane	5.6	U ³
56-23-5	Carbon tetrachloride	5.6	U ³
71-43-2	Benzene	5.6	U ³
107-06-2	1,2-Dichloroethane	5.6	U ³
123-91-1	1,4-Dioxane	110	U ³

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045 Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-003

Sample wt/vol: 4.58 (g/mL) g

Lab File ID: 61205A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 2.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.6	U ₅
108-87-2	Methylcyclohexane	5.6	U ₅
78-87-5	1,2-Dichloropropane	5.6	U ₅
75-27-4	Bromodichloromethane	5.6	U ₅
10061-01-5	cis-1,3-Dichloropropene	5.6	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.6	U ₅
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
127-18-4	Tetrachloroethene	5.6	U ₅
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.6	U ₅
106-93-4	1,2-Dibromoethane	5.6	U ₅
108-90-7	Chlorobenzene	5.6	U
100-41-4	Ethylbenzene	5.6	U ₅
95-47-6	o-Xylene	5.6	U ₅
179601-23-1	m,p-Xylene	5.6	U ₅
100-42-5	Styrene	5.6	U ₅
75-25-2	Bromoform	5.6	U ₅
98-82-8	Isopropylbenzene	5.6	U ₅
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
96-12-8	1,2-Dibromo-3-chloropropane	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
87-61-6	1,2,3-Trichlorobenzene	5.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-003

Sample wt/vol: 4.58 (g/mL) g

Lab File ID: 61205A07

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 2.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR7

FILT-SS03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-004

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 61205A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec.16

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.8	UR
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl chloride	4.8	UR
74-83-9	Bromomethane	4.8	UR
75-00-3	Chloroethane	4.8	UR
75-69-4	Trichlorofluoromethane	4.8	UR
75-35-4	1,1-Dichloroethene	4.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	UR
67-64-1	Acetone	4.8 5.2	UJB
75-15-0	Carbon Disulfide	4.8	UR
79-20-9	Methyl acetate	4.8	UR
75-09-2	Methylene chloride	4.8	UR
156-60-5	trans-1,2-Dichloroethene	4.8	UR
1634-04-4	Methyl tert-butyl ether	4.8	UR
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	UR
78-93-3	2-Butanone	9.6	U
74-97-5	Bromochloromethane	4.8	UR
67-66-3	Chloroform	4.8	UR
71-55-6	1,1,1-Trichloroethane	4.8	UR
110-82-7	Cyclohexane	4.8	U
56-23-5	Carbon tetrachloride	4.8	UR
71-43-2	Benzene	4.8	UR
107-06-2	1,2-Dichloroethane	4.8	UR
123-91-1	1,4-Dioxane	96	UR

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-004

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 61205A08

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 16

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-004

Sample wt/vol: 6.26 (g/mL) g

Lab File ID: 61205A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 16

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	4.8	U R
108-87-2	Methylcyclohexane	4.8	U R
78-87-5	1,2-Dichloropropane	4.8	U R
75-27-4	Bromodichloromethane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-10-1	4-Methyl-2-pentanone	9.6	U
108-88-3	Toluene	4.8	U R
10061-02-6	trans-1,3-Dichloropropene	4.8	U R
79-00-5	1,1,2-Trichloroethane	4.8	U R
127-18-4	Tetrachloroethene	4.8	U R
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	4.8	U R
106-93-4	1,2-Dibromoethane	4.8	U R
108-90-7	Chlorobenzene	4.8	U R
100-41-4	Ethylbenzene	4.8	U R
95-47-6	o-Xylene	4.8	U R
179601-23-1	m,p-Xylene	4.8	U R
100-42-5	Styrene	4.8	U R
75-25-2	Bromoform	4.8	U R
98-82-8	Isopropylbenzene	4.8	U R
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.8	U R
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-61-6	1,2,3-Trichlorobenzene	4.8	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR8

FILT-SS04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-005

Sample wt/vol: 4.97 (g/mL) g

Lab File ID: 61205A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.6	U
74-87-3	Chloromethane	5.6	U
75-01-4	Vinyl chloride	5.6	U
74-83-9	Bromomethane	5.6	U
75-00-3	Chloroethane	5.6	U
75-69-4	Trichlorofluoromethane	5.6	U
75-35-4	1,1-Dichloroethene	0.62	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.6	U
67-64-1	Acetone	~~11.5~~ 7.2	U
75-15-0	Carbon Disulfide	5.6	U
79-20-9	Methyl acetate	5.6	U
75-09-2	Methylene chloride	5.6	U
156-60-5	trans-1,2-Dichloroethene	5.6	U
1634-04-4	Methyl tert-butyl ether	5.6	U
75-34-3	1,1-Dichloroethane	5.6	U
156-59-2	cis-1,2-Dichloroethene	5.6	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.6	U
67-66-3	Chloroform	5.6	U
71-55-6	1,1,1-Trichloroethane	5.6	U
110-82-7	Cyclohexane	5.6	U
56-23-5	Carbon tetrachloride	5.6	U
71-43-2	Benzene	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
123-91-1	1,4-Dioxane	110	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-005

Sample wt/vol: 4.97 (g/mL) g

Lab File ID: 61205A09

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	5.6	U
108-87-2	Methylcyclohexane	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
75-27-4	Bromodichloromethane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
127-18-4	Tetrachloroethene	5.6	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.6	U
106-93-4	1,2-Dibromoethane	5.6	U
108-90-7	Chlorobenzene	5.6	U
100-41-4	Ethylbenzene	5.6	U
95-47-6	o-Xylene	5.6	U
179601-23-1	m,p-Xylene	5.6	U
100-42-5	Styrene	5.6	U
75-25-2	Bromoform	5.6	U
98-82-8	Isopropylbenzene	5.6	U
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
96-12-8	1,2-Dibromo-3-chloropropane	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
87-61-6	1,2,3-Trichlorobenzene	5.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-005

Sample wt/vol: 4.97 (g/mL) g

Lab File ID: 61205A09

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.429	11	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR9

FILT-SS05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-006

Sample wt/vol: 4.1 (g/mL) g

Lab File ID: 61205A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	0.73	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.6	U
67-64-1	Acetone	10	U J
75-15-0	Carbon Disulfide	6.6	U
79-20-9	Methyl acetate	6.6	U
75-09-2	Methylene chloride	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	6.6	U
156-59-2	cis-1,2-Dichloroethene	6.6	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.6	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	6.6	U
110-82-7	Cyclohexane	6.6	U
56-23-5	Carbon tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
123-91-1	1,4-Dioxane	130	U J

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LR9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-006

Sample wt/vol: 4.1 (g/mL) g

Lab File ID: 61205A11

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	6.6	U
108-87-2	Methylcyclohexane	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.6	U
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	6.6	U
127-18-4	Tetrachloroethene	6.6	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
95-47-6	o-Xylene	6.6	U
179601-23-1	m,p-Xylene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropylbenzene	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
87-61-6	1,2,3-Trichlorobenzene	6.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LR9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-006

Sample wt/vol: 4.1 (g/mL) g

Lab File ID: 61205A11

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 7.8

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.429	15	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS0

FILT-SS06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-007

Sample wt/vol: 5.15 (g/mL) g

Lab File ID: 61205A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.5	U
74-87-3	Chloromethane	5.5	U
75-01-4	Vinyl chloride	5.5	U
74-83-9	Bromomethane	5.5	U
75-00-3	Chloroethane	5.5	U
75-69-4	Trichlorofluoromethane	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.5	U
67-64-1	Acetone	6.5	U
75-15-0	Carbon Disulfide	5.5	U
79-20-9	Methyl acetate	5.5	U
75-09-2	Methylene chloride	5.5	U
156-60-5	trans-1,2-Dichloroethene	5.5	U
1634-04-4	Methyl tert-butyl ether	5.5	U
75-34-3	1,1-Dichloroethane	5.5	U
156-59-2	cis-1,2-Dichloroethene	5.5	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.5	U
67-66-3	Chloroform	5.5	U
71-55-6	1,1,1-Trichloroethane	5.5	U
110-82-7	Cyclohexane	5.5	U
56-23-5	Carbon tetrachloride	5.5	U
71-43-2	Benzene	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
123-91-1	1,4-Dioxane	110	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-007

Sample wt/vol: 5.15 (g/mL) g

Lab File ID: 61205A12

Level: (TRACE/LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.5	U
108-87-2	Methylcyclohexane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
75-27-4	Bromodichloromethane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
127-18-4	Tetrachloroethene	5.5	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.5	U
106-93-4	1,2-Dibromoethane	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
95-47-6	o-Xylene	5.5	U
179601-23-1	m,p-Xylene	5.5	U
100-42-5	Styrene	5.5	U
75-25-2	Bromoform	5.5	U
98-82-8	Isopropylbenzene	5.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	5.5	U
95-50-1	1,2-Dichlorobenzene	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
120-82-1	1,2,4-Trichlorobenzene	5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL01021-007

Sample wt/vol: 5.15 (g/mL) g

Lab File ID: 61205A12

Level: (TRACE or LOW/MED) LOW

Date Received: 12/01/2007

% Moisture: not dec. 11

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	5.9	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS2

FILT-SS08

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-002

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61128A24

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.3	U
74-87-3	Chloromethane	5.3	U
75-01-4	Vinyl chloride	5.3	U
74-83-9	Bromomethane	5.3	U
75-00-3	Chloroethane	5.3	U
75-69-4	Trichlorofluoromethane	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U
67-64-1	Acetone	6.9	JB
75-15-0	Carbon Disulfide	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	0.87	JB
156-60-5	trans-1,2-Dichloroethene	5.3	U
1634-04-4	Methyl tert-butyl ether	5.3	U
75-34-3	1,1-Dichloroethane	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.3	U
67-66-3	Chloroform	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
110-82-7	Cyclohexane	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
71-43-2	Benzene	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-002

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61128A24

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.3	U
108-87-2	Methylcyclohexane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
75-27-4	Bromodichloromethane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
127-18-4	Tetrachloroethene	5.3	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.3	U
106-93-4	1,2-Dibromoethane	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
95-47-6	o-Xylene	5.3	U
179601-23-1	m,p-Xylene	5.3	U
100-42-5	Styrene	5.3	U
75-25-2	Bromoform	5.3	U
98-82-8	Isopropylbenzene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
87-61-6	1,2,3-Trichlorobenzene	5.3	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-002

Sample wt/vol: 4.74 (g/mL) g

Lab File ID: 61128A24

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	7.428	8.6	JB
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS3

FILT-SS09

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-003

Sample wt/vol: 4.35 (g/mL) g

Lab File ID: 61128A25

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	7.3	U JB
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	1.0	U JB
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-003

Sample wt/vol: 4.35 (g/mL) g

Lab File ID: 61128A25

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-003

Sample wt/vol: 4.35 (g/mL) g

Lab File ID: 61128A25

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	11.935	7.5	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS4

FILT-SS10

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-004

Sample wt/vol: 6.43 (g/mL) g

Lab File ID: 61128A26

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	3.9	U
74-87-3	Chloromethane	3.9	U
75-01-4	Vinyl chloride	3.9	U
74-83-9	Bromomethane	3.9	U
75-00-3	Chloroethane	3.9	U
75-69-4	Trichlorofluoromethane	3.9	U
75-35-4	1,1-Dichloroethene	3.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.9	U
67-64-1	Acetone	4.2	U
75-15-0	Carbon Disulfide	3.9	U
79-20-9	Methyl acetate	3.9	U
75-09-2	Methylene chloride	0.56	U
156-60-5	trans-1,2-Dichloroethene	3.9	U
1634-04-4	Methyl tert-butyl ether	3.9	U
75-34-3	1,1-Dichloroethane	3.9	U
156-59-2	cis-1,2-Dichloroethene	3.9	U
78-93-3	2-Butanone	7.8	U
74-97-5	Bromochloromethane	3.9	U
67-66-3	Chloroform	3.9	U
71-55-6	1,1,1-Trichloroethane	3.9	U
110-82-7	Cyclohexane	3.9	U
56-23-5	Carbon tetrachloride	3.9	U
71-43-2	Benzene	3.9	U
107-06-2	1,2-Dichloroethane	3.9	U
123-91-1	1,4-Dioxane	78	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-004

Sample wt/vol: 6.43 (g/mL) g

Lab File ID: 61128A26

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	3.9	U
108-87-2	Methylcyclohexane	3.9	U
78-87-5	1,2-Dichloropropane	3.9	U
75-27-4	Bromodichloromethane	3.9	U
10061-01-5	cis-1,3-Dichloropropene	3.9	U
108-10-1	4-Methyl-2-pentanone	7.8	U
108-88-3	Toluene	3.9	U
10061-02-6	trans-1,3-Dichloropropene	3.9	U
79-00-5	1,1,2-Trichloroethane	3.9	U
127-18-4	Tetrachloroethene	3.9	U
591-78-6	2-Hexanone	7.8	U
124-48-1	Dibromochloromethane	3.9	U
106-93-4	1,2-Dibromoethane	3.9	U
108-90-7	Chlorobenzene	3.9	U
100-41-4	Ethylbenzene	3.9	U
95-47-6	o-Xylene	3.9	U
179601-23-1	m,p-Xylene	3.9	U
100-42-5	Styrene	3.9	U
75-25-2	Bromoform	3.9	U
98-82-8	Isopropylbenzene	3.9	U
79-34-5	1,1,2,2-Tetrachloroethane	3.9	U
541-73-1	1,3-Dichlorobenzene	3.9	U
106-46-7	1,4-Dichlorobenzene	3.9	U
95-50-1	1,2-Dichlorobenzene	3.9	U
96-12-8	1,2-Dibromo-3-chloropropane	3.9	U
120-82-1	1,2,4-Trichlorobenzene	3.9	U
87-61-6	1,2,3-Trichlorobenzene	3.9	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-004

Sample wt/vol: 6.43 (g/mL) g

Lab File ID: 61128A26

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS5

FILT-SS11

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-005

Sample wt/vol: 4.38 (g/mL) g

Lab File ID: 61128A27

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	5.7	U
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	5.7	U
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-005

Sample wt/vol: 4.38 (g/mL) g

Lab File ID: 61128A27

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-005

Sample wt/vol: 4.38 (g/mL) g

Lab File ID: 61128A27

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS6

FILT-SS12

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-006

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61128A28

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.4	U
74-87-3	Chloromethane	4.4	U
75-01-4	Vinyl chloride	4.4	U
74-83-9	Bromomethane	4.4	U
75-00-3	Chloroethane	4.4	U
75-69-4	Trichlorofluoromethane	4.4	U
75-35-4	1,1-Dichloroethene	4.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U
67-64-1	Acetone	5.6	U
75-15-0	Carbon Disulfide	4.4	U
79-20-9	Methyl acetate	4.4	U
75-09-2	Methylene chloride	4.4	U
156-60-5	trans-1,2-Dichloroethene	4.4	U
1634-04-4	Methyl tert-butyl ether	4.4	U
75-34-3	1,1-Dichloroethane	4.4	U
156-59-2	cis-1,2-Dichloroethene	4.4	U
78-93-3	2-Butanone	8.9	U
74-97-5	Bromochloromethane	4.4	U
67-66-3	Chloroform	4.4	U
71-55-6	1,1,1-Trichloroethane	4.4	U
110-82-7	Cyclohexane	4.4	U
56-23-5	Carbon tetrachloride	4.4	U
71-43-2	Benzene	4.4	U
107-06-2	1,2-Dichloroethane	4.4	U
123-91-1	1,4-Dioxane	89	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-006

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61128A28

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
79-01-6	Trichloroethene	4.4	U
108-87-2	Methylcyclohexane	4.4	U
78-87-5	1,2-Dichloropropane	4.4	U
75-27-4	Bromodichloromethane	4.4	U
10061-01-5	cis-1,3-Dichloropropene	4.4	U
108-10-1	4-Methyl-2-pentanone	8.9	U
108-88-3	Toluene	4.4	U
10061-02-6	trans-1,3-Dichloropropene	4.4	U
79-00-5	1,1,2-Trichloroethane	4.4	U
127-18-4	Tetrachloroethene	4.4	U
591-78-6	2-Hexanone	8.9	U
124-48-1	Dibromochloromethane	4.4	U
106-93-4	1,2-Dibromoethane	4.4	U
108-90-7	Chlorobenzene	4.4	U
100-41-4	Ethylbenzene	4.4	U
95-47-6	o-Xylene	4.4	U
179601-23-1	m,p-Xylene	4.4	U
100-42-5	Styrene	4.4	U
75-25-2	Bromoform	4.4	U
98-82-8	Isopropylbenzene	4.4	U
79-34-5	1,1,2,2-Tetrachloroethane	4.4	U
541-73-1	1,3-Dichlorobenzene	4.4	U
106-46-7	1,4-Dichlorobenzene	4.4	U
95-50-1	1,2-Dichlorobenzene	4.4	U
96-12-8	1,2-Dibromo-3-chloropropane	4.4	U
120-82-1	1,2,4-Trichlorobenzene	4.4	U
87-61-6	1,2,3-Trichlorobenzene	4.4	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK28021-006

Sample wt/vol: 5.63 (g/mL) g

Lab File ID: 61128A28

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. 0.00

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS7

FILT-SS13

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK29011-001

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 61129A21

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. 16

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	0.83	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LS7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK29011-001

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 61129A21

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec.16

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LS7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IK29011-001

Sample wt/vol: 5.94 (g/mL) g

Lab File ID: 61129A21

Level: (TRACE or LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. 16

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	1.333	570	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW1

FILT-GW01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS/NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	0.78	JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A05

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A05

Level: (TRACE or LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW2

FILT-GW02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	26	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.75	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL04011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51205A06

Level: (TRACE or LOW/MED) LOW

Date Received: 12/04/2007

% Moisture: not dec. _____

Date Analyzed: 12/05/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW3

FILT-GW03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A10

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	3.3	J
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	0.75	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A10

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A10

Level: (TRACE or LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW4

FILT-GW04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A11

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec.

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	9.4	J
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.77	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A11

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A11

Level: (TRACE or LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX5

FILT-RINOI

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK28021-007

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51128A17

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. _____

Date Analyzed: 11/28/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	23	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK28021-007

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51128A17

Level: (TRACE/LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec.

Date Analyzed: 11/28/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK28021-007

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51128A17

Level: (TRACE or LOW/MED) LOW

Date Received: 11/28/2007

% Moisture: not dec. _____

Date Analyzed: 11/28/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX6

FILT-RINO2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-004

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51129A12

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec.

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	23	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.97	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LX6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A12

Level: (TRACE/LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	2.6	J
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LX6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LR1

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IK29011-004

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51129A12

Level: (TRACE or LOW/MED) LOW

Date Received: 11/29/2007

% Moisture: not dec. _____

Date Analyzed: 11/29/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT8

FILT-SS24

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-001

Sample wt/vol: 4.52 (g/mL) g

Lab File ID: 51212A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8 10 UJB	UJB
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-001

Sample wt/vol: 4.52 (g/mL) g

Lab File ID: 51212A23

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	0.59	J
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	5.8	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
95-47-6	o-Xylene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-001

Sample wt/vol: 4.52 (g/mL) g

Lab File ID: 51212A23

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.7

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT9

FILT-SS25

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-002

Sample wt/vol: 5.53 (g/mL) g

Lab File ID: 51212A24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 11

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg	Q
75-71-8	Dichlorodifluoromethane	5.1	U
74-87-3	Chloromethane	5.1	U
75-01-4	Vinyl chloride	5.1	U
74-83-9	Bromomethane	5.1	U
75-00-3	Chloroethane	5.1	U
75-69-4	Trichlorofluoromethane	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.1	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.1	U
79-20-9	Methyl acetate	5.1	U
75-09-2	Methylene chloride	5.1	U
156-60-5	trans-1,2-Dichloroethene	5.1	U
1634-04-4	Methyl tert-butyl ether	5.1	U
75-34-3	1,1-Dichloroethane	5.1	U
156-59-2	cis-1,2-Dichloroethene	5.1	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.1	U
67-66-3	Chloroform	5.1	U
71-55-6	1,1,1-Trichloroethane	5.1	U
110-82-7	Cyclohexane	5.1	U
56-23-5	Carbon tetrachloride	5.1	U
71-43-2	Benzene	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LT9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-002

Sample wt/vol: 5.53 (g/mL) g

Lab File ID: 51212A24

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 11

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	21	
108-87-2	Methylcyclohexane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
75-27-4	Bromodichloromethane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
127-18-4	Tetrachloroethene	5.1	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.1	U
106-93-4	1,2-Dibromoethane	5.1	U
108-90-7	Chlorobenzene	5.1	U
100-41-4	Ethylbenzene	5.1	U
95-47-6	o-Xylene	5.1	U
179601-23-1	m,p-Xylene	5.1	U
100-42-5	Styrene	5.1	U
75-25-2	Bromoform	5.1	U
98-82-8	Isopropylbenzene	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U
541-73-1	1,3-Dichlorobenzene	5.1	U
106-46-7	1,4-Dichlorobenzene	5.1	U
95-50-1	1,2-Dichlorobenzene	5.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.1	U
120-82-1	1,2,4-Trichlorobenzene	5.1	U
87-61-6	1,2,3-Trichlorobenzene	5.1	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LT9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-002

Sample wt/vol: 5.53 (g/mL) g

Lab File ID: 51212A24

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 11

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW0

FILT-SS26

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045 Mod. Ref No.: SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-003

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 51212A25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.7	U
74-87-3	Chloromethane	5.7	U
75-01-4	Vinyl chloride	5.7	U
74-83-9	Bromomethane	5.7	U
75-00-3	Chloroethane	5.7	U
75-69-4	Trichlorofluoromethane	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.7	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	5.7	U
79-20-9	Methyl acetate	5.7	U
75-09-2	Methylene chloride	5.7	U
156-60-5	trans-1,2-Dichloroethene	5.7	U
1634-04-4	Methyl tert-butyl ether	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
156-59-2	cis-1,2-Dichloroethene	5.7	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
110-82-7	Cyclohexane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
71-43-2	Benzene	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
123-91-1	1,4-Dioxane	110	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-003

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 51212A25

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.7	U
108-87-2	Methylcyclohexane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
127-18-4	Tetrachloroethene	5.7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.7	U
106-93-4	1,2-Dibromoethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
95-47-6	o-Xylene	5.7	U
179601-23-1	m,p-Xylene	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
98-82-8	Isopropylbenzene	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
541-73-1	1,3-Dichlorobenzene	5.7	U
106-46-7	1,4-Dichlorobenzene	5.7	U
95-50-1	1,2-Dichlorobenzene	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
120-82-1	1,2,4-Trichlorobenzene	5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-003

Sample wt/vol: 4.59 (g/mL) g

Lab File ID: 51212A25

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 4.6

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW8

FILT-GW08

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-001

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51210A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec.

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	18	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-001

Sample wt/vol: 5.00 (g/mL) ml

Lab File ID: 51210A06

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec.

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	4.3	J
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	3.1	J
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-001

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A06

Level: (TRACE or LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW9

FILT-GW09

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LW9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A07

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LW9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-002

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A07

Level: (TRACE or LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY2

FILT-T803

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec.

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	17	
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	0.50	J
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A08

Level: (TRACE/LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	Q
79-01-6	Trichloroethene	5.0	U
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Water

Lab Sample ID: IL08012-003

Sample wt/vol: 5.00 (g/mL) mL

Lab File ID: 51210A08

Level: (TRACE or LOW/MED) LOW

Date Received: 12/08/2007

% Moisture: not dec. _____

Date Analyzed: 12/10/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY5

FILT-SS27

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-004

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A26

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 10

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	4.6	U
74-87-3	Chloromethane	4.6	U
75-01-4	Vinyl chloride	4.6	U
74-83-9	Bromomethane	4.6	U
75-00-3	Chloroethane	4.6	U
75-69-4	Trichlorofluoromethane	4.6	U
75-35-4	1,1-Dichloroethene	4.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U
67-64-1	Acetone	9.1	U
75-15-0	Carbon Disulfide	4.6	U
79-20-9	Methyl acetate	4.6	U
75-09-2	Methylene chloride	4.6 0.72	U JB
156-60-5	trans-1,2-Dichloroethene	4.6	U
1634-04-4	Methyl tert-butyl ether	4.6	U
75-34-3	1,1-Dichloroethane	4.6	U
156-59-2	cis-1,2-Dichloroethene	4.6	U
78-93-3	2-Butanone	9.1	U
74-97-5	Bromochloromethane	4.6	U
67-66-3	Chloroform	4.6	U
71-55-6	1,1,1-Trichloroethane	4.6	U
110-82-7	Cyclohexane	4.6	U
56-23-5	Carbon tetrachloride	4.6	U
71-43-2	Benzene	4.6	U
107-06-2	1,2-Dichloroethane	4.6	U
123-91-1	1,4-Dioxane	91	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

SOM01.2 (10/2006)

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-004

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A26

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 10

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	8.3	
108-87-2	Methylcyclohexane	4.6	U
78-87-5	1,2-Dichloropropane	4.6	U
75-27-4	Bromodichloromethane	4.6	U
10061-01-5	cis-1,3-Dichloropropene	4.6	U
108-10-1	4-Methyl-2-pentanone	9.1	U
108-88-3	Toluene	4.6	U
10061-02-6	trans-1,3-Dichloropropene	4.6	U
79-00-5	1,1,2-Trichloroethane	4.6	U
127-18-4	Tetrachloroethene	4.6	U
591-78-6	2-Hexanone	9.1	U
124-48-1	Dibromochloromethane	4.6	U
106-93-4	1,2-Dibromoethane	4.6	U
108-90-7	Chlorobenzene	4.6	U
100-41-4	Ethylbenzene	4.6	U
95-47-6	o-Xylene	4.6	U
179601-23-1	m,p-Xylene	4.6	U
100-42-5	Styrene	4.6	U
75-25-2	Bromoform	4.6	U
98-82-8	Isopropylbenzene	4.6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.6	U
541-73-1	1,3-Dichlorobenzene	4.6	U
106-46-7	1,4-Dichlorobenzene	4.6	U
95-50-1	1,2-Dichlorobenzene	4.6	U
96-12-8	1,2-Dibromo-3-chloropropane	4.6	U
120-82-1	1,2,4-Trichlorobenzene	4.6	U
87-61-6	1,2,3-Trichlorobenzene	4.6	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-004

Sample wt/vol: 6.09 (g/mL) g

Lab File ID: 51212A26

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 10

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	66-25-1	Hexanal	8.810	92	NJ
02	124-13-0	Octanal	10.962	5.9	NJ
03		Unknown-01	11.754	5.7	J
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY6

FILT-SS28

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-005

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 51212A27

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 15

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.0	U
79-20-9	Methyl acetate	5.0	U
75-09-2	Methylene chloride	5.0 0.72	U JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl ether	4.1	J
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
123-91-1	1,4-Dioxane	100	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4LY6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-005

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 51212A27

Level: (TRACE/LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 15

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	14	
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-Xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B4LY6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37045

Mod. Ref No.: _____ SDG No.: B4LT8

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL07036-005

Sample wt/vol: 5.88 (g/mL) g

Lab File ID: 51212A27

Level: (TRACE or LOW/MED) LOW

Date Received: 12/07/2007

% Moisture: not dec. 15

Date Analyzed: 12/12/2007

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

SOM01.2 (10/2006)

THIS PAGE
INTENTIONALLY
LEFT BLANK

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37045
LABORATORY: Shealy

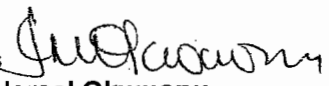
SDG No.: SDG# B4LW5
SITE: Filtron Corporation
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

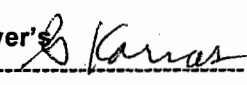
The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's 
Signature: Israel Okwuonu

Date: January 24, 2008

Peer Reviewer's 
Signature: K. Karas

Date: 01/29/08

Verified By: _____

Date: ____/____/2008

1 . HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2 . DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified J. Nondetected compounds are not qualified.

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified J. Nondetected compounds are not qualified.

Benzene-d6: B4LR4, B4LR4RE, B4LS9, B4LS9RE, B4LT2
Benzene

Chloroethane-d5: B4LR3, B4LR4, B4LR4RE, B4LS9, B4LT2, B4LT5
Bromomethane, Carbon disulfide, Chloroethane, Chloromethane, Dichlorodifluoromethane

Toluene-d8: B4LR4, B4LR4RE, B4LS8, B4LS9, B4LS9RE, B4LT2, B4LT2RE
Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

Vinyl chloride-d3: B4LR3, B4LR4, B4LR4RE, B4LS8, B4LS9, B4LT2, B4LT5
Vinyl chloride

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 3 of 6

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

Benzene-d6: B4LT4, B4LT6

Benzene

1,2-Dichloroethane-d4: B4LT4, B4LT6

1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2-Dibromoethane, 1,2-Dichloroethane, Carbon tetrachloride, Methyl acetate, Methyl tert-butyl ether, Methylene chloride, Trichlorofluoromethane

1,4-Dioxane-d8: B4LR4, B4LT0, B4LT6

1,4-Dioxane

Toluene-d8: B4LT4, B4LT6

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

1,2-Dichlorobenzene-d4: B4LT4, B4LT6

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene

1,1,2,2-Tetrachloroethane-d2: B4LT6

1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-chloropropane

Chloroform-d: B4LT6

1,1-Dichloroethane, Bromochloromethane, Bromoform, Chloroform, Dibromochloromethane

trans-1,3-Dichloropropene-d4: B4LT4, B4LT6

1,1,2-Trichloroethane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene

1,2-Dichloropropane-d6: B4LT4, B4LT6

1,2-Dichloropropane, Bromodichloromethane, Cyclohexane, Methylcyclohexane

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 4 of 6

measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Nondetected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Methylene chloride: B4LR2, B4LR3, B4LR4, B4LR4RE, B4LS8, B4LS9, B4LS9RE, B4LT0, B4LT1, B4LT2, B4LT2RE, B4LT3, B4LT4, B4LT4RE, B4LT5, B4LT6, B4LT6RE, B4LT7, B4LW5, B4LW6, B4LW7, B4LX7, B4LX8, B4LY0, B4LY1

B) Field or rinse blank contamination:

Not Applicable

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

D) Storage Blank associated with VOA samples only

No problem found with this qualification

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found for this qualification.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No problems found for this qualification.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

No problems found for this qualification.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to $+200\%$) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to $+200\%$) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problem found for this qualification.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS:

No problems found.

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.

B4LR4RE, B4LS9RE, B4LT2RE, B4LT4RE, B4LT6RE

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 1 of 6

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37045
LABORATORY: Shealy

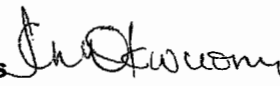
SDG No.: SDG# B4LT8
SITE: Filtron Corporation
ANALYSIS: LOW/MED VOA

DATA ASSESSMENT

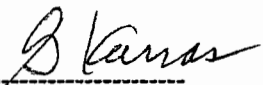
The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's 
Signature: Israel Okwuonu

Date: January 24, 2008

Peer Reviewer's 
Signature: _____

Date: 01/29/08

Verified By: _____

Date: ____/____/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are not qualified.

Benzene-d6: B4LT9, B4LT9RE

Benzene

Chloroethane-d5: B4LT9, B4LT9RE

Bromomethane, Carbon disulfide, Chloroethane, Chloromethane, Dichlorodifluoromethane

Toluene-d8: B4LT9, B4LT9RE

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

Vinyl chloride-d3: B4LT8, B4LT9, B4LT9RE

Vinyl chloride

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified JJ.

1,4-Dioxane-d8: VBLK66, VBLK68, VHBLK53

1,4-Dioxane

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Methylene chloride: B4LT8, B4LT9, B4LT9RE, B4LW0, B4LY5, B4LY6

A) Method blank contamination:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Nondetected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

No problem found for this qualification.

B) Field or rinse blank contamination:

Not Applicable

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

D) Storage Blank associated with VOA samples only

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated storage blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Methylene chloride: B4LT8, B4LT9, B4LT9RE, B4LW0, B4LY5, B4LY6

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No problems found.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 5 of 6

the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 20%, < 40% for the poor performers, and < 50% for 1,4-Dioxane. %D must be < 25%, < 40% for the poor performers, and < 50% for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria (> 90%), non-detects data may be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

No problems found.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problems found.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

ATTACHMENT 1
SOM01.1/Low/Med
SOP NO. HW-33/VOA, Rev.0

Page 6 of 6

11. FIELD DOCUMENTATION: No problems found.

12. OTHER PROBLEMS: None

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.
B4LT9RE.

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 1 of 7

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37045

LABORATORY: Shealy

SDG No.: B4LR1

SITE: Filtron Corporation

ANALYSIS: 4W, LOW/MED VOA

DATA ASSESSMENT

The current SOP HW-33/VOA (Revision 0) April 2006, USEPA Region II Data Validation SOP for Statement of Work SOM01.1 for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's

Signature: Israel Okwuonu

Date: January 30, 2008

Verified By: B. Karas

Date: 01/29/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. DMC's

All samples are spiked with surrogate compounds (DMC's) prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have one or more DMC/SMC recovery values is less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

Benzene-d6: B4LR0, B4LR5, B4LR6, B4LS4, B4LS6

Benzene

1,2-Dichloroethane-d4: B4LR0, B4LR5, B4LR6, B4LS4, B4LS6

1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2-Dibromoethane, 1,2-Dichloroethane, Carbon tetrachloride, Methyl acetate, Methyl tert-butyl ether, Methylene chloride, Trichlorofluoromethane

1,4-Dioxane-d8: B4LR0, B4LR0RE, B4LR5, B4LR6, B4LR8, B4LR9, B4LS0, B4LS4, B4LS4RE, B4LS6

1,4-Dioxane

Chloroethane-d5: B4LR0, B4LR5, B4LR6

Bromomethane, Carbon disulfide, Chloroethane, Chloromethane, Dichlorodifluoromethane

Toluene-d8: B4LR0, B4LR5, B4LR6, B4LS4, B4LS5, B4LS6

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

1,2-Dichlorobenzene-d4: B4LR1, B4LS4, B4LS6

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene

1,1-Dichloroethene-d2: B4LR0, B4LR6

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 3 of 7

1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene

Vinyl chloride-d3: B4LR0, B4LR5, B4LR6

Vinyl chloride

Chloroform-d : B4LR5, B4LR6

1,1-Dichloroethane, Bromochloromethane, Bromoform, Chloroform, Dibromochloromethane

trans-1,3-Dichloropropene-d4: B4LS6

1,1,2-Trichloroethane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene

1,2-Dichloropropane-d6: B4LR6, B4LS6

1,2-Dichloropropane, Bromodichloromethane, Cyclohexane, Methylcyclohexane

The following volatile samples have DMC/SMC recoveries below the expanded lower limit of the criteria window. Detected compounds are qualified J. Non-detected compounds are qualified R.

Benzene-d6 : B4LR7

Benzene

1,2-Dichloroethane-d4: B4LR7

1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2-Dibromoethane, 1,2-Dichloroethane, Carbon tetrachloride, Methyl acetate, Methyl tert-butyl ether, Methylene chloride, Trichlorofluoromethane

1,4-Dioxane-d8: B4LR7

1,4-Dioxane

Chloroethane-d5: B4LR7

Bromomethane, Carbon disulfide, Chloroethane, Chloromethane, Dichlorodifluoromethane

Toluene-d8: B4LR7

Ethylbenzene, Isopropylbenzene, Styrene, Tetrachloroethene, Toluene, Trichloroethene, m,p-Xylene, o-Xylene

1,2-Dichlorobenzene-d4: B4LR7

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene

1,1-Dichloroethene-d2: B4LR7

1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene

1,1,1,2-Tetrachloroethane-d2: B4LR7

1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-chloropropane

Vinyl chloride-d3: B4LR7

Vinyl chloride

Chloroform-d: B4LR7

1,1-Dichloroethane, Bromochloromethane, Bromoform, Chloroform, Dibromochloromethane

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 4 of 7

trans-1,3-Dichloropropene-d4: B4LR7

1,1,2-Trichloroethane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene

1,2-Dichloropropane-d6: B4LR7

1,2-Dichloropropane, Bromodichloromethane, Cyclohexane, Methylcyclohexan

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Not Applicable

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 1 times the blank contaminant level (2 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A)

Method blank contamination:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Acetone: B4LR0, B4LR0RE, B4LR1, B4LR5, B4LR6, B4LR6RE, B4LR7, B4LR7RE, B4LR8, B4LR9, B4LS0, B4LS2, B4LS3, B4LS4, B4LS4RE, B4LS5, B4LS6, B4LS6RE, B4LS7

Methylene chloride: B4LR0, B4LR1, B4LR5, B4LR6, B4LS2, B4LS3, B4LS4, B4LS4RE, B4LS5, B4LS6, B4LS6RE, B4LS7, B4LW1, B4LW2, B4LW3, B4LW4, B4LX5, B4LX6

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the concentration criteria. Detected compounds are qualified U. Nondetected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Chloromethane: B4LR0, B4LR5, B4LR6

B) Field or rinse blank contamination:

Not Applicable.

ATTACHMENT 1

SOM01.1/Low/Med

SOP NO. HW-33/VOA, Rev.0

Page 5 of 7

C) Trip blank contamination for VOA aqueous samples:

Not Applicable.

D) Storage Blank associated with VOA samples only

No problem found for this qualification

E) Tics "R" rejected:

Not Applicable

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene.

If the mass calibration is in error, all associated data will be classified as unusable "R".

No problems found.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No problems found.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1,4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may

be qualified "R".

The following analytes in the sample shown were qualified for %RSD and %D:

No problems found.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +200%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +200%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No problem found for this qualification.

9. COMPOUND IDENTIFICATION:

A) Volatile Fraction:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No problems found for this qualification.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

No problems found.

11. FIELD DOCUMENTATION:

No problems found.

12. OTHER PROBLEMS:

No problems found.

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the

ATTACHMENT 1
SOM01.1/Low/Med
SOP NO. HW-33/VOA, Rev.0

Page 7 of 7

following Form 1(s) are identified NOT to be used.
B4LR0RE, B4LR6RE, B4LR7, B4LS4RE, B4LS6RE.

THIS PAGE
INTENTIONALLY
LEFT BLANK

SOP HW-33/VOA
Revision 0
April 2006

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.1
Data Validation

Prepared by: George Karras Date: 12/05/06
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: Russell Arnone Date: 12/15/06
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mangel Date: 12/15/06
Linda Mangel, Chief
Hazardous Waste Support Section

Approved by: Robert Runyon Date: 12/11/06
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	6
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	15
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	19
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	21
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37045 LAB: Shealy

SITE NAME: Filtron Corp SDG No(s): B4LW5

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

M _ _

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

M _ _

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

_ 11 ✓

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

M _ _

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report? M

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present? M

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken? M

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights. M

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations? M

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative? M

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)? M

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)?

☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

Low/Med Concentration Volatiles Data present?

☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? M

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

3.1 Are the Volatile SMC Recovery Summaries (Form II present?

☐ ☐ ☒

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were outliers marked correctly with an asterisk?

☐ ☐ ☒

ACTION: Circle all outliers in red.

3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits?

☒ ☐ ☐

If yes, were samples re-analyzed?

☒ ☐ ☐

Were method blanks re-analyzed?

☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane ~~1,1-Dichloroethene~~ 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "UJ" associated non-detects.

3. For any recovery less than 20%:

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

3.4 Are there any transcription/calculation errors between raw data and form II? M

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present? [] ✓

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)? [] ✓

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

using professional judgement, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Method Blanks (Form IV)

- 5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples? ☒ ☐ ☐
- 5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent? ☒ ☐ ☐
- 5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used? ☒ ☐ ☐
- 5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)? ☒ ☐ ☐

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

- 5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs? ☒

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs? ☒

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)? ☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report blank concentration for sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- * 2x the CRQL for methylene chloride, 2-butanone and acetone
- ** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ ☐ ☐

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95 ☒ ☐ ☐

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used? ☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.) ☒ ☐ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V? ☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

		YES	NO	N/A
7.8	Is the spectrum of the mass calibration compound acceptable?	☒	☐	☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1	Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:			
	a. Samples and/or fractions as appropriate?	☒	☐	☐
	b. Regional Control/MS/MSD samples?	☐	☐	☒
	c. Blanks (method, trip, etc)?	☒	☐	☐
8.2	Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	☒	☐	☐
	b. Regional Control/MS/MSD samples?	☐	☐	☒
	c. Blanks (method, trip, etc)?	☒	☐	☐

ACTION: If any data are missing, take action specified in 3.1 above.

8.3	Is chromatographic performance acceptable with respect to:			
	Baseline stability?	☒	☐	☐
	Resolution?	☒	☐	☐
	Peak shape?	☒	☐	☐
	Full-scale graph (attenuation)?	☒	☐	☐
	Other: _____?	☐	☐	☒

ACTION: Use professional judgement to determine the acceptability of the data.

8.4	Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?	☒	☐	☐

ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.

8.5	Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?	☒	___	___
8.6	Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	☒	___	___
8.7	Do sample and standard relative ion intensities agree to within $\pm 20\%$?	☒	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

9.1	Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier?	☐	___	___
9.2	Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	☒	___	___
	b. Blanks?	☒	___	___
	b. Are Alkanes listed in/or part of the Case Narrative?	☒	___	___

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- 9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)

___ ☒ ___

ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).

- 9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?

☒ ___

- 9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?

☒ ___

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

- 10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

___ ☒ ___

- 10.2 Are the CRQLs adjusted to reflect sample dilutions and percent moisture?

☒ ___

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X"

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%?

☒ ☐ ☐

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 $\mu\text{g/l}$ for non-ketones, 10, 20, 100, 200 and 400 $\mu\text{g/L}$ for ketones and 100, 200, 1250, 2000, and 4000 $\mu\text{g/L}$ for 1,4-dioxane.

☒ ☐ ☐

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD $\leq$ 20.%, $\leq$ 40% for poor performers (see table below), $\leq$ 50% for 1,4-dioxane)?

☒ ☐ ☐

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

☒ 1 1

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of $\overline{RRF}$ s, RRFs or %RSD values? (Check at least 2 values, but if errors are found, check more.)

 1 1

ACTION: Circle errors in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

☒ ☐ ☐

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

☒ ☐ ☐

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial RRF and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

☐ ☒ ☐

ACTION: Circle all outliers in red.

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

☐ ☒ ☐

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒ ☐ ☐

If no, were affected sample reanalyzed?

☐ ☐ ☒

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☒ ☐ ☐

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *
Area counts $\geq 50\%$ and $\leq 200\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts $< 50\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts $> 200\%$ of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration).	R**	R
RT difference ≤ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

* For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

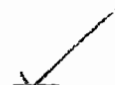
SOP HW-33/VOA, Revision 0

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis?



ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media,
Multi-Concentration, SOW/CLPSOM01.1, October 2004
2. National Functional Guidelines for Superfund Organic Methods Data Review
January 2005

SOP HW-33/VOA

Revision 0

April 2006

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.1
Data Validation

Prepared by: George Karras Date: 12/05/06
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: Russell Arnone Date: 12/5/06
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mangel Date: 12/5/06
Linda Mangel, Chief
Hazardous Waste Support Section

Approved by: Robert Runyon Date: 12/11/06
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review
Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	6
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	15
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	19
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	21
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37045 LAB: Shealy

SITE NAME: Filtron Corp SDG No(s): B4LWS

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒ 1 0 0

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒ 1 0 0

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

0 1 1 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒ 1 0 0

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?

☒ ☐ ☐

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?
- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?
- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.
- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations?
- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative?
- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)?

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)? ☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative? ☒ ☐ ☐

b. Are all forms and copies legible? ☒ ☐ ☐

c. Assembled in the order set forth in the SOW? ☒ ☐ ☐

Low/Med Concentration Volatiles Data present? ☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data? ☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

cooler was $> 10^{\circ}\text{C}$, then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? N

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

3.1 Are the Volatile SMC Recovery Summaries (Form II present?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were outliers marked correctly with an asterisk?

☒ ☐ ☐

ACTION: Circle all outliers in red.

3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits?

☒ ☐ ☐

If yes, were samples re-analyzed?

☒ ☐ ☐

Were method blanks re-analyzed?

☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "UJ" associated non-detects.

3. For any recovery less than 20%:

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

3.4 Are there any transcription/calculation errors between raw data and form II? ☒

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present? ☒

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)? ☒

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

using professional judgement, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Method Blanks (Form IV)

- 5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples? ☒ ☐ ☐
- 5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent? ☒ ☐ ☐
- 5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used? ☒ ☐ ☐
- 5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)? ☐ ☐ ☒

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

- 5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs? ☒

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs? ☒

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)? ☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report blank concentration for sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

- * 2x the CRQL for methylene chloride, 2-butanone and acetone
- ** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?

☒ ☐ ☐

7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV?

☒ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95

☒ ☐ ☐

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V ?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

- 7.8 Is the spectrum of the mass calibration compound acceptable? ☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

- 8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

- a. Samples and/or fractions as appropriate? ☒ ☐ ☐
- b. Regional Control/MS/MSD samples? ☐ ☐ ☒
- c. Blanks (method, trip, etc)? ☒ ☐ ☐

- 8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

- a. Samples and/or fractions as appropriate? ☒ ☐ ☐
- b. Regional Control/MS/MSD samples? ☐ ☐ ☒
- c. Blanks (method, trip, etc)? ☒ ☐ ☐

ACTION: If any data are missing, take action specified in 3.1 above.

- 8.3 Is chromatographic performance acceptable with respect to:

- Baseline stability? ☒ ☐ ☐
- Resolution? ☒ ☐ ☐
- Peak shape? ☒ ☐ ☐
- Full-scale graph (attenuation)? ☒ ☐ ☐
- Other: _____? ☐ ☐ ☒

ACTION: Use professional judgement to determine the acceptability of the data.

- 8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample? ☒ ☐ ☐

ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra,

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.

- 8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration? ☒ ☐ ☐
- 8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum? ☒ ☐ ☐
- 8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$? ☒ ☐ ☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2, above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

- 9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier? ☒ ☐ ☐
- 9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:
- a. Samples and/or fractions as appropriate? ☒ ☐ ☐
- b. Blanks? ☒ ☐ ☐
- b. Are Alkanes listed in/or part of the Case Narrative? ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.1 above.

ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

	YES	NO	N/A
9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.)	—	☒	—
ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).			
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	☒	—	—
9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$?	☒	—	—
ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.			
Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO ₂ (m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.)			

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)	—	☒	—
10.2 Are the CRQLs adjusted to reflect sample dilutions and per cent moisture?	☒	—	—
ACTION: If errors are large, take action as specified in section 3.1 above.			
ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X"			

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%? ☒ YES ☐ NO ☐ N/A

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration? ☒ YES ☐ NO ☐ N/A

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 $\mu\text{g/l}$ for non-ketones, 10, 20, 100, 200 and 400 $\mu\text{g/L}$ for ketones and 100, 200, 1250, 2000, and 4000 $\mu\text{g/L}$ for 1,4-dioxane. ☒ YES ☐ NO ☐ N/A

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD $\leq$ 20.%, $\leq$ 40% for poor performers (see table below), $\leq$ 50% for 1,4-dioxane)? ☒ YES ☐ NO ☐ N/A

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

___ 11 ___

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, RRFs or %RSD values? (Check at least 2 values, but if errors are found, check more.)

___ 1 ___

ACTION: Circle errors in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

☒ ☐ ☐

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

☒ ☐ ☐

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial RRF and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

☐ ☒ ☐

ACTION: Circle all outliers in red.

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers?

☐ ☐ ☐

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

Date: April 2006

SOP HW-33/VOA, Revision 0

YES NO N/A

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF $\geq$ 0.010 (poor responders) RRF $\geq$ 0.050 (for all other compounds)	RRF $\geq$ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D $\leq$ 50.0 or $\geq$ -50.0 (1,4-Dioxane) %D $\leq$ 40.0 or $\geq$ -40.0 (poor responders) %D $\leq$ 25.0 or $\geq$ -25.0 (all other volatile target compounds)	%D $\leq$ 50.0 or $\geq$ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

YES NO N/A

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒ ☐ ☒

If no, were affected sample reanalyzed?

☐ ☐ ☒

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☐ ☐ ☐

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *
Area counts $\geq 50\%$ and $\leq 200\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts $< 50\%$ of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts $> 200\%$ of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference ≤ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

* For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis?

11 ✓

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: April 2006

Method: CLP/SOW, SOM01.1/Low/Medium Volatiles

SOP HW-33/VOA, Revision 0

.

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media,
Multi-Concentration, SOW/CLPSOM01.1, October 2004
2. National Functional Guidelines for Superfund Organic Methods Data Review
January 2005

SOP HW-33/VOA

Revision 1

August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: George Karras
George Karras, Chemist
Hazardous Waste Support Section

Date: 8/13/07

Peer Reviewed by: Russell Arnone
Russell Arnone, Chemist
Hazardous Waste Support Section

Date: 10/3/07

Concurred by: Linda Mavel
Linda Mavel, Chief
Hazardous Waste Support Section

Date: 10/9/07

Approved by: Robert Runyon
Robert Runyon, Chief
Hazardous Waste Support Branch

Date: 10/10/07

Annual Review
Reviewed by: _____
Name

Date: _____

Reviewed by: _____
Name

Date: _____

SOP HW-33/VOA

Revision 1

August 2007

USEPA Contract Laboratory Program
Statement of Work for Organic Analysis of Low/Medium
Concentration of Volatile Organic Compounds SOM01.2
Data Validation

Prepared by: _____ Date: _____
George Karras, Chemist
Hazardous Waste Support Section

Peer Reviewed by: _____ Date: _____
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: _____ Date: _____
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: _____ Date: _____
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review
Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

TABLE OF CONTENTS

INTRODUCTION	1
Scope and Applicability	1
Summary	1
Data Qualifiers	1
Lab Qualifiers	2
Reviewer Qualifications	2
PACKAGE COMPLETENESS AND DELIVERABLES	3
1. <u>Chain of Custody and Sampling Trip Reports</u>	3
2. <u>Data Completeness and Deliverables</u>	3
3. <u>Cover Letter SDG Narrative</u>	4
4. <u>Data Validation Checklist</u>	5
PART A: VOA ANALYSES	5
1. <u>Sample Conditions/Problems</u>	5
2. <u>Holding Times</u>	6
3. <u>Deuterated Monitoring Compound (DMC) Recovery (Form II)</u>	7
4. <u>Matrix Spike/Matrix Spike Duplicate Recovery (Form III)</u>	10
5. <u>Method Blanks (Form IV)</u>	11
6. <u>Contamination</u>	13
7. <u>GC/MS Instrument Performance Check (Form V)</u>	16
8. <u>Target Compound List (TCL) Analytes (Form I)</u>	18
9. <u>Tentatively Identified Compounds (TIC)</u>	20
10. <u>Compound Quantitation and Reported Detection Limits</u>	20
11. <u>Standards Data (GC/MS)</u>	21
12. <u>GC/MS Initial Calibration (Form VI)</u>	22
13. <u>GC/MS Continuing Calibration Verification (CCV) (Form VII)</u>	23
14. <u>Internal Standard (Form VIII)</u>	25
15. <u>Field Duplicates</u>	26
Definitions	27
References	28

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.1, May 2005". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005". This document attempts to cover technical problems specific to low/Medium concentration of volatile compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.1 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37045 LAB: Shealy

SITE NAME: Filtron Corp SDG No(s) : B4L78

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

 ☒

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was CLASS CCS checklist included with the package?

☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report? M

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present? M

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken? M

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?
Description of trap, column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights. M

- 3.4 Does the narrative, VOA section, contain a list of all TICs identified as alkanes and their estimated concentrations? M

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative? M

- 3.6 Does the narrative contain a list of the pH values determined for each water sample submitted for volatiles analysis (SOW, page B-13, section 2.5.1.2)? M

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

- 3.7 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)?

☒ ☐ ☐

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

4.0 Data Validation Checklist

- 4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

Low/Med Concentration Volatiles Data present?

☒ ☐ ☐

Action: Take action as specified in section 3.7 above.

PART A: Low/Medium Volatile ANALYSES

1.0 Sample Conditions/Problems

- 1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

• • • • •

Date: August 2007

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded?

2.2 Preservation: Aqueous samples must be preserved with HCL to pH of 2 or below and cooled at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. Non-aqueous samples: frozen (less than -7°C) or properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and preserved with NaHSO_4 .

Action: Qualify sample results according to the following table.

Holding Time Actions for Low/Medium Volatile Analyses

Matrix	Preserved	Criteria	ACTION	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 Days	NO Action	
	No	> 7 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes	> 14 Days	J	R
Non-Aqueous	No	≤ 14 Days	J	R
	Yes	≤ 14 Days	No Action	
	Yes/No	> 14 Days	J	R

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

3.0 Deuterated Monitoring Compound (DMC) Recovery (Form II)

- 3.1 Are the Volatile SMC Recovery Summaries (Form II present? ☒ ☐ ☐

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

- 3.2 Were outliers marked correctly with an asterisk? ☒ ☐ ☐

ACTION: Circle all outliers in red.

- 3.3 Were more than three of the fourteen (14) Deuterated Monitoring Compounds (DMC's) recoveries outside their corresponding limits? ☒ ☐ ☐

If yes, were samples re-analyzed? ☒ ☐ ☐

Were method blanks re-analyzed? ☒ ☐ ☐

ACTION: If any DMC is outside the required limits (see Table below), qualify their associated target compounds (See Table below) as follows:

VOLATILE DMC AND THEIR ASSOCIATED TARGET COMPOUNDS

<u>Chloroethane-d5</u>	<u>1,2-Dichloropropane-d6</u>	<u>1,2-Dichlorobenzene-d4</u>
Dichlorodifluoromethane	Cyclohexane	Chlorobenzene
Chloromethane	Methylcyclohexane	1,3-Dichlorobenzene
Bromomethane	1,2-Dichloropropane	1,4-Dichlorobenzene
Chloroethane	Bromodichloromethane	1,2-Dichlorobenzene
Carbon Disulfide		1,2,4-Trichlorobenzene
		1,2,3-Trichlorobenzene

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

<u>1,4-Dioxane-d8</u> 1,4-Dioxane	<u>trans-1,3-Dichloropropene-d4</u> cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	<u>Chloroform-d</u> 1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
<u>2-Butanone-d5</u> Acetone 2-butanone	<u>1,1-dichloroethene-d2</u> trans-1,2-Dichloroethene cis-1,2-Dichloroethene	<u>2-Hexanone-d5</u> 4-Methyl-2-pentanone 2-Hexanone
<u>Vinyl Chloride-d3</u> Vinyl Chloride	<u>Benzene-d6</u> Benzene	<u>1,1,2,2-Tetrachloroethane-d2</u> 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
<u>1,2-Dichloroethane-d4</u> Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl Acetate Methylene Chloride Methyl tert-Butyl Ether Carbon Tetrachloride 1,2-Dichloroethane 1,1,1-Trichloroethane 1,2-Dibromoethane	<u>Toluene-d8</u> Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylenes m,p-Xylene Styrene Isopropylbenzene	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY LIMITS

DMC	Recovery Limits (%) for Water Samples	Recovery Limits (%) for Soil samples
Vinyl Chloride-d3	65 - 131	68 - 122
Chloroethane-d5	71 - 131	61 - 130
1,1-Dichloroethene-d2	55 - 104	45 - 132
2-Butanone-d5	49 - 155	20 - 182
Chloroform-d	78 - 121	72 - 123
1,2-Dichloroethane-d4	78 - 129	79 - 122
Benzene-d6	77 - 124	80 - 121
1,2-Dichloropropane-d6	79 - 124	74 - 124
Toluene-d8	77 - 121	78 - 121
trans-1,3-Dichloropropene-d4	73 - 121	72 - 130
2-Hexanone-d5	28 - 135	17 - 184
1,4-Dioxane-d8	50 - 150	50 - 150
1,1,2,2-Tetrachloroethane-d2	73 - 125	56 - 161
1,2-Dichlorobenzene-d4	80 - 131	70 - 131

1. For any recovery greater than the upper limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Do not qualify associated non-detects.
2. For any recovery greater than or equal to 20%, but less than the lower limit:
 - a. Qualify "J" all positive associated target compounds.
 - b. Qualify "UJ" associated non-detects.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

3. For any recovery less than 20%:

- a. Qualify "J" all positive associated target compounds.
- b. Qualify "R" all associated non-detects.

NOTE: Up to three (3) DMC's per sample, excluding 1,4-Dioxane-d8, may fail to meet the recovery limits. (SOM, sec. 11.3.4, pg. D-45/Low Medium VOA). Recovery limits for 1,4-Dioxane-d8 are advisory.

As per SOM, any sample which has more than 3 DMC's outside the limits, it must be reanalyzed (SOM sec. 11.4.3.1 pg. D-46/Low Medium VOA).

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis.

3.4 Are there any transcription/calculation errors between raw data and form II? ☒

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III Low/Med VOA) present? ☒

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)? ☒

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS and MSD results in conjunction with other

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

QC criteria and determine the need for some qualification of the data. If any MS/MSD % recovery or RPD is out of specification, qualify data to include the consideration of the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Criteria	Action	
	Detected Spiked Compounds	Non-detected Spiked Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use Professional Judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limits	No qualification	

5.0 Method Blanks (Form IV)

5.1 Is the Volatile Method Blank Summary (Form IV VOA) present for aqueous and soil samples?

☒ _____

5.2 Frequency of Analysis: For the analysis of Low/Med Concentration VOA TCL compounds, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent?

☒ _____

5.3 Has a VOA method blank been analyzed after the calibration standards and once every 12 hours time period for each GC/MS instrument used?

☒ _____

5.4 Was a VOA instrument blank analyzed after each sample/dilution that contains a target compound exceeding the initial calibration range (see SOM, page D-48/Low/Medium VOA, section 12.1.1.3)?

☐ _____ ☒

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any method/instrument blank data are missing, notify the TOPO to obtain resubmittals or an explanation from the lab. If method blank data are unavailable, the reviewer may use professional judgement, or substitute field blank or trip blank data for missing method blank data.

If an instrument blank was not analyzed after a sample containing a target analyte exceeding the initial calibration standards, inspect the sample chromatogram acquired immediately after this sample for possible carryover. The system is considered uncontaminated if the target analyte is below CRQL. Use professional judgement to determine if carryover occurred and qualify analyte(s) accordingly.

- 5.5 Was a storage blank analyzed once per SDG after all the samples were analyzed?

☒ ☐ ☐

ACTION: If storage blank data is missing, contact the TOPO to obtain any missing deliverables from the laboratory. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

- 5.6 The validator should verify that the correct identification scheme for EPA blanks was used. (See SOM page B-39, section 3.3.7.3 for more information.)

Was the correct identification scheme used for all Low/Med VOA blanks?

☒ ☐ ☐

ACTION: Contact the TOPO to obtain corrections from the lab, or make the necessary corrections. Document in the "Contract Problems/Non-Compliance section of the Data Assessment all corrections made by the validator.

- 5.7 Chromatography: review the blank raw data - chromatograms (RICs), quant. reports, data system printouts and spectra.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

Also compare the storage blank raw data with the method blank. Determine if contamination in the storage blank is also present in the method blank.

Is the chromatographic performance (baseline stability) for each instrument acceptable for Trace VOAs?

☒ ☐ ☐

ACTION: Use professional judgement to determine the effect on the data.

5.8 Are all detected hits for target compounds in method, and storage blanks less than the CRQL?

☒ ☐ ☐

Exception: Methylene Chloride, Acetone and 2-butanone must be less than 2X times their respective CRQLs.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and "distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Does the storage blank contain positive results (TCL and/or TICs) for Low/Med Concentration VOAs?

☐ ☐ ☐

6.2 Do any method/reagent/instrument blanks contain positive results (including TICs) for Low/Med Concentration VOAs?

☐ ☐ ☐

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

NOTE: Contaminated instrument blanks are unacceptable under this SOW (see page D-50/VOA, section 12.1.5.2).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if a contaminated instrument blank was submitted.

ACTION: Sample analysis results after the high concentration sample must be evaluated for carryover. Sample must meet the maximum carryover criteria as listed in SOM sec. 11.3.8 p. D-46/VOA. ("the sample must not contain a concentration above the CRQL for the target compounds that exceeded the limit in the contaminated sample.")

6.3 Do any field/trip/rinse blanks have positive hits for Low/Med VOA results (including TICs)? ✓

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped. Blanks may not be qualified because of contamination in another blank. Field blanks & trip blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Type	Blank Result	Sample Result	Action for Samples

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

Method, Field, Trip, Storage, Instrument **	Detects	Not detected	No qualification required
	< CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL *	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R
	TIC > 2ug/L	Detects	See "Action" below

* 2x the CRQL for methylene chloride, 2-butanone and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

ACTION : For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.4 Are there field/rinse/equipment blanks associated with every sample?

11 — ✓

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: Note in data assessment that there is no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 GC/MS Instrument Performance Check (Form V)

- 7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)? ☒ ☐ ☐
- 7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift? ☒ ☐ ☐
- 7.3 Did the 12-hour clock begin with either the injection of BFB, or in cases where a closing continuing calibration (CCV) was used as an opening CCV? ☒ ☐ ☐

Listed below are some, but not necessarily all, examples of acceptable analytical sequences incorporating the use of the opening/closing CCV. Use these examples as a guide for possible analytical sequences that can be expected.

Conditions for When Example Sequence is Appropriate:	Acceptable Criteria That Must be Met:	Notes:
If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets both opening and closing CCV criteria • CCV B meets closing CCV criteria.	The requirement of starting the new 12-hr clock for Analytical Sequence 2 with a new BFB tune is waived if CCV A meets opening CCV criteria. If CCV B meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

. YES NO N/A

If time remains on the 12 hour clock after initial calibration sequence	• BFB tunes meet instrument performance criteria. • The five initial calibration standards meet initial calibration criteria. • CCV A meets closing CCV criteria (but does not meet opening CCV criteria). • CCV B meets opening CCV criteria. • CCV C meets closing CCV Criteria.	CCV A does not meet opening criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV. OR If the most recent closing CCV was not or could not be used as an opening CCV.	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets both opening and closing CCV criteria. • CCV C meets both opening and closing CCV criteria.	The requirement of starting the new 12 hour clock for Analytical Sequence 2 with a new BFB tune is waived if CCV B meets opening CCV criteria. If CCV C meets opening CCV criteria, a method blank and subsequent samples may be analyzed immediately after CCV B.
If more than 12 hrs have elapsed since the most recent initial calibration or closing CCV OR If the most recent closing CCV was not or could not be used as an opening CCV	• BFB tunes meet instrument performance criteria. • CCV A meets opening CCV criteria. • CCV B meets closing CCV criteria (but does not meet opening CCV criteria). • CCV C meets opening CCV Criteria. • CCV D meets both opening and closing CCV criteria.	CCV B does not meet opening CCV criteria, therefore a new BFB tune must be performed, immediately followed by CCV B before a method blank and any samples may be analyzed. In this case, the new 12 hr clock and Analytical Sequence 2 begins with the injection of the new BFB tune. The requirement of starting the new 12 hr clock for Analytical Sequence 3 with a new BFB tune is waived if CCV D meets opening CCV criteria. If CCV D meets opening criteria, a method blank and subsequent samples may be analyzed after CCV B.

7.4 Have the ion abundances been normalized to m/z 95



STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

NOTE: All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, professional Judgement may be applied to determine to what extent the data may be utilized.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

7.7 Is the number of significant figures for the reported relative abundances consistent with the number given in the ion abundance criteria column on Form V?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.1 above.

7.8 Is the spectrum of the mass calibration compound acceptable?

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 Target Compound List (TCL) Analytes (Form I)

8.1 Are the Organic Analysis Data Sheets (Form I) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate?

☒ ☐ ☐

b. Regional Control/MS/MSD samples?

☐ ☐ ☒

c. Blanks (method, trip, etc)?

☒ ☐ ☐

8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following:

STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

Date: August 2007

SOP HW-33/VOA, Revision 1

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	☒	☐	☐
b. Regional Control/MS/MSD samples?	☐	☐	☒
c. Blanks (method, trip, etc)?	☒	☐	☐
ACTION: If any data are missing, take action specified in 3.1 above.			
8.3 Is chromatographic performance acceptable with respect to:			
Baseline stability?	☒	☐	☐
Resolution?	☒	☐	☐
Peak shape?	☒	☐	☐
Full-scale graph (attenuation)?	☒	☐	☐
Other: _____?	☐	☐	☒
ACTION: Use professional judgement to determine the acceptability of the data.			
8.4 Are lab-generated standard mass spectra of the identified VOA compounds present for each sample?	☒	☐	☐
ACTION: If any mass spectra are missing, take action as specified in 3.1 above. If lab does not generate their own standard spectra, make note under the "Contract Problems/Non-Compliance" section of the Data Assessment. If spectra are unavailable reject "R" the reported results.			
8.5 Is the RRT of each reported compound within ± 0.06 RRT units of the standard RRT in the continuing calibration?	☒	☐	☐
8.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	☒	☐	☐
8.7 Do sample and standard relative ion intensities agree to within $\pm 20\%$?	☒	☐	☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R) flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

positively identified, the data must comply with the criteria listed in sections 8.4-8.7 above.

ACTION: When sample carry-over is suspected, review section 6.2/Action #2 above before determining if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

- 9.1 Are all Tentatively Identified Compound Forms (Form I VOA-TIC) present? Do listed TICs include scan number or retention time, as well as the estimated "J" and/or "JN" qualifier? ☒ ☐ ☐
- 9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:
- a. Samples and/or fractions as appropriate? ☒ ☐ ☐
- b. Blanks? ☒ ☐ ☐
- b. Are Alkanes listed in/or part of the Case Narrative? ☐ ☐ ☒
- ACTION: If any TIC data are missing, take action specified in 3.1 above.
- ACTION: Verify "JN" qualifier is present for all chemically named TICs having a percent match of greater than or equal 85%. TICs labeled "unknown" are qualified with a "J" qualifier.
- 9.3 Are any target compounds (from any fraction) listed as TICs? (Example: 1,2-dimethylbenzene is xylene - a VOA target analyte - and should not be reported as a TIC.) ☐ ☒ ☐
- ACTION: Flag with "R" only target compound detected in another fraction (except blank contamination).
- 9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum? ☒ ☐ ☐
- 9.5 Do TICs and "best match" reference spectra relative ion intensities agree within $\pm 20\%$? ☒ ☐ ☐

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined that an incorrect identification was made, change its identification to "unknown" or

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

to some less specific identification (example: "C3 substituted benzene") as appropriate.

Action: When a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, solvent preservatives or Aldo condensation, the result should be qualified as unusable (R). (i.e., common lab contaminants such as CO₂(m/e 44), Siloxanes (m/e 73), diethyl ether, hexane, certain freons. Aldol condensation products: 4-hydroxy-4-methyl-2-pentanone, 4-methyl-2-penten-2-one, and 5,5-dimethyl-2(H)-furanone. Solvent preservatives cyclohexene, and related by-products: cyclohexanone, cyclohexenone, cyclohexanol, cyclohexenone, chlorocyclohexene, and chlorocyclohexanol.).

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRFs were used to calculate Form I results.)

___ ☒ ___

10.2 Are the CRQLs adjusted to reflect sample dilutions and percent moisture?

☒ ___ ☒

ACTION: If errors are large, take action as specified in section 3.1 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQLs data from the diluted sample). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's not to be used, including any in the data summary package.

10.3 For non-aqueous samples, were the percent moisture < 70%?

☒ ___

Action: If the % moisture $\geq$ 70.0% and < 90.0%, qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture $\geq$ 90%, qualify detects as "J" and non-detects as "R"

11.0 Standards Data (GC/MS)

11.1 Are the reconstructed ion chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration?

☒ ___

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

ACTION: If any calibration standard data are missing, take action specified in section 3.1 above.

12.0 GC/MS Initial Calibration (Form VI)

- 12.1 Are the Initial Calibration Forms (Form VI LCV) present and complete for the volatile fraction at concentrations of 5, 10, 50, 100, and 200 µg/l for non-ketones, 10, 20, 100, 200 and 400 µg/L for ketones and 100, 200, 1000, 2000, and 4000 µg/L for 1,4-dioxane.

✓ — —

ACTION: If any Initial Calibration forms are missing, take action as specified in section 3.1 above.

- 12.2 Are the relative standard deviation (RSD) stable for VOA's over the concentration range of the calibration (i.e., %RSD ≤ 20%, ≤ 40% for poor performers (see table below), ≤ 50% for 1,4-dioxane)?

✓ — —

ACTION: Circle all outliers in red.

NOTE: The twenty two (22) poor performers compounds and associated DMCs are listed below. The relative response factor (RRF) for these compounds must be greater than or equal to 0.010.

Volatile Compounds Exhibiting Poor Response

Volatile Compounds	
Acetone	1,2-Dibromo-3-chloropropane
2-Butanone	Isopropylbenzene
Carbon disulfide	Methyl acetate
Chloroethane	Methylene chloride
Chloromethane	Methylcyclohexane
Cyclohexane	Methyl tert-butyl ether
1,4-Dioxane	trans-1,2-Dichloroethene
1,2-Dibromoethane	4-Methyl-2-pentanone
Dichlorodifluoromethane	2-Hexanone
cis-1,2-dichloroethene	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

YES NO N/A

ACTION: If %RSD > 20.0%, (> 40.0% for the poor performers, and > 50% for 1,4-dioxane), qualify associated positive results for that analyte "J" (estimated). If %RSD is > 90, flag all non-detects for that analyte "R" (unusable) and positive results "J".

NOTE: Analytes previously qualified "U" for blank contamination are still treated as "hits" when qualifying for initial calibration criteria.

12.3 Are any $\overline{RRF}$ s < 0.050 (< 0.010 for poor performers)?

___ ☒ ___

ACTION: Circle all outliers in red.

ACTION: If any $\overline{RRF}$ values are < 0.05 or < 0.01 for poor performers, qualify associated non-detects unusable (R) and associated positive results estimated (J).

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance the analytes that fail %RSD and/or RRF criteria.

12.4 Are there any transcription/calculation errors in the reporting of RRFs, RRFs or %RSD values? (Check at least 2 values, but if errors are found, check more.)

___ ☒ ___

ACTION: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obtain an explanation/resubmittal from the lab, document in the Data Assessment under Contract Problems/Non-Compliance.

13.0 GC/MS Continuing Calibration Verification (CCV) (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?

☒ ___

13.2 Did the 12 hour clock begin with either the injection of BFB or in cases where a closing CCV can be used as an opening CCV for each instrument?

☒ ___

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, ask the TOPO to obtain explanation/resubmittal from the laboratory. If continuing calibration data are unavailable, flag all associated sample data as unusable (R).

13.3 Do any volatile compounds have a % Difference (% D) between the initial RRF and CCV RRF exceeding $\pm 50\%$ for 1,4-Dioxane, $\pm 40\%$ for the poor performers or $\pm 25\%$ for the remaining compounds?

___ ☒ ___

ACTION: Circle all outliers in red.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

13.4 Do any volatile compounds have a RRF < 0.05 or < 0.01 for the poor performers? X

ACTION: Circle all outliers in red.

Note: Verify that the CCV was run at the required frequency (an opening and closing CCV must be run within 12-hour period) and the CCV was compared to the correct initial calibration. If the mid-point standard from the initial calibration is used as an opening CCV, verify that the result (RRF) of the mid-point standard was compared to the average RRF from the correct initial calibration.

Note: The closing CCV used to bracket the end of a 12-hour analytical sequence may be used as the opening CCV for the new 12-hour analytical sequence, provided that all the technical acceptance criteria are met for an opening CCV (see table below). If the closing CCV does not meet the technical acceptance criteria for an opening CCV, then a BFB tune followed by an opening CCV is required and the next 12-hour time period begins with the BFB tune.

Action: Use the following table to qualify data based on the technical acceptance criteria for the opening CCV and closing CCV.

Continuing Calibration Verification (CCV) Actions for Low/Medium Volatiles Analyses

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor responders) RRF < 0.050 (all other volatile target compounds)	RRF < 0.010 (for all volatile target compounds)	J	R
RRF ≥ 0.010 (poor responders) RRF ≥ 0.050 (for all other compounds)	RRF ≥ 0.010 (for all target volatile compounds)	No Action	
%D > 50.0 or < -50.0 (1,4-Dioxane) %D > 40.0 or < -40.0 (poor responders) %D > 25.0 or < -25.0 (all other volatile target compounds)	%D > 50.0 or < -50.0 (for all volatile target compounds)	J	UJ
%D ≤ 50.0 or ≥ -50.0 (1,4-Dioxane) %D ≤ 40.0 or ≥ -40.0 (poor responders) %D ≤ 25.0 or ≥ -25.0 (all other volatile target compounds)	%D ≤ 50.0 or ≥ -50.0 (for all volatile target compounds)	No Action	
Opening CCV not performed at required frequency *	Closing CCV not performed at required frequency *	R	

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

. YES NO N/A

* See section 13.2 above

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance if more than two of the required analytes failed the above acceptance criteria.

13.5 Are there any transcription/calculation errors for the reporting of RRFs, or %D between initial RRFs and continuing RRFs? (Check at least two values but if errors are found, check more.)

— ☒ —

ACTION: Circle errors with red pencil.

ACTION: If errors are large, notify the TOPO to obtain explanation/resubmittals from the lab. Document errors in the Contract Problems/Non-Compliance section of the Data Assessment.

Note: All DMCs must meet $RRF \geq 0.010$. No qualification of the data is necessary on the DMCs RRF and %RSD/%Diff data alone. However, use professional judgment to evaluate the DMC and %RSD/% Diff data in conjunction with the DMC recoveries to determine the need of qualification of the data.

14.0 Internal Standard (Form VIII)

14.1 Were the internal standard area counts for every sample and blank within the range of 50.0% and 200.0% of its response in the most recent opening CCV standard calibration?

☒ — —

If no, were affected sample reanalyzed?

☐ — —

ACTION: 1. Circle all outliers with red pencil.

14.2 Are the retention times of the internal standards in sample or blanks within ± 30 seconds from the RT of the internal standard in the 12-hour associated calibration standard (opening CCV or mid-point standard from initial calibration)?

☒ — —

Action: Use the following table to qualify the data:

INTERNAL STANDARDS ACTIONS FOR LOW/MEDIUM VOLATILES

Criteria	ACTION	
	Detected Associated Compounds *	Non-detected Associated Compounds *

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Area counts $\geq$ 50% and $\leq$ 200% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	No Action	
Area counts < 50% of 12-hour standard (opening CCV or mid-point standard from initial calibration)	J	R
Area counts > 200% of 12-hour standard (Opening CCV or mid-point standard from initial calibration)	J	No Action
RT difference > 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	R**	R
RT difference $\leq$ 30.0 seconds between samples and 12-hour standard (Opening CCV or mid-point standard from initial calibration)	No Action	

- * For volatile compounds associated to each internal standard, see Table 3-Low/Medium Volatile Target Compounds and Deuterated Monitoring Compounds with Corresponding Internal Standards for Quantitation in SOM01.1, Exhibit D, available at:

[Http://www.epa.gov/superfund/programs/clp/som1.htm](http://www.epa.gov/superfund/programs/clp/som1.htm)

- ** Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable "R" if the mass spectral are met.

NOTE: Contract Requirements: The SOM (section 11.4.1 page D-46/VOA Low/Medium states that any sample which fails the acceptance criteria for IS response must be reanalyzed.

ACTION: Document in the Data Assessment under Contract Problems/Non-Compliance any sample(s) which failed the above IS acceptance criteria.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for Low Concentration VOA analysis?

11

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

Definitions

BFB - bromofluorobenzene
CCS - contract compliance screening
CLASS - Contract Laboratory Analytical Services Support
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
GC/MS - gas chromatography/mass spectroscopy
kg - kilogram
µg - microgram
l - liter
ml - milliliter
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SOP - standard operating procedure
SOW - Statement of Work
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TIC - tentatively identified compound
TPO - technical project officer
VOA - volatile organic acid
VTSR - validated time of sample receipt
TOPO - Task Order Project Officer

References

STANDARD OPERATING PROCEDURE

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Low/Medium Volatiles

SOP HW-33/VOA, Revision 1

-
1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media, Multi-Concentration, SOW/CLPSOM01.1, October 2004
 2. National Functional Guidelines for Superfund Organic Methods Data Review January 2005

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 12/26/2007

RECEIVED

JAN 02 2008

HAZ. WASTE SUPPORT SEC

SDG Narrative

Case 37045

SDG B4LW5

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LR2	Yes	No	N/A
B4LR3	Yes	No	N/A
B4LR4	Yes	Yes	N/A
B4LS8	Yes	No	N/A
B4LS9	Yes	Yes	N/A
B4LT0	Yes	No	N/A
B4LT1	Yes	No	N/A
B4LT2	Yes	Yes	N/A
B4LT3	Yes	No	N/A
B4LT4	Yes	Yes	N/A
B4LT5	Yes	No	N/A
B4LT6	Yes	Yes	N/A
B4LT7	Yes	No	N/A
B4LW5	Yes	No	<2
B4LW6	Yes	No	<2
B4LW7	Yes	No	<2
B4LX7	Yes	No	<2
B4LX8	Yes	No	<2
B4LY0	Yes	No	<2
B4LY1	Yes	No	<2

Columns	VOA DB-624, 30m x 0.25mm x 1.4um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where A_x is the area of the characteristic ion (EICP) for the compound to be measured. A_{is} is the area of the characteristic ion (EICP) for the internal standard. I_s is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. V_o is total volume of water purged, in mL. W_s is the weight of sample added to the purge tubin g. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 5.7, 2.4, 4.8 and 4.1°C

Sample B4LR0 was designated as lab QC on the TR/COC. Per instruction from the Region, lab QC is not required for the VOA fraction. Lab QC was not performed for this SDG.

VOA Fraction

The peak eluting at ~5.3min on MSD5 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

Samples B4LR4, B4LS9, B4LT2, B4LT4 and B4LT6 were reanalyzed due to multiple DMC recoveries outside the acceptance limits in the initial analysis. Both the initial and reanalysis data are included in this package.

Since the VOA soil samples were collected in coring devices, it was beyond the laboratory's control if some of the sample weights varied significantly from 5.0 grams, as required in section 10.1.4.7 of Exhibit D Low/Medium volatiles, SOM01.1.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Dr. Robert Zhu
Technical Director

12/26/07

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 12/21/2007

SDG Narrative

Case 37045

SDG B4LR1

RECEIVED

JAN 02 2008

HAZ. WASTE SUPPORT SEC

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LR0	Yes	Yes	N/A
B4LR1	Yes	No	N/A
B4LR5	Yes	No	N/A
B4LR6	Yes	Yes	N/A
B4LR7	Yes	Yes	N/A
B4LR8	Yes	No	N/A
B4LR9	Yes	No	N/A
B4LS0	Yes	No	N/A
B4LS2	Yes	No	N/A
B4LS3	Yes	No	N/A
B4LS4	Yes	Yes	N/A
B4LS5	Yes	No	N/A
B4LS6	Yes	Yes	N/A
B4LS7	Yes	No	N/A
B4LW1	Yes	No	<2
B4LW2	Yes	No	<2
B4LW3	Yes	No	<2
B4LW4	Yes	No	<2
B4LX5	Yes	No	<2
B4LX6	Yes	No	<2

Columns	VOA DB-624, 30m x 0.25mm x 1.4um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where A_x is the area of the characteristic ion (EICP) for the compound to be measured. A_{is} is the area of the characteristic ion (EICP) for the internal standard. I_s is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. V_o is total volume of water purged, in mL. W_s is the weight of sample added to the purge tubin g. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 5.4, 3.8, 3.2 and 4.1°C

Sample B4LR0 was designated as lab QC on the TR/COC. Per instruction from the Region , lab QC is not required for the VOA fraction. Lab QC was not performed for this SDB.

VOA Fraction

The peak eluting at ~5.3min on MSD5 and MSD6 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

Manual integration was performed on 1,2-dichloropropane and 1,4-dioxane for VSTD0056A due to incorrect auto integration.

One of the two frozen VOA vials for sample B4LR5 cracked during storage. The remaining vial was used for analysis and there were multiple DMC recoveries outside the acceptance limits. There was no more sample for reanalysis.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Dr. Robert Zhu
Technical Director 12/21/07

Shealy Environmental Services, Inc.

Contract Number: EPW05031

Date: 12/28/2007

RECEIVED

JAN 01 2008 RG

HAZ. WASTE SUPPORT SEC

SDG Narrative

Case 37045

SDG B4LT8

EPA Sample Numbers

EPA Sample Number	VOA Fraction	DL/RE	pH
B4LT8	Yes	No	N/A
B4LT9	Yes	Yes	N/A
B4LW0	Yes	No	N/A
B4LW8	Yes	No	<2
B4LW9	Yes	No	<2
B4LY2	Yes	No	<2
B4LY5	Yes	No	N/A
B4LY6	Yes	No	N/A

Columns	TVOA DB-624, 20m x 0.18mm x 1.0um
Trap	OI Trap #10

VOA Equation	$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)}$ $\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$ Where A_x is the area of the characteristic ion (EICP) for the compound to be measured. A_{is} is the area of the characteristic ion (EICP) for the internal standard. I_s is the amount of internal standard added, in ng. RRF is the mean relative response factor from the initial calibration. DF is the dilution factor. V_o is total volume of water purged, in mL. W_s is the weight of sample added to the purge tubing. $D = \frac{100 - \% \text{moisture}}{100}$

Sample Receiving

The cooler temperatures associated with these samples were 3.2 and 4.8 °C

VOA Fraction

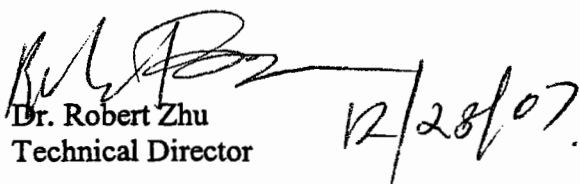
The peak eluting at ~5.8min on MSD5 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

Peak eluting at ~5.3min on MSD6 in all analyses is pentafluorobenzene. This is an internal standard compound is not being used for quantitation. This compound is not being identified as a TIC.

Manual integration was performed on 1,2,2-trichloro-1,2,2-trifluoro, carbon disulfide, 1,1-dichloroethane, carbon tetrachloride, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dioxane, and bromodichloromethane for standard VSTD01066 due to incorrect auto integration.

Manual integration was performed on 1,2-dichloropropane and 1,4-dioxane for standard VSTD0056A due to incorrect auto integration.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.


Dr. Robert Zhu
Technical Director



Contract Laboratory Program

RECEIVED

JAN 02 2008

HAZ. WASTE SUPPORT SEC

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: B4LW5

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37045

Analysis Price: \$440

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LR2	7) B4LT1	13) B4LT7	19) B4LY0
2) B4LR3	8) B4LT2	14) B4LW5	20) B4LY1
3) B4LR4	9) B4LT3	15) B4LW6	21) N/A
4) B4LS8	10) B4LT4	16) B4LW7	22) N/A
5) B4LS9	11) B4LT5	17) B4LX7	23) N/A
6) B4LT0	12) B4LT6	18) B4LX8	24) N/A

B4LW5

First Sample in SDG

B4LT7

Last Sample in SDG

12/04/07

First Sample Receipt Date

12/07/07

Last Sample Receipt Date

Note: There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: gulumann

Date: 12/10/07

Organic (10/06)



Contract Laboratory Program

RECEIVED
JAN 02 2008
HAZ. WASTE SUPPORT SEC

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: B4LR1

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37045

Analysis Price: \$440

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LR0	7) B4LR9	13) B4LS6	19) B4LX5
2) B4LR1	8) B4LS0	14) B4LS7	20) B4LX6
3) B4LR5	9) B4LS2	15) B4LW1	21) N/A
4) B4LR6	10) B4LS3	16) B4LW2	22) N/A
5) B4LR7	11) B4LS4	17) B4LW3	23) N/A
6) B4LR8	12) B4LS5	18) B4LW4	24) N/A

B4LR1

First Sample in SDG

B4LW2

Last Sample in SDG

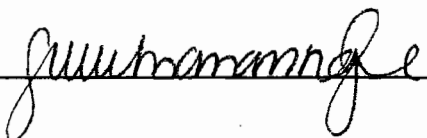
11/28/07

First Sample Receipt Date

12/04/07

Last Sample Receipt Date

Note: There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: 

Date: 12/05/07



Contract Laboratory Program

Sample Delivery Group (SDG)
Cover Sheet

RECEIVED
JAN 11 7 2008
HAZ. WASTE SUPPORT

SDG Number: B4LT8

Laboratory Name: Shealy Environmental

Contract No.: EPW05031

Analysis Price: \$440

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

Laboratory Code: SHEALY

Case No.: 37045

SDG Turnaround: 21-DAY

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4LT8	7) B4LY5	13) N/A	19) N/A
2) B4LT9	8) B4LY6	14) N/A	20) N/A
3) B4LW0	9) N/A	15) N/A	21) N/A
4) B4LW8	10) N/A	16) N/A	22) N/A
5) B4LW9	11) N/A	17) N/A	23) N/A
6) B4LY2	12) N/A	18) N/A	24) N/A

LT8
Sample in SDG

07
Sample Receipt Date

B4LY6
Last Sample in SDG

12/08/07
Last Sample Receipt Date

There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples] in an SDG.
Each the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Guillermo

Date: 12/14/07

REC
RC

oll@fedcsc.com>
lab.com>; "Shirani Wickramasinghe" <swickramasinghe@shealylab.com>
ail.epa.gov>; <feranda.jennifer@epa.gov>; "Rudolph, Elizabeth" <erudolph@fedcsc.com>
03, 2007 2:46 PM
37045 | Lab SHEALY | Issue Insufficient/inappropriate designation of laboratory QC | FINAL

am helping Beth out.

ignates a sample for laboratory QC; however, per scheduling laboratory QC is not required.
accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative and proceed
sis of the samples. This Region only requires laboratory QC on the Pest and/or ARO fraction for SOM01.2.
/ End***
me know if you have any other questions.

stin Von Moll
SC
Environmental Coordinator
(703) 818-4235
kvonmoll@fedcsc.com

This is a PRIVATE message. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail of the mistake in deliver
NOTE: Regardless of content, this e-mail shall not operate to bind CSC to any order or other contract unless pursuant to explicit written agreement or
government initiative expressly permitting the use of e-mail for such purpose.

From: Rudolph, Elizabeth
Sent: Monday, December 03, 2007 1:58 PM
To: Von Moll, Kristin
Subject: FW: Case 37045

From: Shirani Wickramasinghe [mailto:swickramasinghe@shealylab.com]
Sent: Monday, December 03, 2007 12:44 PM
To: Rudolph, Elizabeth
Cc: Robert Zhu
Subject: Case 37045

Beth,
We have received samples from case 37045. Per the scheduling no lab QC was requested however, the TR design
for QC. Please advise.
Thanks,

=====

Shirani Wickramasinghe
Project Manager
Shealy Environmental Services, Inc.
803-791-9700 Ext. 118
803-227-3154 direct dial
swickramasinghe@shealylab.com

=====