INITIAL VOC & RADIOLOGICAL SUBSURFACE INVESTIGATION REPORT

VETERANS ADMINISTRATION
GREATER LOS ANGELES HEALTHCARE SYSTEM
11301 WILSHIRE BOULEVARD
LOS ANGELES, CA 90073

VOLUME 2

APPENDIX 7

PROJECT NO. 02-3454EI-3

December 10, 2010

Prepared For:

Department of Veterans Affairs
Veterans Administration - Greater Los Angeles Healthcare System
11301 Wilshire Boulevard, Building 218, Room 308
Los Angeles, CA 90073

Prepared By:

ALLWEST GEOSCIENCE Inc.
1751 Jenks Drive
Corona, CA 92880

APPENDIX 7

SOIL ANALYTICAL REPORTS – VOCs

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PROJECT: **VA GLAHS**

SDG: **09L023**

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** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-17-2009
EMAX Batch No.: 09L023

Attn: Jay Boughter

Allwest Geoscience, Inc.
1751 Jenks Dr.
Corona, CA 92880

Subject: Laboratory Report
Project: VA GLAHS

Enclosed is the Laboratory report for samples received on 12/01/09.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB1-10V	L023-01	11/30/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB2-19V	L023-02	11/30/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB3-20V	L023-03	11/30/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB4-20V	L023-04	11/30/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB12-30V	L023-05	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB12-50V	L023-06	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB11-20V	L023-07	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB11-40V	L023-08	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
TRIP BLANK	L023-09	12/01/09	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meet all NELAC requirements unless noted in the Case Narrative.

AG-0901-

09/023

CHAIN OF CUSTODY FORM

P.O. NUMBER:

SITE/PROJECT NAME: U.S. Dept. Veterans Affairs

JOB NUMBER: 02-3454-ED

SITE/PROJECT LOCATION: VA GLAHS

SAMPLER(S) SIGNATURE: Jay A. Boughton

SUBMIT RESULTS TO:
1751 Jeaks Dr.
Corona, CA 92880
~~4442 Avery Park Avenue~~
~~Las Vegas, NV 89110~~ Allwest Geoscience
ATTN: ~~Jay A. Boughton~~ John Gery
PHONE NO. (949) 350-4682
FAX NO. (702) 463-7003

ANALYTICAL METHOD

	SAMPLE NUMBER (I.D.)	YEAR 2009 DATE MM/DD	TIME AM/PM	DEPTH BELOW GRADE (ft)	NO. OF CONTAINERS	TPHg 8015M	BTEX 8260B + MTBE ETBE TAME DIPE TBA	8260B Full Suite			REMARKS
1	SB1-10V	11/30	12:29pm	10	3+1			X			
2	SB2-19V	11/30	1:43pm	19	3+1			X			
3	SB3-20V	11/30	2:20pm	20	3+1			X			
4	SB4-20V	11/30	3:00pm	20	3+1			X			
5	SB12-30V	12/1	8:08am	30	3+1			X			
6	SB12-50V	12/1	8:45am	50	3+1			X			
7	SB11-20V	12/1	10:10am	20	3+1			X			
8	SB11-40V	12/1	10:21am	40	3+1			X			
	~~SB-10~~ JAB							~~X~~ JAB			
	~~SB-10~~ JAB							~~X~~ JAB			

SAMPLES INTACT: YES..... NO.....
SAMPLES PROPERLY COOLED: YES..... NO.....
TEMPERATURED STORED: 2.8°C
PRESERVATIVES ADDED: YES.... NO..... TYPE:
SAMPLES ACCEPTED: YES..... NO.....
IF NOT, WHY:

SAMPLES PLACED IN LAB REFRIGERATOR
YES..... NO..... REP. INITIALS.....

LABORATORY NAME: EMAX Labs

RELINQUISHED	DATE/TIME	DATE/TIME	RECEIVED
RELINQUISHED BY (SIGNATURE)/COMPANY: Jay A. Boughton /Allwest	DATE/TIME 12/1/09 11:31	DATE/TIME 12/1/09 11:31	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME 12/1/09 12:15	DAT/TIME 12/01/09 1215	RECEIVED BY (SIGNATURE)/COMPANY: EMAX
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME	DATE/TIME	RECEIVED BY (SIGNATURE)/COMPANY:

1001

SAMPLE RECEIPT FORM

Type of Delivery	Delivered By/Airbill	ECN	09/023
☑ EMAX Courier	SEE COC	Recepient	J-LUNA
☐ Client Delivery		Date	12-01-09
☐ Third Party		Time	1215

COC Inspection		
☑ Client Name	☑ Sampler Name	☑ Sampling Date/Time/Location
☑ Address	☑ Courier Signature/Date/Time	☐ Analysis Required
☑ Client PM/FC	☐ TAT	☐ Matrix
☑ Tel #/Fax #	☑ Sample ID	☐ Preservative (if any)
Safety Issues ☑ None	☐ High Concentrations expected	☐ Superfund Site Samples
Comments:		

Packaging inspection				
Container	☑ Cooler	☐ Box	☐ Rad Screening See comment	
Condition	☐ Custody Seal	☑ Intact	☐ Damaged	☐ _____
Packaging	☑ Bubble Pack	☐ Styrofoam	☑ Sufficient	☐ _____
Temperatures	☑ Cooler 1 _____	☐ Cooler 2 _____	☐ Cooler 3 _____	☐ Cooler 4 _____
Comments:	☑ Unrestricted Release	☑ Gamma <0.05mr/hr	☑ Alpha <20dpm/100sqcm	☑ Beta <500dpm/100sqcm

Sample Inspection				
Container	☐ Custody Seal	☑ Intact	☐ Appropriate	☑ Damaged
Identity	☑ Client ID	☐ Sampling Date/Time/Location		☐ Analysis
Preservation	☐ NaOH[pH>/=12]	☐ HNO3[pH<2]	☐ H2SO4 [pH<2]	☐ Holding Time OK
Sample	☑ Sufficient	☐ Appropriate	☐ RAD Screening see SSF	☐ See Comment
Comment:				

Sample Control #	Client ID	Discrepancy	Corrective Action
-03		SB3-19V ON LABELS	Proceed as indicated on COC.
-04		SB4-20 ON LABELS	
-05		SB12-30 ON LABELS	
-06		SB12-50 ON LABELS	
-07		SB11-20 ON LABELS	
-08		SB11-40 ON LABELS	
-09		RECVD 2 EMAX TRIPBLANKS	Analyze trip blanks for VOC.
		NOT INDICATED IN COC	
01-08		ANALYSIS NOT INDICATED	Proceed as indicated on COC.
		ON LABELS/NO DATE,TIME	

REVIEWS
Sample Labeling _____ Date 12/01/09
SRF _____ Date 12/1/09
PM _____ Date 12/01/09

FAX

TO: RICHARD BEAUVIL - EMAX

FROM: JOEL COHN - Allwest / PIKA (510-914-6262)

RE: SAMPLES FROM LA VA HOSPITAL

The soil samples collected at the LA VA Hospital have been screened for radioactivity. None was found, above background levels. See attached for additional information.

USNRC RADIOACTIVE MATERIAL
Exempt Quantities

This package conforms to the conditions and limitations specified in:

49CFR173.421 for radioactive material, Postal Publication No. 6 dated September 1983, BS 5288/ C11111 and
IATA Dangerous Goods Regulations; section 4.2 UN2910, Radioactive material, excepted package, limited quantity of material

Contents are exempt from USNRC and agreement states and/or states licensing requirements.

The radiation exposure rate at any point on the external surface of this package does not exceed 0.5 mR/hr.

Radioactive Material —— Not for Human Use —— Introduction Into Foods, Beverages, Cosmetics, Drugs, or Medicinals, or Into Products Manufactured for Commercial Distribution is Prohibited —— Exempt Quantities Should Not be Combined.

The quantities of radioactive material contained in these products is extremely small and present no known radiation hazard. However, it is always good practice to minimize exposure by following the basic principles of time, distance and shielding. Solid, sealed exempt quantity sources require no special handling but when working with liquid sources, gloves and laboratory coats are recommended.

Eating, drinking and smoking should be prohibited in areas where radioactive material is used or stored.

Use of radioactive material should be supervised by a responsible person in authorized areas. Exempt quantity products should be used only as intended and in accordance with instructions provided. All radioactive material should be securely stored when not in use.

These exempt quantity products may be disposed of in regular waste providing all radiation symbols have been removed or defaced. When disposing of liquid exempt quantities, it is recommended that they be flushed into the public sewer system diluted with large volumes of water.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ALLWEST GEOSCIENCE, INC.

VA GLAHS

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 09L023

2000

CASE NARRATIVE

Client : ALLWEST GEOSCIENCE, INC.

Project : VA GLAHS

SDG : 09L023

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

One (1) water sample was received on 12/01/09 for Volatile Organics by GC/MS analysis, Method SW 5030B/8260B in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods & DoD QSM, Version 3.

Holding Time
Sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the sample in this SDG.
Percent recoveries for VOE2L09L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Sample was analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.
Project : VA GLAHS

SDG NO. : 09L023
Instrument ID : T-OE2

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VOE2L09B	1	NA	12/05/0912:58	12/05/0912:58	RLG191	RLG093	VOE2L09	Method Blank
LCS1W	VOE2L09L	1	NA	12/05/0911:44	12/05/0911:44	RLG188	RLG093	VOE2L09	Lab Control Sample (LCS)
LCD1W	VOE2L09C	1	NA	12/05/0912:09	12/05/0912:09	RLG189	RLG093	VOE2L09	LCS Duplicate
TRIP BLANK	L023-09	1	NA	12/05/0913:23	12/05/0913:23	RLG192	RLG093	VOE2L09	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

2003

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/05/09 13:23
Sample ID:	TRIP BLANK	Date Analyzed:	12/05/09 13:23
Lab Samp ID:	L023-09	Dilution Factor:	1
Lab File ID:	RLG192	Matrix	: WATER
Ext Btch ID:	VOE2L09	% Moisture	: NA
Calib. Ref.:	RLG093	Instrument ID	: T-OE2

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	1.0	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON DISULFIDE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	1.0	0.20
M/P-XYLENES	ND	2.0	0.40
METHYLENE CHLORIDE	ND	1.0	0.50
MTBE	ND	1.0	0.20
O-XYLENE	ND	1.0	0.20
STYRENE	ND	1.0	0.20
TETRACHLOROETHYLENE	ND	1.0	0.20
TOLUENE	ND	1.0	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	70-120
TOLUENE-D8	105	85-120
4-BROMOFLUOROBENZENE	100	75-120
DIBROMOFLUOROMETHANE	107	85-115

RL: Reporting Limit

QC SUMMARIES

2005

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/05/09
Batch No.	: 09L023	Date Extracted:	12/05/09 12:58
Sample ID:	MBLK1W	Date Analyzed:	12/05/09 12:58
Lab Samp ID:	VOE2L09B	Dilution Factor:	1
Lab File ID:	RLG191	Matrix	: WATER
Ext Btch ID:	VOE2L09	% Moisture	: NA
Calib. Ref.:	RLG093	Instrument ID	: T-OE2

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	1.0	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON DISULFIDE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	1.0	0.20
M/P-XYLENES	ND	2.0	0.40
METHYLENE CHLORIDE	ND	1.0	0.50
MTBE	ND	1.0	0.20
O-XYLENE	ND	1.0	0.20
STYRENE	ND	1.0	0.20
TETRACHLOROETHYLENE	ND	1.0	0.20
TOLUENE	ND	1.0	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	70-120
TOLUENE-D8	108	85-120
4-BROMOFLUOROBENZENE	98	75-120
DIBROMOFLUOROMETHANE	107	85-115

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L023
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VOE2L09B	VOE2L09L	VOE2L09C		
LAB FILE ID:	RLG191	RLG188	RLG189		
DATE EXTRACTED:	12/05/0912:58	12/05/0911:44	12/05/0912:09	DATE COLLECTED:	NA
DATE ANALYZED:	12/05/0912:58	12/05/0911:44	12/05/0912:09	DATE RECEIVED:	12/05/09
PREP. BATCH:	VOE2L09	VOE2L09	VOE2L09		
CALIB. REF:	RLG093	RLG093	RLG093		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.1	101	10.0	9.83	98	3	65-130	30
1,1,2,2-Tetrachloroethane	ND	10.0	9.42	94	10.0	9.28	93	2	65-130	30
1,1,2-Trichloroethane	ND	10.0	9.96	100	10.0	9.83	98	1	75-125	30
1,1-Dichloroethane	ND	10.0	9.80	98	10.0	9.64	96	2	70-135	30
1,1-Dichloroethene	ND	10.0	9.95	99	10.0	9.67	97	3	70-130	30
1,2-Dichloroethane	ND	10.0	9.50	95	10.0	9.40	94	1	70-130	30
1,2-Dichloropropane	ND	10.0	9.95	99	10.0	9.54	95	4	75-125	30
2-Butanone	ND	50.0	47.8	96	50.0	45.7	91	5	30-150	30
2-Hexanone	ND	50.0	49.9	100	50.0	47.1	94	6	55-130	30
4-Methyl-2-Pentanone	ND	50.0	50.0	100	50.0	47.4	95	5	60-135	30
Acetone	ND	50.0	48.2	96	50.0	45.8	92	5	40-140	30
Benzene	ND	10.0	9.92	99	10.0	9.69	97	2	80-120	30
Bromodichloromethane	ND	10.0	9.81	98	10.0	9.81	98	0	75-120	30
Bromoform	ND	10.0	9.36	94	10.0	9.15	91	2	70-130	30
Bromomethane	ND	10.0	9.92	99	10.0	8.95	89	10	30-145	30
Carbon Disulfide	ND	10.0	8.95	89	10.0	8.78	88	2	35-160	30
Carbon Tetrachloride	ND	10.0	10.5	105	10.0	10.2	102	3	65-140	30
Chlorobenzene	ND	10.0	9.63	96	10.0	9.39	94	3	80-120	30
Chloroethane	ND	10.0	11.3	113	10.0	10.2	102	11	60-135	30
Chloroform	ND	10.0	9.52	95	10.0	9.44	94	1	65-135	30
Chloromethane	ND	10.0	9.98	100	10.0	9.07	91	9	40-125	30
cis-1,2-Dichloroethene	ND	10.0	9.11	91	10.0	8.90	89	2	70-125	30
cis-1,3-Dichloropropene	ND	10.0	9.50	95	10.0	9.28	93	2	70-130	30
Dibromochloromethane	ND	10.0	9.70	97	10.0	9.79	98	1	60-135	30
Ethylbenzene	ND	10.0	9.90	99	10.0	9.78	98	1	75-125	30
m/p-Xylenes	ND	20.0	19.8	99	20.0	19.5	98	1	75-130	30
Methylene Chloride	ND	10.0	10.2	102	10.0	10.1	101	1	55-140	30
MTBE	ND	10.0	9.63	96	10.0	9.76	98	1	65-125	30
o-Xylene	ND	10.0	10.0	100	10.0	9.88	99	1	80-120	30
Styrene	ND	10.0	10.2	102	10.0	10.2	102	0	65-135	30
Tetrachloroethylene	ND	10.0	10.1	101	10.0	9.62	96	5	45-150	30
Toluene	ND	10.0	9.78	98	10.0	9.59	96	2	75-120	30
Trans-1,2-Dichloroethene	ND	10.0	9.47	95	10.0	9.22	92	3	60-140	30
Trans-1,3-Dichloropropene	ND	10.0	9.28	93	10.0	9.18	92	1	55-140	30
Trichloroethene	ND	10.0	9.93	99	10.0	9.65	96	3	70-125	30
Vinyl Chloride	ND	10.0	10.8	108	10.0	9.84	98	9	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	9.26	93	10.0	9.40	94	70-120
Toluene-d8	10.0	10.2	102	10.0	10.3	103	85-120
4-Bromofluorobenzene	10.0	10.2	102	10.0	10.1	101	75-120
Dibromofluoromethane	10.0	10.3	103	10.0	10.4	104	85-115

INITIAL CALIBRATIONS

2008

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLG088
Instrument ID: TOE2
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 12/03/09
BFB Injection Time : 10:50
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.72
75	30.0 - 60.0% of mass 95	46.80
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.02
173	Less than 2.0% of mass 174	1.04(1.1)1
174	Greater than 50% of mass 95	94.67
175	5.0 - 9.0% of mass 174	6.50(6.9)1
176	95.0 - 101.0% of mass 174	90.44(95.5)1
177	5.0 - 9.0% of mass 176	6.17(6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VOE2L031	RLG089	12/03/09	11:46
2	VSTD0.5	VOE2L032	RLG090	12/03/09	12:10
3	VSTD01	VOE2L033	RLG091	12/03/09	12:35
4	VSTD02	VOE2L034	RLG092	12/03/09	12:59
5	VSTD010	VOE2L035	RLG093	12/03/09	13:23
6	VSTD05	VOE2L036	RLG094	12/03/09	13:47
7	VSTD030	VOE2L037	RLG095	12/03/09	14:11
8	VSTD050	VOE2L038	RLG096	12/03/09	14:35
9	VSTD100	VOE2L039	RLG097	12/03/09	14:59
10	VSTD200	VOE2L0310	RLG098	12/03/09	15:24

FORM V VOA OLM02.0

2009

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLG104
Instrument ID: TOE2
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 12/03/09
BFB Injection Time : 18:41
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.71
75	30.0 - 60.0% of mass 95	44.97
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.70
173	Less than 2.0% of mass 174	0.78(0.9)1
174	Greater than 50% of mass 95	87.90
175	5.0 - 9.0% of mass 174	6.67(7.6)1
176	95.0 - 101.0% of mass 174	85.36(97.1)1
177	5.0 - 9.0% of mass 176	5.41(6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	IVOE2L0303	RLG105	12/03/09	19:11

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :E2
Beginning DateTime :12/03/09 11:46
Spike Units :PPB
IC File :RLG093

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :12/03/09 15:24
HPChem Method :VOE2L03

M	IDX	Parameters	.3 11:46 RLG089	.5 12:10 RLG090	1 12:35 RLG091	2 12:59 RLG092	5 13:47 RLG094	10 13:23 RLG093	30 14:11 RLG095	50 14:35 RLG096	100 14:59 RLG097	200 15:24 RLG098	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.2183
	2	Dichlorodifluoromethane	0.540	0.564	0.530	0.536	0.501	0.479	0.459	0.432	0.455	0.438	0.493	9.59	3.1145
	3	Chloromethane	0.662	0.616	0.551	0.559	0.486	0.490	0.451	------	------	------	0.545	13.90	3.3862
	4	Vinyl chloride	0.506	0.502	0.467	0.473	0.423	0.421	0.393	0.370	0.368	------	0.436	12.24	3.4833
	5	Bromomethane	0.305	0.295	0.276	0.252	0.252	0.234	0.232	0.249	0.268	0.259	0.262	9.23	3.9112
	6	Chloroethane	0.322	0.299	0.318	0.309	0.296	0.282	0.264	0.259	0.259	0.243	0.285	9.76	3.9575
	7	Dichlorofluoromethane	1.113	1.161	1.193	1.127	0.958	1.015	0.974	0.986	0.950	0.915	1.039	9.59	3.9663
	8	Trichlorofluoromethane	0.901	0.819	0.838	0.833	0.780	0.758	0.711	0.676	0.715	0.691	0.772	9.65	4.1864
5	9	Acrolein	0.030	0.039	0.034	0.036	0.037	0.037	0.036	0.036	0.035	0.033	0.035	7.21	4.4835
	10	1,1,2-Trichloro-1,2,2-Trifluoroethane	------	0.474	0.455	0.411	0.263	0.373	0.387	0.402	------	------	0.395	17.28	4.5165
5	11	Acetone	------	0.064	0.066	0.070	0.061	0.060	0.058	0.058	0.052	0.051	0.060	10.29	4.5165
	12	1,1-Dichloroethene	0.804	0.853	0.824	0.743	0.587	0.689	0.694	0.707	0.670	0.661	0.723	11.41	4.7014
5	13	tert-Butyl alcohol	------	------	0.015	0.016	0.014	0.014	0.014	0.015	0.013	0.013	0.014	7.50	4.6802
	14	Methyl acetate	------	0.228	0.251	0.305	0.268	0.247	0.241	0.229	0.220	0.211	0.244	11.62	4.8687
	15	Iodomethane	0.509	0.514	0.488	0.531	0.576	0.598	0.611	0.618	0.571	0.482	0.550	9.31	4.9964
	16	Methylene chloride	------	1.138	0.953	0.872	0.769	0.754	0.721	0.716	0.685	0.648	0.806	19.38	5.0558
6	17	Acrylonitrile	0.095	0.105	0.093	0.104	0.097	0.094	0.091	0.090	0.086	0.082	0.094	7.76	5.0998
	18	Carbon disulfide	------	1.559	1.489	1.333	1.086	1.214	1.204	1.233	1.188	1.185	1.277	12.15	5.1988
	19	tert-Butyl methyl ether (MTBE)	0.838	0.874	0.831	0.887	0.826	0.825	0.827	0.832	0.798	0.757	0.830	4.35	5.1438
	20	trans-1,2-Dichloroethene	0.800	0.807	0.777	0.750	0.644	0.686	0.663	0.667	0.660	0.638	0.709	9.41	5.3166
	21	Isopropyl ether (DIPE)	1.532	1.586	1.649	1.638	1.544	1.559	1.540	1.545	1.503	1.422	1.552	4.18	5.4630
	22	Vinyl acetate	------	0.622	0.559	0.630	0.632	0.680	0.682	0.679	0.642	0.621	0.639	6.13	5.5510
	23	1,1-Dichloroethane	0.956	1.001	0.980	0.940	0.861	0.875	0.838	0.851	0.830	0.800	0.893	7.83	5.6468
	24	tert-Butyl ethyl ether (ETBE)	1.068	1.161	1.172	1.193	1.142	1.148	1.155	1.168	1.130	1.082	1.142	3.44	5.8041
5	25	2-Butanone	0.111	0.110	0.106	0.112	0.106	0.106	0.104	0.105	0.097	0.093	0.105	5.87	5.9142
	26	2,2-Dichloropropane	0.713	0.785	0.743	0.684	0.595	0.655	0.658	0.671	0.652	0.638	0.679	8.08	6.1233
	27	cis-1,2-Dichloroethene	1.029	0.901	0.925	0.869	0.789	0.781	0.761	0.761	0.745	0.706	0.827	12.17	6.1563
	28	Chloroform	0.954	0.948	0.939	0.923	0.831	0.833	0.810	0.815	0.801	0.767	0.862	8.19	6.2884
5	29	tert-Amyl alcohol (TAA)	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Bromochloromethane	0.473	0.453	0.486	0.481	0.424	0.423	0.397	0.392	0.375	0.349	0.425	11.05	6.4534
	31	Cyclohexane	0.837	0.847	0.748	1.066	0.875	0.852	0.759	0.786	0.823	0.775	0.837	10.90	6.7286
	32	Dibromofluoromethane	0.370	0.360	0.372	0.527	0.483	0.450	0.446	0.465	0.454	0.425	0.435	12.45	6.4787
	33	1,1,1-Trichloroethane	0.761	0.828	0.810	0.753	0.642	0.709	0.712	0.723	0.708	0.693	0.734	7.56	6.6724
	34	tert-Amyl methyl ether (TAME)	0.866	0.954	0.961	0.979	0.909	0.940	0.946	0.958	0.934	0.898	0.934	3.64	6.8276
	35	1,2-Dichloroethane-d4	0.460	0.422	0.382	0.485	0.444	0.421	0.411	0.410	0.394	0.372	0.420	8.33	6.9145
	36	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	10.4703
	37	1,1-Dichloropropene	0.210	0.240	0.280	0.239	0.187	0.235	0.246	0.247	0.229	0.251	0.236	10.52	6.7968
	38	Carbon tetrachloride	0.737	0.869	0.806	0.701	0.523	0.698	0.747	0.753	0.695	0.769	0.730	12.38	6.9267
	39	1,2-Dichloroethane	0.720	0.686	0.645	0.648	0.537	0.599	0.600	0.589	0.551	0.586	0.616	9.40	6.9993
	40	Benzene	2.020	2.166	2.064	1.898	1.609	1.841	1.856	1.846	1.747	1.897	1.894	8.41	7.0653
	41	Trichloroethene	0.661	0.644	0.599	0.549	0.459	0.546	0.556	0.550	0.522	0.566	0.565	10.33	7.6090
	42	Methylcylohexane	0.755	0.826	0.693	0.895	0.743	0.844	0.773	0.781	0.783	0.830	0.792	7.30	7.7080
	43	1,2-Dichloropropane	0.544	0.552	0.543	0.514	0.447	0.503	0.509	0.501	0.476	0.509	0.510	6.30	7.7630
20	44	1,4-Dioxane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	45	Bromodichloromethane	0.640	0.664	0.659	0.612	0.539	0.625	0.638	0.634	0.605	0.652	0.627	5.80	8.0041
	46	Dibromomethane	0.291	0.267	0.286	0.263	0.232	0.259	0.260	0.255	0.240	0.255	0.261	6.86	8.0811
	47	2-Chloroethyl vinyl ether	------	0.203	0.205	0.202	0.187	0.209	0.225	0.218	0.200	0.209	0.206	5.24	8.1702
5	48	4-Methyl-2-pentanone	0.301	0.299	0.292	0.309	0.280	0.314	0.326	0.316	0.286	0.299	0.302	4.72	8.2033
	49	cis-1,3-Dichloropropene	0.692	0.709	0.702	0.664	0.580	0.677	0.701	0.706	0.672	0.725	0.683	5.94	8.4894
	50	Toluene-d8	------	1.158	1.137	1.611	1.413	1.474	1.545	1.488	1.424	1.535	1.421	11.71	8.7902
	51	Toluene	2.265	2.263	2.191	2.039	1.719	1.986	1.980	1.967	1.868	2.024	2.030	8.49	8.8746
	52	Ethyl methacrylate	0.280	0.362	0.350	0.336	0.315	0.356	0.378	0.372	0.348	0.375	0.347	8.78	8.8823
	53	trans-1,3-Dichloropropene	0.615	0.557	0.573	0.571	0.503	0.583	0.609	0.609	0.579	0.622	0.582	6.06	8.9835
	54	2-Hexanone	0.171	0.178	0.171	0.184	0.164	0.184	0.191	0.184	0.165	0.172	0.176	5.14	9.0947
	55	1,1,2-Trichloroethane	0.300	0.335	0.352	0.342	0.301	0.320	0.330	0.324	0.303	0.321	0.323	5.55	9.1827
	56	1,3-Dichloropropane	0.542	0.575	0.551	0.534	0.471	0.528	0.539	0.523	0.489	0.521	0.527	5.62	9.4468
	57	Tetrachloroethene	0.457	0.512	0.520	0.465	0.368	0.457	0.477	0.477	0.448	0.488	0.467	9.02	9.6097
	58	Dibromochloromethane	0.427	0.434	0.464	0.449	0.391	0.464	0.485	0.482	0.456	0.488	0.454	6.67	9.8210

5a
12/7/09

	59	1,2-Dibromoethane	0.330	0.344	0.340	0.346	0.297	0.344	0.350	0.345	0.322	0.341	0.336	4.73	10.0620
	60	1-Chlorohexane	0.570	0.661	0.671	0.589	0.462	0.614	0.659	0.661	0.614	0.677	0.618	10.71	10.1072
	61	Chlorobenzene	1.620	1.552	1.524	1.378	1.192	1.341	1.345	1.327	1.251	1.327	1.386	9.86	10.5198
	62	1,1,1,2-Tetrachloroethane	0.477	0.479	0.483	0.477	0.422	0.486	0.506	0.498	0.477	0.494	0.480	4.73	10.5364
	63	Ethylbenzene	2.379	2.548	2.530	2.376	2.000	2.357	2.357	2.346	2.250	2.417	2.356	6.49	10.5364
2	64	m-Xylene & p-Xylene	1.822	1.950	1.949	1.796	1.511	1.749	1.774	1.773	1.701	------	1.781	7.41	10.6158
	65	o-Xylene	1.679	1.926	1.861	1.826	1.551	1.777	1.781	1.768	1.693	1.809	1.767	5.94	11.1460
	66	Styrene	1.262	1.288	1.288	1.306	1.171	1.368	1.390	1.363	1.308	1.380	1.312	5.09	11.1747
	67	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	13.8379
	68	Isopropylbenzene	4.405	5.056	4.787	4.651	4.341	4.612	4.371	4.438	4.363	4.210	4.523	5.60	11.5455
	69	Bromoform	0.613	0.580	0.584	0.613	0.609	0.628	0.623	0.625	0.609	0.583	0.607	2.99	11.6479
	70	1,1,2,2-Tetrachloroethane	0.710	0.787	0.741	0.806	0.772	0.753	0.727	0.717	0.688	0.662	0.736	6.07	11.7304
	71	4-Bromofluorobenzene	1.273	0.956	0.954	1.247	1.257	1.184	1.147	1.190	1.172	------	1.153	10.40	11.8680
	72	1,2,3-Trichloropropane	0.161	0.192	0.186	0.208	0.196	0.190	0.182	0.179	0.173	0.163	0.183	8.06	11.9142
	73	trans-1,4-Dichloro-2-butene	------	0.247	0.222	0.223	0.232	0.228	0.231	0.228	0.221	0.213	0.227	4.21	11.9450
	74	n-Propylbenzene	5.061	5.861	5.729	5.496	5.160	5.550	5.340	5.425	5.414	4.936	5.397	5.33	12.0308
	75	Bromobenzene	1.305	1.382	1.345	1.268	1.224	1.227	1.148	1.163	1.135	1.078	1.228	7.99	12.1651
	76	1,3,5-Trimethylbenzene	3.328	3.786	3.811	3.638	3.538	3.692	3.550	3.635	3.637	3.516	3.613	3.88	12.2091
	77	2-Chlorotoluene	2.656	3.754	3.678	3.632	3.451	3.475	3.260	3.277	3.229	3.041	3.346	9.87	12.2972
	78	4-Chlorotoluene	3.589	3.043	2.998	2.994	2.918	2.909	2.742	2.849	2.864	2.837	2.974	7.86	12.3412
	79	tert-Butylbenzene	3.124	3.450	3.555	3.407	3.108	3.297	3.225	3.299	3.251	3.103	3.282	4.65	12.6603
	80	1,2,4-Trimethylbenzene	3.161	3.848	3.675	3.704	3.508	3.624	3.500	3.567	3.583	3.438	3.561	5.15	12.7077
	81	sec-Butylbenzene	5.816	4.974	4.847	4.647	4.191	4.652	4.592	4.719	4.661	4.508	4.761	8.91	12.9245
	82	p-Isopropyltoluene	3.675	3.975	4.046	3.857	3.653	3.927	3.915	4.018	3.983	3.832	3.888	3.48	13.0697
	83	1,3-Dichlorobenzene	2.429	2.526	2.283	2.294	2.168	2.189	2.133	2.187	2.162	2.060	2.243	6.35	13.2656
	84	1,4-Dichlorobenzene	2.418	2.398	2.205	2.270	2.152	2.194	2.153	2.183	2.166	2.064	2.220	5.02	13.3867
	85	Benzyl chloride	1.165	1.292	1.269	1.231	1.277	1.353	1.413	1.454	1.428	1.364	1.325	7.04	13.5077
	86	n-Butylbenzene	3.449	3.415	3.386	3.350	3.183	3.554	3.612	3.721	3.732	3.633	3.503	5.05	13.5848
	87	1,2-Dichlorobenzene	2.180	2.103	2.110	2.004	1.914	1.908	1.867	1.910	1.890	1.788	1.967	6.41	13.8709
	88	1,2-Dibromo-3-chloropropane	------	------	0.096	0.133	0.126	0.122	0.127	0.131	0.126	0.122	0.123	9.47	14.8394
	89	1,2,4-Trichlorobenzene	1.220	1.164	1.031	1.131	1.137	1.211	1.254	1.297	1.294	1.215	1.196	6.84	15.9828
	90	Hexachlorobutadiene	0.637	0.710	0.643	0.633	0.592	0.634	0.684	0.707	0.701	0.674	0.662	5.94	16.1380
	91	Naphthalene	1.526	1.584	1.543	1.713	1.814	1.924	1.955	2.016	1.968	1.839	1.788	10.38	16.3559
	92	1,2,3-Trichlorobenzene	0.903	0.927	0.828	0.939	0.885	0.919	0.944	0.968	0.971	0.894	0.918	4.67	16.6883

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.9 Max_%RSD : 19.4

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
10	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.00134	0.38761	0.9962
16	Methylene chloride	0.03153	0.67069	0.9991

SG
12/7/09

2012

SECOND SOURCE VERIFICATION

2013

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC Beginning DateTime :12/03/09 11:46
SpTke Amount :10 PPB
CC/CV File :RLG105
IC File :RLG093

Column Spec :RTX-502.2 ID :0.32MM
IC Ending DateTime :12/03/09 15:24
HPChem Method :VOE2L03
Date_Time :12/03/09 19:11

M	IDX	Parameters	CC_Con	CC% D	CC_Resp	CCRRF	AVRRF	CC_Rtm	AVRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	447433	1	1	7.213	7.218	0				
	2	Dichlorodifluoromethane	9.850	-1.5	217432	0.486	0.493	3.119	3.115	9.59				
	3	Chloromethane	8.485	-15.1	206943	0.463	0.545	3.383	3.386	13.90				
	4	Vinyl chloride	9.854	-1.5	192094	0.429	0.436	3.482	3.483	12.24				
	5	Bromomethane	10.325	3.3	121151	0.271	0.262	3.911	3.911	9.23				
	6	Chloroethane	10.004	0.0	127610	0.285	0.285	3.955	3.957	9.76				
	7	Dichlorofluoromethane	9.640	-3.6	448248	1.002	1.039	3.966	3.966	9.59				
	8	Trichlorofluoromethane	9.851	-1.5	340297	0.761	0.772	4.187	4.186	9.65				
5	9	Acrolein	49.827	-0.3	78700	0.035	0.035	4.484	4.484	7.21				
	10	1,1,2-Trichloro-1,2,2-Trifluoroethane	8.502	-15.0	148041	0.331	0.395	4.517	4.516	17.28	0.0013	0.3876		0.9962
5	11	Acetone	47.481	-5.0	127490	0.057	0.060	4.517	4.516	10.29				
	12	1,1-Dichloroethene	9.047	-9.5	292756	0.654	0.723	4.704	4.701	11.41				
5	13	tert-Butyl alcohol	48.214	-3.6	30651	0.014	0.014	4.671	4.680	7.50				
	14	Methyl acetate	9.315	-6.8	101825	0.228	0.244	4.869	4.869	11.62				
	15	Iodomethane	9.929	-0.7	244300	0.546	0.550	5.001	4.996	9.31				
	16	Methylene chloride	10.722	7.2	335859	0.751	0.806	5.056	5.056	19.38	0.0315	0.6707		0.9991
6	17	Acrylonitrile	58.777	-2.0	246607	0.092	0.094	5.100	5.100	7.76				
	18	Carbon disulfide	9.175	-8.2	524132	1.171	1.277	5.199	5.199	12.15				
	19	tert-Butyl methyl ether (MTBE)	10.070	0.7	373847	0.836	0.830	5.144	5.144	4.35				
	20	trans-1,2-Dichloroethene	9.468	-5.3	300476	0.672	0.709	5.309	5.317	9.41				
	21	Isopropyl ether (DIPE)	10.028	0.3	696272	1.556	1.552	5.463	5.463	4.18				
	22	Vinyl acetate	10.324	3.2	294975	0.659	0.639	5.551	5.551	6.13				
	23	1,1-Dichloroethane	9.714	-2.9	388232	0.868	0.893	5.639	5.647	7.83				
	24	tert-Butyl ethyl ether (ETBE)	10.116	1.2	516820	1.155	1.142	5.804	5.804	3.44				
5	25	2-Butanone	49.015	-2.0	230263	0.103	0.105	5.914	5.914	5.87				
	26	2,2-Dichloropropane	9.297	-7.0	282630	0.632	0.679	6.123	6.123	8.08				
	27	cis-1,2-Dichloroethene	9.499	-5.0	351344	0.785	0.827	6.156	6.156	12.17				
	28	Chloroform	9.690	-3.1	373786	0.835	0.862	6.288	6.288	8.19				
5	29	tert-Amyl alcohol (TAA)												
	30	Bromochloromethane	9.801	-2.0	186521	0.417	0.425	6.453	6.453	11.05				
	31	Cyclohexane	10.269	2.7	384562	0.859	0.837	6.729	6.729	10.90				
	32	Dibromofluoromethane	10.107	1.1	196823	0.440	0.435	6.476	6.479	12.45				
	33	1,1,1-Trichloroethane	9.315	-6.8	305912	0.684	0.734	6.663	6.672	7.56				
	34	tert-Amyl methyl ether (TAME)	9.931	-0.7	415207	0.928	0.934	6.828	6.828	3.64				
	35	1,2-Dichloroethane-d4	9.328	-6.7	175325	0.392	0.420	6.916	6.915	8.33				
	36	CHLOROBENZENE-D5	10.000	0	408219	1	1	10.470	10.470	0				
	37	1,1-Dichloropropene	9.610	-3.9	92731	0.227	0.236	6.795	6.797	10.52				
	38	Carbon tetrachloride	8.853	-11.5	263780	0.646	0.730	6.927	6.927	12.38				
	39	1,2-Dichloroethane	9.504	-5.0	239071	0.586	0.616	6.993	6.999	9.40				
	40	Benzene	9.712	-2.9	751077	1.840	1.894	7.059	7.065	8.41				
	41	Trichloroethene	9.458	-5.4	218231	0.535	0.565	7.609	7.609	10.33				
	42	Methylcylohexane	9.280	-7.2	300169	0.735	0.792	7.708	7.708	7.30				
	43	1,2-Dichloropropane	9.848	-1.5	204942	0.502	0.510	7.763	7.763	6.30				
20	44	1,4-Dioxane												
	45	Bromodichloromethane	9.829	-1.7	251548	0.616	0.627	8.005	8.004	5.80				
	46	Dibromomethane	9.753	-2.5	103911	0.255	0.261	8.082	8.081	6.86				
	47	2-Chloroethyl vinyl ether	9.995	-0.1	84232	0.206	0.206	8.170	8.170	5.24				
5	48	4-Methyl-2-pentanone	49.435	-1.1	610267	0.299	0.302	8.203	8.203	4.72				
	49	cis-1,3-Dichloropropene	9.727	-2.7	271161	0.664	0.683	8.490	8.489	5.94				
	50	Toluene-d8	9.663	-3.4	560384	1.373	1.421	8.787	8.790	11.71				
	51	Toluene	9.707	-2.9	804480	1.971	2.030	8.875	8.875	8.49				
	52	Ethyl methacrylate	10.296	3.0	145947	0.358	0.347	8.875	8.882	8.78				
	53	trans-1,3-Dichloropropene	9.788	-2.1	232674	0.570	0.582	8.985	8.983	6.06				
5	54	2-Hexanone	49.682	-0.6	357779	0.175	0.176	9.095	9.095	5.14				
	55	1,1,2-Trichloroethane	9.867	-1.3	130035	0.319	0.323	9.183	9.183	5.55				
	56	1,3-Dichloropropane	9.827	-1.7	211454	0.518	0.527	9.447	9.447	5.62				
	57	Tetrachloroethene	9.337	-6.6	177953	0.436	0.467	9.612	9.610	9.02				
	58	Dibromochloromethane	9.920	-0.8	183872	0.450	0.454	9.821	9.821	6.67				
	59	1,2-Dibromoethane	9.802	-2.0	134424	0.329	0.336	10.063	10.062	4.73				
	60	1-Chlorohexane	9.390	-6.1	236801	0.580	0.618	10.107	10.107	10.71				
	61	Chlorobenzene	9.556	-4.4	540503	1.324	1.386	10.514	10.520	9.86				
	62	1,1,1,2-Tetrachloroethane	9.963	-0.4	195172	0.478	0.480	10.536	10.536	4.73				
	63	Ethylbenzene	9.496	-5.0	913263	2.237	2.356	10.536	10.536	6.49				
2	64	m-Xylene & p-Xylene	19.572	-2.1	1422579	1.742	1.781	10.613	10.616	7.41				
	65	o-Xylene	9.937	-0.6	716855	1.756	1.767	11.142	11.146	5.94				
	66	Styrene	10.148	1.5	543697	1.332	1.312	11.175	11.175	5.09				
	67	1,2-DICHLOROBENZENE-D4	10.000	0	191149	1	1	13.838	13.838	0				
	68	Isopropylbenzene	10.091	0.9	872505	4.565	4.523	11.538	11.545	5.60				
	69	Bromoform	10.182	1.8	118068	0.618	0.607	11.648	11.648	2.99				
	70	1,1,2,2-Tetrachloroethane	10.317	3.2	145196	0.760	0.736	11.725	11.730	6.07				
	71	4-Bromofluorobenzene	10.303	3.0	227154	1.188	1.153	11.868	11.868	10.40				
	72	1,2,3-Trichloropropane	10.281	2.8	35953	0.188	0.183	11.912	11.914	8.06				
	73	trans-1,4-Dichloro-2-butene	9.872	-1.3	42894	0.224	0.227	11.945	11.945	4.21				
	74	n-Propylbenzene	10.086	0.9	1040578	5.444	5.397	12.022	12.031	5.33				
	75	Bromobenzene	10.003	0.0	234735	1.228	1.228	12.165	12.165	7.99				
	76	1,3,5-Trimethylbenzene	10.068	0.7	695345	3.638	3.613	12.209	12.209	3.88				
	77	2-Chlorotoluene	10.507	5.1	671899	3.515	3.346	12.297	12.297	9.87				
	78	4-Chlorotoluene	9.670	-3.3	549792	2.876	2.974	12.341	12.341	7.86				
	79	tert-Butylbenzene	9.902	-1.0	621201	3.250	3.282	12.660	12.660	4.65				
	80	1,2,4-Trimethylbenzene	10.093	0.9	686950	3.594	3.561	12.705	12.708	5.15				
	81	sec-Butylbenzene	9.376	-6.2	853217	4.464	4.761	12.925	12.925	8.91				
	82	p-Isopropyltoluene	9.784	-2.2	727181	3.804	3.888	13.068	13.070	3.48				
	83	1,3-Dichlorobenzene	9.642	-3.6	413388	2.163	2.243	13.266	13.266	6.35				
	84	1,4-Dichlorobenzene	9.800	-2.0	415875	2.176	2.220	13.387	13.387	5.02				
	85	Benzyl chloride	10.071	0.7	255000	1.334	1.325	13.508	13.508	7.04				
	86	n-Butylbenzene	9.456	-5.4	633254	3.313	3.503	13.585	13.585	5.05				
	87	1,2-Dichlorobenzene	9.662	-3.4	363366	1.901	1.967	13.871	13.871	6.41				
	88	1,2-Dibromo-3-chloropropane	9.544	-4.6	22377	0.117	0.123	14.840	14.839	9.47				
	89	1,2,4-Trichlorobenzene	9.322	-6.8	213030	1.114	1.196	15.973	15.983	6.84				
	90	Hexachlorobutadiene	9.048	-9.5	114427	0.599	0.662	16.138	16.138	5.94				
	91	Naphthalene	9.730	-2.7	332593	1.740	1.788	16.347	16.356	10.38				
	92	1,2,3-Trichlorobenzene	9.138	-8.6	160303	0.839	0.918	16.688	16.688	4.67				

Spike Amount = Nominal Amount * M

S4/21/09

2014

DAILY CALIBRATIONS

2015

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLG185
Instrument ID: TOE2
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 12/05/09
BFB Injection Time : 10:29
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.10
75	30.0 - 60.0% of mass 95	46.20
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.72
173	Less than 2.0% of mass 174	1.02(1.1)1
174	Greater than 50% of mass 95	89.14
175	5.0 - 9.0% of mass 174	7.46(8.4)1
176	95.0 - 101.0% of mass 174	87.35(98.0)1
177	5.0 - 9.0% of mass 176	6.10(7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CVOE2L0305	RLG187	12/05/09	11:19
2	MBLK1W	VOE2L09B	RLG191	12/05/09	12:58
3	LCS1W	VOE2L09L	RLG188	12/05/09	11:44
4	LCD1W	VOE2L09C	RLG189	12/05/09	12:09
5	TRIP BLANK	L023-09	RLG192	12/05/09	13:23

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RLG093
Instrument ID: TOE2
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L023
Date Analyzed: 12/03/09
Time Analyzed: 13:23
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	421356	7.22	381707	10.47	184013	13.84
	UPPER LIMIT	842712	7.72	763414	10.97	368026	14.34
	LOWER LIMIT	210678	6.72	190854	9.97	92007	13.34
	SAMPLE ID						
1	VSTD010	430912	7.21	389480	10.47	195293	13.84
2	MBLK1W	407702	7.22	359174	10.47	191007	13.84
3	LCS1W	435859	7.21	390307	10.47	196570	13.84
4	LCD1W	433048	7.21	389726	10.47	198165	13.84
5	TRIP BLANK	418731	7.21	372027	10.47	189555	13.84

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\Data\09L04\RLG187.D
Acq On : 5 Dec 2009 11:19
Sample : CVOE2L0305
Misc : 10ppb 8260/50ppb KET-A/60ppb ACN
Integrator: RTE
Quant Time: Dec 07 11:21:18 2009
Quant Results File: VOE2L03.RES

Vial: 3
Operator: DN
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2L03.M
Quant Title : METHOD 8260 10mL
QLast Update : Mon Dec 07 10:43:42 2009
Response via : Initial Calibration
DataAcq Meth:VOE2L03.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	102	-0.01
2	T	Dichlorodifluoromethane	10.000	11.199	-12.0	118	-0.01
3	P,T	Chloromethane	10.000	9.980	0.2	114	-0.01
4	C,T	Vinyl chloride	10.000	11.261	-12.6	119	0.00
5	T	Bromomethane	10.000	9.830	1.7	113	0.00
6	T	Chloroethane	10.000	11.647	-16.5	121	-0.01
7	T	Dichlorofluoromethane	10.000	10.134	-1.3	106	0.00
8	T	Trichlorofluoromethane	10.000	11.296	-13.0	118	0.00
9	T	Acrolein	50.000	32.504	NT 35.0#	63	0.00
10	T	1,1,2-Trichloro-1,2,2-Trifl	10.000	10.949	-9.5	117	0.00
11	T	Acetone	50.000	48.504	3.0	99	0.00
12	C,T	1,1-Dichloroethene	10.000	10.140	-1.4	109	0.00
13	T	tert-Butyl alcohol	50.000	50.742	-1.5	108	0.00
14	T	Methyl acetate	10.000	1.178	NT 88.2#	12	0.00
15	T	Iodomethane	10.000	11.195	-12.0	105	-0.01
16	T	Methylene chloride	10.000	10.575	-5.7	101	0.00
17	T	Acrylonitrile	60.000	58.187	3.0	99	0.00
18	T	Carbon disulfide	10.000	9.098	9.0	98	0.00
19	T	tert-Butyl methyl ether (MT	10.000	9.899	1.0	102	0.00
20	T	trans-1,2-Dichloroethene	10.000	9.628	3.7	102	-0.01
21	T	Isopropyl ether (DIPE)	10.000	10.072	-0.7	103	0.00
22	T	Vinyl acetate	10.000	8.293	17.1	80	0.00
23	P,T	1,1-Dichloroethane	10.000	9.998	0.0	104	0.00
24	T	tert-Butyl ethyl ether (ETB	10.000	10.064	-0.6	102	0.00
25	T	2-Butanone	50.000	48.529	2.9	98	0.00
26	T	2,2-Dichloropropane	10.000	7.149	28.5#	76	0.00
27	T	cis-1,2-Dichloroethene	10.000	9.344	6.6	101	0.00
28	C,T	Chloroform	10.000	9.936	0.6	105	0.00
29	T	tert-Amyl alcohol (TAA)	-1.000	0.000	0.0	0	0.00
30	T	Bromochloromethane	10.000	9.538	4.6	98	0.00
31	T	Cyclohexane	10.000	0.055	NT 99.5#	1	-0.01
32	S	Dibromofluoromethane	10.000	10.333	-3.3	102	0.00
33	T	1,1,1-Trichloroethane	10.000	10.232	-2.3	108	0.00
34	T	tert-Amyl methyl ether (TAM	10.000	9.980	0.2	101	0.00
35	S	1,2-Dichloroethane-d4	10.000	9.282	7.2	95	0.00
36	I	CHLOROBENZENE-D5	10.000	10.000	0.0	102	0.00
37	T	1,1-Dichloropropene	10.000	10.496	-5.0	108	0.00
38	T	Carbon tetrachloride	10.000	10.516	-5.2	112	0.00
39	T	1,2-Dichloroethane	10.000	9.517	4.8	100	0.00
40	T	Benzene	10.000	10.055	-0.5	106	0.00
41	T	Trichloroethene	10.000	10.194	-1.9	108	0.00
42	T	Methylcylohexane	10.000	0.000	NT 100.0#	0	-7.71#
43	C,T	1,2-Dichloropropane	10.000	10.034	-0.3	104	0.00
44	T	1,4-Dioxane	-1.000	0.000	0.0	0	0.00
45	T	Bromodichloromethane	10.000	10.063	-0.6	103	0.00
46	T	Dibromomethane	10.000	9.593	4.1	99	0.00
47	T	2-Chloroethyl vinyl ether	10.000	10.533	-5.3	106	0.00
48	T	4-Methyl-2-pentanone	50.000	49.737	0.5	98	0.00
49	T	cis-1,3-Dichloropropene	10.000	9.320	6.8	96	0.00
50	S	Toluene-d8	10.000	10.040	-0.4	99	0.00

Evaluate Continuing Calibration Report

Data File : D:\Data\09L04\RLG187.D
Acq On : 5 Dec 2009 11:19
Sample : CVOE2L0305
Misc : 10ppb 8260/50ppb KET-A/60ppb ACN
Integrator: RTE
Quant Time: Dec 07 11:21:18 2009
Quant Results File: VOE2L03.RES

Vial: 3
Operator: DN
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2L03.M
Quant Title : METHOD 8260 10mL
QLast Update : Mon Dec 07 10:43:42 2009
Response via : Initial Calibration
DataAcq Meth:VOE2L03.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51	C,T	Toluene	10.000	9.907	0.9	103	0.00
52	T	Ethyl methacrylate	10.000	9.883	1.2	98	-0.01
53	T	trans-1,3-Dichloropropene	10.000	9.290	7.1	95	0.00
54	T	2-Hexanone	50.000	49.443	1.1	97	0.00
55	T	1,1,2-Trichloroethane	10.000	10.155	-1.5	104	0.00
56	T	1,3-Dichloropropane	10.000	9.829	1.7	100	0.00
57	T	Tetrachloroethene	10.000	10.244	-2.4	107	0.00
58	T	Dibromochloromethane	10.000	10.083	-0.8	101	0.00
59	T	1,2-Dibromoethane	10.000	9.730	2.7	97	0.00
60	T	1-Chlorohexane	10.000	10.630	-6.3	109	0.00
61	P,T	Chlorobenzene	10.000	9.838	1.6	104	0.01
62	T	1,1,1,2-Tetrachloroethane	10.000	10.178	-1.8	103	0.00
63	C,T	Ethylbenzene	10.000	10.145	-1.4	103	0.00
64	T	m-Xylene & p-Xylene	20.000	20.166	-0.8	105	0.00
65	T	o-Xylene	10.000	10.169	-1.7	103	0.00
66	T	Styrene	10.000	10.457	-4.6	102	0.00
67	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	106	0.00
68	T	Isopropylbenzene	10.000	10.139	-1.4	106	-0.01
69	P,T	Bromoform	10.000	9.285	7.1	95	0.00
70	P,T	1,1,2,2-Tetrachloroethane	10.000	9.520	4.8	99	-0.01
71	S	4-Bromofluorobenzene	10.000	10.132	-1.3	105	0.00
72	T	1,2,3-Trichloropropane	10.000	9.632	3.7	98	0.00
73	T	trans-1,4-Dichloro-2-butene	10.000	8.053	19.5	85	0.00
74	T	n-Propylbenzene	10.000	10.295	-2.9	106	0.00
75	T	Bromobenzene	10.000	9.475	5.3	101	0.00
76	T	1,3,5-Trimethylbenzene	10.000	10.186	-1.9	106	0.00
77	T	2-Chlorotoluene	10.000	10.249	-2.5	105	0.00
78	T	4-Chlorotoluene	10.000	9.408	5.9	102	0.00
79	T	tert-Butylbenzene	10.000	10.567	-5.7	112	0.00
80	T	1,2,4-Trimethylbenzene	10.000	10.285	-2.9	107	0.00
81	T	sec-Butylbenzene	10.000	10.173	-1.7	110	0.00
82	T	p-Isopropyltoluene	10.000	10.424	-4.2	110	0.00
83	T	1,3-Dichlorobenzene	10.000	9.891	1.1	108	0.00
84	T	1,4-Dichlorobenzene	10.000	9.956	0.4	107	0.00
85	T	Benzyl chloride	10.000	5.458	NT 45.4#	57	0.00
86	T	n-Butylbenzene	10.000	10.475	-4.7	110	0.00
87	T	1,2-Dichlorobenzene	10.000	9.898	1.0	108	0.00
88	T	1,2-Dibromo-3-chloropropane	10.000	9.314	6.9	99	0.00
89	T	1,2,4-Trichlorobenzene	10.000	10.519	-5.2	110	0.00
90	T	Hexachlorobutadiene	10.000	10.238	-2.4	113	0.00
91	T	Naphthalene	10.000	10.827	-8.3	107	0.01
92	T	1,2,3-Trichlorobenzene	10.000	10.382	-3.8	110	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\09L04\RLG187.D
Acq On : 5 Dec 2009 11:19
Sample : CVOE2L0305
Misc : 10ppb 8260/50ppb KET-A/60ppb ACN
Integrator: RTE
Quant Time: Dec 07 11:21:18 2009
Quant Results File: VOE2L03.RES

Vial: 3
Operator: DN
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2L03.M
Quant Title : METHOD 8260 10mL
QLast Update : Mon Dec 07 10:43:42 2009
Response via : Initial Calibration
DataAcq Meth:VOE2L03.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	102	-0.01
2	T	Dichlorodifluoromethane	0.493	0.553	-12.2	118	-0.01
3	P,T	Chloromethane	0.545	0.544	0.2	114	-0.01
4	C,T	Vinyl chloride	0.436	0.491	-12.6	119	0.00
5	T	Bromomethane	0.262	0.258	1.5	113	0.00
6	T	Chloroethane	0.285	0.332	-16.5	121	-0.01
7	T	Dichlorofluoromethane	1.039	1.053	-1.3	106	0.00
8	T	Trichlorofluoromethane	0.772	0.872	-13.0	118	0.00
9	T	Acrolein	0.035	0.023	34.3#	63	0.00
10	T	1,1,2-Trichloro-1,2,2-Trifl	0.395	0.426	-7.8	117	0.00
11	T	Acetone	0.060	0.058	3.3	99	0.00
12	C,T	1,1-Dichloroethene	0.723	0.733	-1.4	109	0.00
13	T	tert-Butyl alcohol	0.014	0.014	0.0	108	0.00
14	T	Methyl acetate	0.244	0.029	88.1#	12#	0.00
15	T	Iodomethane	0.550	0.616	-12.0	105	-0.01
16	T	Methylene chloride	0.806	0.741	8.1	101	0.00
17	T	Acrylonitrile	0.094	0.091	3.2	99	0.00
18	T	Carbon disulfide	1.277	1.162	9.0	98	0.00
19	T	tert-Butyl methyl ether (MT	0.830	0.821	1.1	102	0.00
20	T	trans-1,2-Dichloroethene	0.709	0.683	3.7	102	-0.01
21	T	Isopropyl ether (DIPE)	1.552	1.563	-0.7	103	0.00
22	T	Vinyl acetate	0.639	0.530	17.1	80	0.00
23	P,T	1,1-Dichloroethane	0.893	0.893	0.0	104	0.00
24	T	tert-Butyl ethyl ether (ETB	1.142	1.149	-0.6	102	0.00
25	T	2-Butanone	0.105	0.102	2.9	98	0.00
26	T	2,2-Dichloropropane	0.679	0.486	28.4#	76	0.00
27	T	cis-1,2-Dichloroethene	0.827	0.772	6.7	101	0.00
28	C,T	Chloroform	0.862	0.857	0.6	105	0.00
29	T	tert-Amyl alcohol (TAA)	0.000	0.000	0.0	0#	0.00
30	T	Bromochloromethane	0.425	0.406	4.5	98	0.00
31	T	Cyclohexane	0.837	0.005	99.4#	1#	-0.01
32	S	Dibromofluoromethane	0.435	0.450	-3.4	102	0.00
33	T	1,1,1-Trichloroethane	0.734	0.751	-2.3	108	0.00
34	T	tert-Amyl methyl ether (TAM	0.934	0.933	0.1	101	0.00
35	S	1,2-Dichloroethane-d4	0.420	0.390	7.1	95	0.00
36	I	CHLOROBENZENE-D5	1.000	1.000	0.0	102	0.00
37	T	1,1-Dichloropropene	0.236	0.248	-5.1	108	0.00
38	T	Carbon tetrachloride	0.730	0.768	-5.2	112	0.00
39	T	1,2-Dichloroethane	0.616	0.586	4.9	100	0.00
40	T	Benzene	1.894	1.905	-0.6	106	0.00
41	T	Trichloroethene	0.565	0.576	-1.9	108	0.00
42	T	Methylcylohexane	0.792	0.000	100.0#	0#	-7.71#
43	C,T	1,2-Dichloropropane	0.510	0.512	-0.4	104	0.00
44	T	1,4-Dioxane	0.000	0.000	0.0	0#	0.00
45	T	Bromodichloromethane	0.627	0.631	-0.6	103	0.00
46	T	Dibromomethane	0.261	0.250	4.2	99	0.00
47	T	2-Chloroethyl vinyl ether	0.206	0.217	-5.3	106	0.00
48	T	4-Methyl-2-pentanone	0.302	0.301	0.3	98	0.00
49	T	cis-1,3-Dichloropropene	0.683	0.636	6.9	96	0.00
50	S	Toluene-d8	1.421	1.426	-0.4	99	0.00

Evaluate Continuing Calibration Report

Data File : D:\Data\09L04\RLG187.D
Acq On : 5 Dec 2009 11:19
Sample : CVOE2L0305
Misc : 10ppb 8260/50ppb KET-A/60ppb ACN
Integrator: RTE
Quant Time: Dec 07 11:21:18 2009
Quant Results File: VOE2L03.RES

Vial: 3
Operator: DN
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2L03.M
Quant Title : METHOD 8260 10mL
QLast Update : Mon Dec 07 10:43:42 2009
Response via : Initial Calibration
DataAcq Meth:VOE2L03.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	C,T	Toluene	2.030	2.011	0.9	103	0.00
52	T	Ethyl methacrylate	0.347	0.343	1.2	98	-0.01
53	T	trans-1,3-Dichloropropene	0.582	0.541	7.0	95	0.00
54	T	2-Hexanone	0.176	0.174	1.1	97	0.00
55	T	1,1,2-Trichloroethane	0.323	0.328	-1.5	104	0.00
56	T	1,3-Dichloropropane	0.527	0.518	1.7	100	0.00
57	T	Tetrachloroethene	0.467	0.478	-2.4	107	0.00
58	T	Dibromochloromethane	0.454	0.458	-0.9	101	0.00
59	T	1,2-Dibromoethane	0.336	0.327	2.7	97	0.00
60	T	1-Chlorohexane	0.618	0.657	-6.3	109	0.00
61	P,T	Chlorobenzene	1.386	1.363	1.7	104	0.01
62	T	1,1,1,2-Tetrachloroethane	0.480	0.488	-1.7	103	0.00
63	C,T	Ethylbenzene	2.356	2.390	-1.4	103	0.00
64	T	m-Xylene & p-Xylene	1.781	1.795	-0.8	105	0.00
65	T	o-Xylene	1.767	1.797	-1.7	103	0.00
66	T	Styrene	1.312	1.372	-4.6	102	0.00
67	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	106	0.00
68	T	Isopropylbenzene	4.523	4.586	-1.4	106	-0.01
69	P,T	Bromoform	0.607	0.563	7.2	95	0.00
70	P,T	1,1,2,2-Tetrachloroethane	0.736	0.701	4.8	99	-0.01
71	S	4-Bromofluorobenzene	1.153	1.169	-1.4	105	0.00
72	T	1,2,3-Trichloropropane	0.183	0.176	3.8	98	0.00
73	T	trans-1,4-Dichloro-2-butene	0.227	0.183	19.4	85	0.00
74	T	n-Propylbenzene	5.397	5.557	-3.0	106	0.00
75	T	Bromobenzene	1.228	1.163	5.3	101	0.00
76	T	1,3,5-Trimethylbenzene	3.613	3.680	-1.9	106	0.00
77	T	2-Chlorotoluene	3.346	3.429	-2.5	105	0.00
78	T	4-Chlorotoluene	2.974	2.798	5.9	102	0.00
79	T	tert-Butylbenzene	3.282	3.468	-5.7	112	0.00
80	T	1,2,4-Trimethylbenzene	3.561	3.662	-2.8	107	0.00
81	T	sec-Butylbenzene	4.761	4.843	-1.7	110	0.00
82	T	p-Isopropyltoluene	3.888	4.053	-4.2	110	0.00
83	T	1,3-Dichlorobenzene	2.243	2.219	1.1	108	0.00
84	T	1,4-Dichlorobenzene	2.220	2.210	0.5	107	0.00
85	T	Benzyl chloride	1.325	0.723	45.4#	57	0.00
86	T	n-Butylbenzene	3.503	3.670	-4.8	110	0.00
87	T	1,2-Dichlorobenzene	1.967	1.947	1.0	108	0.00
88	T	1,2-Dibromo-3-chloropropane	0.123	0.114	7.3	99	0.00
89	T	1,2,4-Trichlorobenzene	1.196	1.258	-5.2	110	0.00
90	T	Hexachlorobutadiene	0.662	0.677	-2.3	113	0.00
91	T	Naphthalene	1.788	1.936	-8.3	107	0.01
92	T	1,2,3-Trichlorobenzene	0.918	0.953	-3.8	110	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

ANALYTICAL LOGS

2022

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/3/09 ☐ 5-ml Purge ☐ 25-ml Purge ☑ 10-ml Purge

Book # AE2 -010

BATCH VOE2L03C

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLG088	BFBE2L05	1.6 ml	NA	NA		10:50 AM
02	089	VOE2L031	.06/.06/.012 ml				8260, GRO / Ket-ACL, TBA/ACN .3 / 1.5 / 1.8 ppb
03	090	2	.1/.1/.02 ml				.5 / 2.5 / 3
04	091	3	.2/.2/.04 ml				1 5 6
05	092	4	.4/.4/.08 ml				2 10 12
06	093	5	2/1/.2 ml				10 ~~5~~ 50 ~~25~~ 60 ~~30~~
07	094	6	1/2/.4 ml				5 ~~10~~ 25 ~~50~~ 30 ~~60~~
08	095	7	6/6/1.2 ml				30 150 180
09	096	8	10/10/2 ml				50 250 300
10	097	9	20/20/4 ml				100 500 600
11	098	10	40/40/8 ml				200 1000 1200
12	099	IS/SS	10 ml				
13	100	VOE2L03B	↓				
14	101	VOE2L0301	2/2/.4 ml				double spike
15	102	02	↓	↓	↓		1 analyte out 5:48 pm
16	103	RINSE					
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							DM 12/3/09

Instrument No.	E2
INITIAL CALIBRATION REFERENCE	
DATE	12/3/09
ICAL ID	VOE2L03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC Ket-AA	GM. 15 . 26.3	250
DCC 8260	↓ .8.2	50/250
DCC GRO 3add	GM.14 .24.1 .43.1	250 ↓
BFB	↓ .66.3	50
IS/SURR.	GM. 15. 27.3 ↓ .10.3	20 250
LCS 8260	GM. 15 . 6.3	50/250
LCS Ket-AA	↓ .15.2	250
LCS GRO 3add	↓ .5.2 .28.3	↓

SOLVENT	ID
METHANOL	
DATA FILE	09L03

Electronic Data Archival	
Location	Date
HPCHEM_VOA/TOE2	

Comments:

Analyzed By: DM

Date Disposed: 12/4/09

Disposed By: DM

2023

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/3/09 ☐ 5-ml Purge ☐ 25-ml Purge ☑ 10-ml Purge **Book # AE2 -010**

BATCH VOE2L0302

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLG104	BFBF2L07 ✓	1.6 ml	NA	NA		
02	105	IVOE2L0303 ✓	2/21.4 ml	↓	↓		
03	106	CVOE2L0301					
04	107	↓ 02 ✓					
05	108	VOE2L06L ✓					
06	109	↓ C ✓	↓				
07	110	RINSE					
08	111	VOE2L06B ✓	10ml				
09	112	MDLVERF					0.4 ppb (3 add.)
10	113	DI WATER	10ml				
11	114	09K316·07 ✓		1.0	<2		
12	115	01 ✓					
13	116	02 ✓					
14	117	03 ✓					
15	118	04 ✓					
16	119	05 ✓					
17	120	↓ 06 ✓	↓	↓	↓		
18	121-123	RINSE					
19	124	09L042·01 ✓	10ml	1.0	<2		
20	125	02 ✓					
21	126	03 ✓					
22	127	04 12/3/09 ✓	↓	↓	↓		
23	128	12/3/09 ↓ ~~05~~ RINSE	↓	↓			
24	129-~~130~~	RINSE 12/3/09					
25	130	~~RINSE~~ 09K306·19T ✓	2 ml	5000	<2		
26	131	09K306·~~19T~~ 10T ✓	10 ~~2~~ ml	1000 ~~5000~~			
27	132	10T ✓	1 ~~10~~ ml	10 ~~1000~~			
28	133	~~16~~ 14 ✓	100 ml	100			
29	134	12/3/09 ↓ ~~14~~ RINSE	~~100 ml~~	~~100~~			
30	↓ 135-~~142~~ 5	RINSE					

Instrument No.	E2
INITIAL CALIBRATION REFERENCE	
DATE	12/3/09
ICAL ID	VOE2L03
STANDARDS	
NAME	ID / CONC. (mg/L)
DCC	SM.15.24.3
DCC	.8.2
DCC	.24.1 / SM.14.43.1
BFB	.66.3
IS/SURR.	SM.15.29.1
LCS	.15.2
LCS	.6.3
LCS	.5.2 / .28.3
SOLVENT	ID
METHANOL	
DATA FILE	09L03
Electronic Data Archival	
Location	Date
HPCHEM_VOA/TOE2	

Comments:

Analyzed By: DH

Date Disposed: 12/4/09

Disposed By: DH

2024

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/5/09 ☐ 5-ml Purge ☐ 25-ml Purge ☑ 10-ml Purge **Book # AE2 -010**

BATCH CV0E2L0305

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLG185	BFBE2L09 ✓	1.6 ml				10:29 am
02	186	CV0E2L0304	2/2.4 ml				
03	187	05 ✓					
04	188	V0E2L09L ✓					
05	189	C ✓					
06	190	RINSE					
07	191	V0E2L09B ✓	10 ml				
08	192	09L023·09 ✓		1.0	<2		
09	193	09L089·01 ✓			<2		1x
10	194	02 ✓					
11	195	03 ✓					
12	196	RINSE					
13	197	09L093·01 ✓	10 ml	1.0	<2		
14	198	02 ✓					
15	199	03 ✓					
16	200	04 ✓			7		
17	201	05 ✓					
18	~~202~~ 12/5/09	~~RINSE~~ 12/6/09					
19	2072	09L094·01	10 ml	1.0	<2		
20	2073	02			7		
21	2074	03					
22	2075	09L092·01			<2		7:19 pm
23	✓ 2076-207	RINSE					
24							
25							
26							
27							
28							
29							
30							DN 12/8/09

Instrument No.	E2
INITIAL CALIBRATION REFERENCE	
DATE	12/3/09
ICAL ID	V0E2L03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC	GM.15.26.3	
DCC	.8.2	
DCC	.24.1	
BFB	GM.14.16.3	20/50/250
IS/SURR.	GM.15.24.1	
LCS	.15.2	
LCS	.6.3	
LCS	.5.2	

SOLVENT	ID
METHANOL	
DATA FILE	09L04

Electronic Data Archival	
Location	Date
HPCHEM_VOA/TOE2	

Comments:

Analyzed By: DN

Date Disposed: 12/6/09

Disposed By: DN

2025

LABORATORY REPORT FOR

ALLWEST GEOSCIENCE, INC.

VA GLAHS

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 09L023

CASE NARRATIVE

Client : ALLWEST GEOSCIENCE, INC.

Project : VA GLAHS

SDG : 09L023

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

A total of eight (8) soil samples were received on 12/01/09 for Volatile Organics by GC/MS analysis, Method SW 5035/8260B in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods & DoD QSM, Version 3.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary form for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for VO02L03L/C were all within QC limits.
Percent recoveries for VO02L05L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.
Project : VA GLAHS

SDG NO. : 09L023
Instrument ID : T-002

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	V002L03B	1	NA	12/02/0911:44	12/02/0911:44	RLP019	RKP006	V002L03	Method Blank
LCS1S	V002L03L	1	NA	12/02/0909:37	12/02/0909:37	RLP015	RKP006	V002L03	Lab Control Sample (LCS)
LCD1S	V002L03C	1	NA	12/02/0910:08	12/02/0910:08	RLP016	RKP006	V002L03	LCS Duplicate
SB1-10V	L023-01	0.99	5.0	12/02/0918:37	12/02/0918:37	RLP032	RKP006	V002L03	Field Sample
SB2-19V	L023-02	1.0	9.1	12/02/0919:08	12/02/0919:08	RLP033	RKP006	V002L03	Field Sample
SB3-20V	L023-03	0.82	7.4	12/02/0919:40	12/02/0919:40	RLP034	RKP006	V002L03	Field Sample
SB4-20V	L023-04	0.79	7.6	12/02/0920:12	12/02/0920:12	RLP035	RKP006	V002L03	Field Sample
MBLK2S	V002L05B	1	NA	12/03/0910:06	12/03/0910:06	RLP044	RKP006	V002L05	Method Blank
LCS2S	V002L05L	1	NA	12/03/0907:59	12/03/0907:59	RLP040	RKP006	V002L05	Lab Control Sample (LCS)
LCD2S	V002L05C	1	NA	12/03/0908:31	12/03/0908:31	RLP041	RKP006	V002L05	LCS Duplicate
SB12-30V	L023-05R	0.86	10.3	12/03/0911:09	12/03/0911:09	RLP046	RKP006	V002L05	Field Sample
SB12-50V	L023-06	0.82	19.9	12/03/0911:41	12/03/0911:41	RLP047	RKP006	V002L05	Field Sample
SB11-20V	L023-07	0.88	12.8	12/03/0912:12	12/03/0912:12	RLP048	RKP006	V002L05	Field Sample
SB11-40V	L023-08	0.79	14.3	12/03/0912:44	12/03/0912:44	RLP049	RKP006	V002L05	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	11/30/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/02/09 18:37
Sample ID:	SB1-10V	Date Analyzed:	12/02/09 18:37
Lab Samp ID:	L023-01	Dilution Factor:	0.99
Lab File ID:	RLP032	Matrix :	SOIL
Ext Btch ID:	V002L03	% Moisture :	5.0
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.2	2.1
1,1,2,2-TETRACHLOROETHANE	ND	5.2	2.1
1,1,2-TRICHLOROETHANE	ND	5.2	2.1
1,1-DICHLOROETHANE	ND	5.2	2.1
1,1-DICHLOROETHENE	ND	5.2	2.1
1,2-DICHLOROETHANE	ND	5.2	2.1
1,2-DICHLOROPROPANE	ND	5.2	2.1
2-BUTANONE	15	10	5.2
2-HEXANONE	ND	10	5.2
4-METHYL-2-PENTANONE	ND	10	5.2
ACETONE	72	10	5.2
BENZENE	ND	5.2	2.1
BROMODICHLOROMETHANE	ND	5.2	2.1
BROMOFORM	ND	5.2	2.1
BROMOMETHANE	ND	10	2.1
CARBON DISULFIDE	ND	5.2	2.1
CARBON TETRACHLORIDE	ND	5.2	2.1
CHLOROBENZENE	ND	5.2	2.1
CHLOROETHANE	ND	5.2	2.1
CHLOROFORM	ND	5.2	2.1
CHLOROMETHANE	ND	10	2.1
CIS-1,2-DICHLOROETHENE	ND	5.2	2.1
CIS-1,3-DICHLOROPROPENE	ND	5.2	2.1
DIBROMOCHLOROMETHANE	ND	5.2	2.1
ETHYLBENZENE	ND	5.2	2.1
M/P-XYLENES	ND	10	2.1
METHYLENE CHLORIDE	ND	10	2.1
MTBE	ND	5.2	2.1
O-XYLENE	ND	5.2	2.1
STYRENE	ND	5.2	2.1
TETRACHLOROETHYLENE	ND	5.2	2.1
TOLUENE	ND	5.2	2.1
TRANS-1,2-DICHLOROETHENE	ND	5.2	2.1
TRANS-1,3-DICHLOROPROPENE	ND	5.2	2.1
TRICHLOROETHENE	ND	5.2	2.1
VINYL CHLORIDE	ND	5.2	2.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	106	70-140
TOLUENE-D8	105	85-115
4-BROMOFLUOROBENZENE	89	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	11/30/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/02/09 19:08
Sample ID:	SB2-19V	Date Analyzed:	12/02/09 19:08
Lab Samp ID:	L023-02	Dilution Factor:	1.0
Lab File ID:	RLP033	Matrix :	SOIL
Ext Btch ID:	V002L03	% Moisture :	9.1
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.5	2.2
1,1,2,2-TETRACHLOROETHANE	ND	5.5	2.2
1,1,2-TRICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHENE	ND	5.5	2.2
1,2-DICHLOROETHANE	ND	5.5	2.2
1,2-DICHLOROPROPANE	ND	5.5	2.2
2-BUTANONE	ND	11	5.5
2-HEXANONE	ND	11	5.5
4-METHYL-2-PENTANONE	ND	11	5.5
ACETONE	ND	11	5.5
BENZENE	ND	5.5	2.2
BROMODICHLOROMETHANE	ND	5.5	2.2
BROMOFORM	ND	5.5	2.2
BROMOMETHANE	ND	11	2.2
CARBON DISULFIDE	ND	5.5	2.2
CARBON TETRACHLORIDE	ND	5.5	2.2
CHLOROBENZENE	ND	5.5	2.2
CHLOROETHANE	ND	5.5	2.2
CHLOROFORM	ND	5.5	2.2
CHLOROMETHANE	ND	11	2.2
CIS-1,2-DICHLOROETHENE	ND	5.5	2.2
CIS-1,3-DICHLOROPROPENE	ND	5.5	2.2
DIBROMOCHLOROMETHANE	ND	5.5	2.2
ETHYLBENZENE	ND	5.5	2.2
M/P-XYLENES	ND	11	2.2
METHYLENE CHLORIDE	ND	11	2.2
MTBE	ND	5.5	2.2
O-XYLENE	ND	5.5	2.2
STYRENE	ND	5.5	2.2
TETRACHLOROETHYLENE	ND	5.5	2.2
TOLUENE	ND	5.5	2.2
TRANS-1,2-DICHLOROETHENE	ND	5.5	2.2
TRANS-1,3-DICHLOROPROPENE	ND	5.5	2.2
TRICHLOROETHENE	ND	5.5	2.2
VINYL CHLORIDE	ND	5.5	2.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	70-140
TOLUENE-D8	106	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	11/30/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/02/09 19:40
Sample ID:	SB3-20V	Date Analyzed:	12/02/09 19:40
Lab Samp ID:	L023-03	Dilution Factor:	0.82
Lab File ID:	RLP034	Matrix :	SOIL
Ext Btch ID:	V002L03	% Moisture :	7.4
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.4	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.4	1.8
1,1,2-TRICHLOROETHANE	ND	4.4	1.8
1,1-DICHLOROETHANE	ND	4.4	1.8
1,1-DICHLOROETHENE	ND	4.4	1.8
1,2-DICHLOROETHANE	ND	4.4	1.8
1,2-DICHLOROPROPANE	ND	4.4	1.8
2-BUTANONE	4.6J	8.9	4.4
2-HEXANONE	ND	8.9	4.4
4-METHYL-2-PENTANONE	ND	8.9	4.4
ACETONE	15	8.9	4.4
BENZENE	ND	4.4	1.8
BROMODICHLOROMETHANE	ND	4.4	1.8
BROMOFORM	ND	4.4	1.8
BROMOMETHANE	ND	8.9	1.8
CARBON DISULFIDE	ND	4.4	1.8
CARBON TETRACHLORIDE	ND	4.4	1.8
CHLOROBENZENE	ND	4.4	1.8
CHLOROETHANE	ND	4.4	1.8
CHLOROFORM	ND	4.4	1.8
CHLOROMETHANE	ND	8.9	1.8
CIS-1,2-DICHLOROETHENE	ND	4.4	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.4	1.8
DIBROMOCHLOROMETHANE	ND	4.4	1.8
ETHYLBENZENE	ND	4.4	1.8
M/P-XYLENES	ND	8.9	1.8
METHYLENE CHLORIDE	ND	8.9	1.8
MTBE	ND	4.4	1.8
O-XYLENE	ND	4.4	1.8
STYRENE	ND	4.4	1.8
TETRACHLOROETHYLENE	ND	4.4	1.8
TOLUENE	ND	4.4	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.4	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.4	1.8
TRICHLOROETHENE	ND	4.4	1.8
VINYL CHLORIDE	ND	4.4	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	105	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	97	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	11/30/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/02/09 20:12
Sample ID:	SB4-20V	Date Analyzed:	12/02/09 20:12
Lab Samp ID:	L023-04	Dilution Factor:	0.79
Lab File ID:	RLP035	Matrix :	SOIL
Ext.Btch ID:	V002L03	% Moisture :	7.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.3	1.7
1,1,2,2-TETRACHLOROETHANE	ND	4.3	1.7
1,1,2-TRICHLOROETHANE	ND	4.3	1.7
1,1-DICHLOROETHANE	ND	4.3	1.7
1,1-DICHLOROETHENE	ND	4.3	1.7
1,2-DICHLOROETHANE	ND	4.3	1.7
1,2-DICHLOROPROPANE	ND	4.3	1.7
2-BUTANONE	ND	8.5	4.3
2-HEXANONE	ND	8.5	4.3
4-METHYL-2-PENTANONE	ND	8.5	4.3
ACETONE	8.4J	8.5	4.3
BENZENE	ND	4.3	1.7
BROMODICHLOROMETHANE	ND	4.3	1.7
BROMOFORM	ND	4.3	1.7
BROMOMETHANE	ND	8.5	1.7
CARBON DISULFIDE	ND	4.3	1.7
CARBON TETRACHLORIDE	ND	4.3	1.7
CHLOROBENZENE	ND	4.3	1.7
CHLOROETHANE	ND	4.3	1.7
CHLOROFORM	ND	4.3	1.7
CHLOROMETHANE	ND	8.5	1.7
CIS-1,2-DICHLOROETHENE	ND	4.3	1.7
CIS-1,3-DICHLOROPROPENE	ND	4.3	1.7
DIBROMOCHLOROMETHANE	ND	4.3	1.7
ETHYLBENZENE	ND	4.3	1.7
M/P-XYLENES	ND	8.5	1.7
METHYLENE CHLORIDE	ND	8.5	1.7
MTBE	ND	4.3	1.7
O-XYLENE	ND	4.3	1.7
STYRENE	ND	4.3	1.7
TETRACHLOROETHYLENE	ND	4.3	1.7
TOLUENE	ND	4.3	1.7
TRANS-1,2-DICHLOROETHENE	ND	4.3	1.7
TRANS-1,3-DICHLOROPROPENE	ND	4.3	1.7
TRICHLOROETHENE	ND	4.3	1.7
VINYL CHLORIDE	ND	4.3	1.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/03/09 11:09
Sample ID:	SB12-30V	Date Analyzed:	12/03/09 11:09
Lab Samp ID:	L023-05R	Dilution Factor:	0.86
Lab File ID:	RLP046	Matrix :	SOIL
Ext Btch ID:	V002L05	% Moisture :	10.3
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	ND	9.6	4.8
2-HEXANONE	ND	9.6	4.8
4-METHYL-2-PENTANONE	ND	9.6	4.8
ACETONE	ND	9.6	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.6	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.6	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.6	1.9
METHYLENE CHLORIDE	ND	9.6	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	70-140
TOLUENE-D8	105	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	99	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/03/09 11:41
Sample ID:	SB12-50V	Date Analyzed:	12/03/09 11:41
Lab Samp ID:	L023-06	Dilution Factor:	0.82
Lab File ID:	RLP047	Matrix :	SOIL
Ext Btch ID:	VOO2L05	% Moisture :	19.9
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.1	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.1	2.0
1,1,2-TRICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHENE	ND	5.1	2.0
1,2-DICHLOROETHANE	ND	5.1	2.0
1,2-DICHLOROPROPANE	ND	5.1	2.0
2-BUTANONE	ND	10	5.1
2-HEXANONE	ND	10	5.1
4-METHYL-2-PENTANONE	ND	10	5.1
ACETONE	ND	10	5.1
BENZENE	ND	5.1	2.0
BROMODICHLOROMETHANE	ND	5.1	2.0
BROMOFORM	ND	5.1	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.1	2.0
CARBON TETRACHLORIDE	ND	5.1	2.0
CHLOROBENZENE	ND	5.1	2.0
CHLOROETHANE	ND	5.1	2.0
CHLOROFORM	ND	5.1	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.1	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.1	2.0
DIBROMOCHLOROMETHANE	ND	5.1	2.0
ETHYLBENZENE	ND	5.1	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.1	2.0
O-XYLENE	ND	5.1	2.0
STYRENE	ND	5.1	2.0
TETRACHLOROETHYLENE	ND	5.1	2.0
TOLUENE	ND	5.1	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.1	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.1	2.0
TRICHLOROETHENE	ND	5.1	2.0
VINYL CHLORIDE	ND	5.1	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	106	70-140
TOLUENE-D8	106	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	104	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/03/09 12:12
Sample ID:	SB11-20V	Date Analyzed:	12/03/09 12:12
Lab Samp ID:	L023-07	Dilution Factor:	0.88
Lab File ID:	RLP048	Matrix :	SOIL
Ext Btch ID:	V002L05	% Moisture :	12.8
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	70-140
TOLUENE-D8	106	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/01/09
Batch No.	: 09L023	Date Extracted:	12/03/09 12:44
Sample ID:	SB11-40V	Date Analyzed:	12/03/09 12:44
Lab Samp ID:	L023-08	Dilution Factor:	0.79
Lab File ID:	RLP049	Matrix :	SOIL
Ext Btch ID:	V002L05	% Moisture :	14.3
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.8
1,1,2-TRICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHENE	ND	4.6	1.8
1,2-DICHLOROETHANE	ND	4.6	1.8
1,2-DICHLOROPROPANE	ND	4.6	1.8
2-BUTANONE	ND	9.2	4.6
2-HEXANONE	ND	9.2	4.6
4-METHYL-2-PENTANONE	ND	9.2	4.6
ACETONE	ND	9.2	4.6
BENZENE	ND	4.6	1.8
BROMODICHLOROMETHANE	ND	4.6	1.8
BROMOFORM	ND	4.6	1.8
BROMOMETHANE	ND	9.2	1.8
CARBON DISULFIDE	ND	4.6	1.8
CARBON TETRACHLORIDE	ND	4.6	1.8
CHLOROBENZENE	ND	4.6	1.8
CHLOROETHANE	ND	4.6	1.8
CHLOROFORM	ND	4.6	1.8
CHLOROMETHANE	ND	9.2	1.8
CIS-1,2-DICHLOROETHENE	ND	4.6	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.8
DIBROMOCHLOROMETHANE	ND	4.6	1.8
ETHYLBENZENE	ND	4.6	1.8
M/P-XYLENES	ND	9.2	1.8
METHYLENE CHLORIDE	ND	9.2	1.8
MTBE	ND	4.6	1.8
O-XYLENE	ND	4.6	1.8
STYRENE	ND	4.6	1.8
TETRACHLOROETHYLENE	ND	4.6	1.8
TOLUENE	ND	4.6	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.8
TRICHLOROETHENE	ND	4.6	1.8
VINYL CHLORIDE	ND	4.6	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	109	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	99	70-130

RL: Reporting Limit

QC SUMMARIES

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L023	Date Extracted:	12/02/09 11:44
Sample ID:	MBLK1S	Date Analyzed:	12/02/09 11:44
Lab Samp ID:	V002L03B	Dilution Factor:	1
Lab File ID:	RLP019	Matrix	: SOIL
Ext Btch ID:	V002L03	% Moisture	: NA
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	70-140
TOLUENE-D8	107	85-115
4-BROMOFLUOROBENZENE	107	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L023
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	V002L03B	V002L03L	V002L03C		
LAB FILE ID:	RLP019	RLP015	RLP016		
DATE EXTRACTED:	12/02/0911:44	12/02/0909:37	12/02/0910:08	DATE COLLECTED:	NA
DATE ANALYZED:	12/02/0911:44	12/02/0909:37	12/02/0910:08	DATE RECEIVED:	12/02/09
PREP. BATCH:	V002L03	V002L03	V002L03		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	50.0	100	50.0	52.1	104	4	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	48.7	97	50.0	48.7	97	0	55-130	30
1,1,2-Trichloroethane	ND	50.0	48.5	97	50.0	48.0	96	1	60-125	30
1,1-Dichloroethane	ND	50.0	48.4	97	50.0	49.5	99	2	75-125	30
1,1-Dichloroethene	ND	50.0	48.0	96	50.0	47.9	96	0	65-135	30
1,2-Dichloroethane	ND	50.0	49.0	98	50.0	48.1	96	2	70-135	30
1,2-Dichloropropane	ND	50.0	48.9	98	50.0	48.2	96	2	70-120	30
2-Butanone	ND	200	195	98	200	205	102	5	30-160	30
2-Hexanone	ND	200	210	105	200	206	103	2	45-145	30
4-Methyl-2-Pentanone	ND	200	203	102	200	203	102	0	45-145	30
Acetone	ND	200	194	97	200	202	101	4	20-160	30
Benzene	ND	50.0	46.9	94	50.0	45.9	92	2	75-125	30
Bromodichloromethane	ND	50.0	48.8	98	50.0	47.2	94	3	70-130	30
Bromoform	ND	50.0	46.8	94	50.0	48.5	97	4	55-135	30
Bromomethane	ND	50.0	41.5	83	50.0	40.8	82	2	30-160	30
Carbon Disulfide	ND	50.0	39.1	78	50.0	40.6	81	4	45-160	30
Carbon Tetrachloride	ND	50.0	52.4	105	50.0	50.3	101	4	65-135	30
Chlorobenzene	ND	50.0	48.7	97	50.0	48.8	98	0	75-125	30
Chloroethane	ND	50.0	45.4	91	50.0	43.5	87	4	40-155	30
Chloroform	ND	50.0	50.9	102	50.0	51.7	103	2	70-125	30
Chloromethane	ND	50.0	40.4	81	50.0	43.8	88	8	50-130	30
cis-1,2-Dichloroethene	ND	50.0	47.6	95	50.0	48.7	97	2	65-125	30
cis-1,3-Dichloropropene	ND	50.0	50.1	100	50.0	49.0	98	2	70-125	30
Dibromochloromethane	ND	50.0	48.0	96	50.0	46.8	94	2	65-130	30
Ethylbenzene	ND	50.0	49.7	99	50.0	48.7	97	2	75-125	30
m/p-Xylenes	ND	100	100	100	100	96.7	97	4	80-125	30
Methylene Chloride	ND	50.0	42.3	85	50.0	44.1	88	4	55-140	30
MTBE	ND	50.0	47.2	94	50.0	52.1	104	10	60-150	20
o-Xylene	ND	50.0	48.8	98	50.0	47.7	95	2	75-125	30
Styrene	ND	50.0	49.0	98	50.0	49.3	99	1	75-125	30
Tetrachloroethylene	ND	50.0	48.2	96	50.0	46.8	94	3	65-140	30
Toluene	ND	50.0	49.0	98	50.0	46.0	92	6	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	46.1	92	50.0	46.6	93	1	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	53.6	107	50.0	51.7	103	4	65-125	30
Trichloroethene	ND	50.0	48.2	96	50.0	46.4	93	4	75-125	30
Vinyl Chloride	ND	50.0	42.3	85	50.0	44.4	89	5	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	48.9	98	50.0	50.4	101	70-140
Toluene-d8	50.0	52.6	105	50.0	51.0	102	85-115
4-Bromofluorobenzene	50.0	47.4	95	50.0	47.0	94	85-120
Dibromofluoromethane	50.0	49.1	98	50.0	49.9	100	70-130

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L023	Date Extracted:	12/03/09 10:06
Sample ID:	MBLK2S	Date Analyzed:	12/03/09 10:06
Lab Samp ID:	V002L05B	Dilution Factor:	1
Lab File ID:	RLP044	Matrix	: SOIL
Ext Btch ID:	V002L05	% Moisture	: NA
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	70-140
TOLUENE-D8	106	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	96	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L023
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2S				
LAB SAMP ID:	V002L05B	V002L05L	V002L05C		
LAB FILE ID:	RLP044	RLP040	RLP041		
DATE EXTRACTED:	12/03/0910:06	12/03/0907:59	12/03/0908:31	DATE COLLECTED:	NA
DATE ANALYZED:	12/03/0910:06	12/03/0907:59	12/03/0908:31	DATE RECEIVED:	12/03/09
PREP. BATCH:	V002L05	V002L05	V002L05		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	52.1	104	50.0	51.5	103	1	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	49.1	98	50.0	50.5	101	3	55-130	30
1,1,2-Trichloroethane	ND	50.0	49.4	99	50.0	49.7	99	1	60-125	30
1,1-Dichloroethane	ND	50.0	48.9	98	50.0	49.4	99	1	75-125	30
1,1-Dichloroethene	ND	50.0	48.8	98	50.0	48.3	97	1	65-135	30
1,2-Dichloroethane	ND	50.0	49.4	99	50.0	51.2	102	3	70-135	30
1,2-Dichloropropane	ND	50.0	48.7	97	50.0	51.2	102	5	70-120	30
2-Butanone	ND	200	204	102	200	207	103	1	30-160	30
2-Hexanone	ND	200	211	105	200	210	105	0	45-145	30
4-Methyl-2-Pentanone	ND	200	206	103	200	207	104	1	45-145	30
Acetone	ND	200	199	99	200	200	100	1	20-160	30
Benzene	ND	50.0	48.0	96	50.0	48.9	98	2	75-125	30
Bromodichloromethane	ND	50.0	49.0	98	50.0	49.8	100	2	70-130	30
Bromoform	ND	50.0	47.1	94	50.0	49.5	99	5	55-135	30
Bromomethane	ND	50.0	42.6	85	50.0	39.8	80	7	30-160	30
Carbon Disulfide	ND	50.0	38.7	77	50.0	38.6	77	0	45-160	30
Carbon Tetrachloride	ND	50.0	54.1	108	50.0	51.8	104	4	65-135	30
Chlorobenzene	ND	50.0	49.7	99	50.0	49.9	100	0	75-125	30
Chloroethane	ND	50.0	47.7	95	50.0	43.6	87	9	40-155	30
Chloroform	ND	50.0	52.2	104	50.0	52.0	104	1	70-125	30
Chloromethane	ND	50.0	42.9	86	50.0	43.6	87	1	50-130	30
cis-1,2-Dichloroethene	ND	50.0	47.9	96	50.0	47.7	95	1	65-125	30
cis-1,3-Dichloropropene	ND	50.0	50.9	102	50.0	51.2	102	0	70-125	30
Dibromochloromethane	ND	50.0	48.4	97	50.0	49.5	99	2	65-130	30
Ethylbenzene	ND	50.0	49.2	98	50.0	50.3	101	2	75-125	30
m/p-Xylenes	ND	100	102	102	100	103	103	1	80-125	30
Methylene Chloride	ND	50.0	43.1	86	50.0	43.2	86	0	55-140	30
MTBE	ND	50.0	50.6	101	50.0	49.9	100	1	60-150	20
o-Xylene	ND	50.0	49.3	99	50.0	49.7	99	1	75-125	30
Styrene	ND	50.0	50.8	102	50.0	51.0	102	0	75-125	30
Tetrachloroethylene	ND	50.0	48.5	97	50.0	48.5	97	0	65-140	30
Toluene	ND	50.0	49.2	98	50.0	48.0	96	2	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	46.5	93	50.0	46.4	93	0	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	54.7	109	50.0	53.8	108	2	65-125	30
Trichloroethene	ND	50.0	46.6	93	50.0	48.7	97	4	75-125	30
Vinyl Chloride	ND	50.0	44.7	89	50.0	43.4	87	3	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	49.4	99	50.0	47.8	96	70-140
Toluene-d8	50.0	51.7	103	50.0	51.2	102	85-115
4-Bromofluorobenzene	50.0	46.2	92	50.0	47.1	94	85-120
Dibromofluoromethane	50.0	49.4	99	50.0	49.5	99	70-130

INITIAL CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RKP001
Instrument ID: TQ02
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 11/03/09
BFB Injection Time : 15:20
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.89
75	30.0 - 60.0% of mass 95	44.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.11
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.20
175	5.0 - 9.0% of mass 174	5.63(7.3)1
176	95.0 - 101.0% of mass 174	75.69(98.1)1
177	5.0 - 9.0% of mass 176	4.89(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD02	VO02K031	RKP002	11/03/09	15:53
2	VSTD04	VO02K032	RKP003	11/03/09	16:23
3	VSTD010	VO02K033	RKP004	11/03/09	16:54
4	VSTD020	VO02K034	RKP005	11/03/09	17:25
5	VSTD050	VO02K035	RKP006	11/03/09	17:55
6	VSTD080	VO02K036	RKP007	11/03/09	18:26
7	VSTD100	VO02K037	RKP008	11/03/09	18:57
8	VSTD200	VO02K038	RKP009	11/03/09	19:28
9	VSTD300	VO02K039	RKP010	11/03/09	19:59
10	VSTD050	IVO02K032	RKP014	11/03/09	22:02

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :TO02
Beginning DateTime :11/03/09 15:53
Spike Units :PPB
IC File :RKP006

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :11/03/09 19:59
HPChem Method :VO02K03

M	IDX	Parameters	2 15:53 RKP002	4 16:23 RKP003	10 16:54 RKP004	20 17:25 RKP005	50 17:55 RKP006	80 18:26 RKP007	100 18:57 RKP008	200 19:28 RKP009	300 19:59 RKP010	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	0	9.2300
	2	Dichlorodifluoromethane	0.213	0.202	0.212	0.180	0.186	0.208	0.191	0.194	0.193	0.198	5.89	3.3896
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	0.444	0.401	0.403	0.349	0.363	0.385	0.358	0.352	0.362	0.380	8.30	3.7449
	5	Vinyl chloride	0.350	0.316	0.337	0.298	0.296	0.333	0.305	0.284	0.285	0.312	7.61	3.9019
	6	Bromomethane	0.305	0.297	0.258	0.218	0.209	0.236	0.224	0.223	0.234	0.245	14.12	4.4935
	7	Chloroethane	0.165	0.171	0.172	0.154	0.166	0.181	0.168	0.172	0.170	0.169	4.24	4.5762
	8	Dichlorofluoromethane	0.459	0.547	0.516	0.544	0.560	0.585	0.568	0.578	0.564	0.547	7.07	4.5877
	9	Trichlorofluoromethane	0.267	0.285	0.308	0.273	0.280	0.318	0.285	0.285	0.288	0.288	5.53	4.8637
4	10	Acrolein	0.029	0.040	0.044	0.054	0.058	0.052	0.055	0.051	0.055	0.049	18.98	5.3017
	11	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.156	0.166	0.165	0.168	0.177	0.167	0.170	0.171	0.168	3.55	5.3650
4	12	Acetone	0.079	0.099	0.078	0.090	0.092	0.086	0.091	0.080	0.089	0.087	7.98	5.3578
	13	1,1-Dichloroethene	0.376	0.423	0.434	0.415	0.435	0.459	0.449	0.452	0.448	0.432	5.92	5.6008
5	14	tert-Butyl alcohol	0.032	0.032	0.036	0.038	0.037	0.035	0.038	0.035	0.038	0.036	6.72	5.5793
	15	Methyl acetate	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	16	Iodomethane	0.368	0.406	0.472	0.459	0.483	0.539	0.530	0.529	0.522	0.479	12.53	6.0206
	17	Methylene chloride	0.701	0.621	0.568	0.529	0.520	0.533	0.531	0.523	0.491	0.557	11.67	6.1181
5	18	Acrylonitrile	0.071	0.094	0.105	0.119	0.124	0.117	0.124	0.112	0.116	0.109	15.67	6.2156
	19	tert-Butyl methyl ether (MTBE)	0.671	0.774	0.822	0.849	0.871	0.869	0.876	0.886	0.840	0.829	8.24	6.2437
	20	Carbon disulfide	0.908	0.993	1.019	0.998	1.053	1.069	1.050	1.091	1.045	1.025	5.28	6.2949
	21	trans-1,2-Dichloroethene	0.383	0.477	0.481	0.469	0.482	0.506	0.478	0.487	0.475	0.471	7.30	6.4717
	22	Isopropyl ether (DIPE)	1.073	1.200	1.230	1.239	1.261	1.350	1.303	1.311	1.298	1.252	6.52	6.7246
	23	Vinyl acetate	0.714	0.647	0.698	0.645	0.660	0.701	0.656	0.635	0.643	0.667	4.44	6.8651
	24	1,1-Dichloroethane	0.550	0.614	0.633	0.657	0.657	0.679	0.676	0.683	0.628	0.642	6.59	6.9659
	25	tert-Butyl ethyl ether (ETBE)	0.841	0.917	1.003	0.976	1.012	1.030	1.044	1.039	1.042	0.989	6.96	7.2138
4	26	2-Butanone	0.107	0.156	0.155	0.188	0.190	0.176	0.190	0.172	0.183	0.169	15.88	7.3955
	27	2,2-Dichloropropane	0.288	0.331	0.330	0.319	0.307	0.329	0.323	0.298	0.297	0.313	5.20	7.6418
	28	cis-1,2-Dichloroethene	0.477	0.544	0.559	0.570	0.557	0.577	0.572	0.571	0.556	0.554	5.54	7.7013
	29	tert-Butyl formate (TBF)	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Chloroform	0.520	0.597	0.598	0.602	0.617	0.644	0.606	0.618	0.619	0.602	5.67	7.8930
	31	Bromochloromethane	0.292	0.351	0.352	0.361	0.365	0.367	0.366	0.356	0.358	0.352	6.65	8.1293
	32	Tetrahydrofuran	0.105	0.116	0.112	0.119	0.117	0.107	0.112	0.101	0.112	0.111	5.30	8.1458
	33	Dibromofluoromethane	0.249	0.305	0.323	0.340	0.354	0.357	0.347	0.348	------	0.328	11.10	8.1700
	34	Cyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	35	1,1,1-Trichloroethane	0.317	0.353	0.376	0.376	0.365	0.391	0.383	0.370	0.362	0.366	5.94	8.4152
	36	tert-Amyl methyl ether (TAME)	0.878	0.982	1.015	1.064	1.054	1.085	1.097	1.077	1.090	1.038	6.82	8.6648
	37	1,2-Dichloroethane-d4	0.223	0.263	0.281	0.288	0.297	0.305	0.299	0.294	------	0.281	9.65	8.7872
	38	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	0	14.0903
	39	1,1-Dichloropropene	0.146	0.167	0.152	0.150	0.174	0.186	0.172	0.172	0.160	0.164	8.05	8.6053
	40	Carbon tetrachloride	0.273	0.324	0.313	0.290	0.346	0.371	0.357	0.353	0.333	0.329	9.87	8.7722
	41	1,2-Dichloroethane	0.321	0.368	0.365	0.356	0.410	0.429	0.403	0.403	0.392	0.383	8.71	8.9077
	42	Benzene	1.350	1.532	1.419	1.334	1.520	1.610	1.520	1.543	1.436	1.474	6.36	8.9788
	43	Methylcyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	44	Trichloroethene	0.350	0.395	0.387	0.365	0.425	0.451	0.419	0.418	0.404	0.402	7.84	9.7786
	45	1,2-Dichloropropane	0.331	0.394	0.382	0.383	0.429	0.463	0.430	0.438	0.409	0.407	9.64	10.0183
	46	Bromodichloromethane	0.387	0.434	0.429	0.442	0.513	0.537	0.522	0.517	0.507	0.476	11.25	10.3901
	47	Dibromomethane	0.193	0.220	0.223	0.228	0.254	0.270	0.255	0.251	0.248	0.238	10.06	10.5124

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48	2-Chloroethyl vinyl ether	------	0.075	0.087	0.096	0.104	0.102	0.113	0.119	0.113	0.101	14.45	10.7028
4 49	4-Methyl-2-pentanone	0.232	0.349	0.338	0.409	0.464	0.432	0.446	0.417	0.414	0.389	18.49	10.7471
50	cis-1,3-Dichloropropene	0.512	0.559	0.554	0.567	0.658	0.707	0.677	0.669	0.615	0.613	11.08	11.1982
51	Toluene-d8	0.865	0.960	0.927	0.909	1.063	1.055	1.026	1.042	------	0.981	7.70	11.6560
52	Toluene	1.189	1.353	1.253	1.223	1.370	1.468	1.367	1.375	1.327	1.325	6.63	11.7882
53	Ethyl methacrylate	0.408	0.444	0.443	0.464	0.534	0.550	0.532	0.520	0.511	0.490	10.32	11.8510
54	trans-1,3-Dichloropropene	0.361	0.444	0.455	0.450	0.538	0.556	0.544	0.555	0.519	0.491	13.68	11.9849
4 55	2-Hexanone	0.154	0.225	0.221	0.267	0.313	0.298	0.311	0.281	0.290	0.262	20.08	12.1733
56	1,1,2-Trichloroethane	0.261	0.300	0.303	0.286	0.328	0.338	0.324	0.323	0.305	0.308	7.76	12.2824
57	1,3-Dichloropropane	0.497	0.566	0.573	0.558	0.641	0.653	0.641	0.620	0.612	0.596	8.58	12.6774
58	Tetrachloroethene	0.265	0.271	0.266	0.257	0.285	0.302	0.290	0.286	0.275	0.278	5.19	12.8608
59	Dibromochloromethane	0.310	0.341	0.364	0.349	0.422	0.440	0.432	0.432	0.417	0.390	12.46	13.1913
60	1,2-Dibromoethane	0.271	0.319	0.328	0.323	0.371	0.375	0.372	0.354	0.351	0.340	9.93	13.5218
61	1-Chlorohexane	0.507	0.534	0.509	0.493	0.569	0.603	0.581	0.561	0.547	0.545	6.83	13.6044
62	Chlorobenzene	0.923	1.004	0.962	0.936	1.049	1.093	1.023	1.026	0.950	0.996	5.72	14.1531
63	Ethylbenzene	1.494	1.642	1.530	1.459	1.626	1.733	1.622	1.614	1.493	1.579	5.68	14.1730
64	1,1,1,2-Tetrachloroethane	0.287	0.347	0.344	0.331	0.383	0.409	0.383	0.388	0.367	0.360	10.25	14.1845
2 65	m-Xylene & p-Xylene	1.116	1.225	1.192	1.139	1.249	1.311	1.203	1.198	0.985	1.180	7.85	14.2886
66	o-Xylene	1.217	1.277	1.202	1.215	1.320	1.378	1.295	1.288	1.227	1.269	4.61	14.9761
67	Styrene	0.899	1.021	0.980	0.996	1.122	1.171	1.100	1.120	1.036	1.049	8.19	15.0208
68	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	0	18.1789
69	Isopropylbenzene	3.540	3.762	3.564	3.856	3.828	3.905	3.877	3.728	3.472	3.726	4.34	15.4818
70	Bromoform	------	0.466	0.504	0.565	0.616	0.606	0.631	0.619	0.621	0.579	10.65	15.6241
71	1,1,2,2-Tetrachloroethane	1.078	1.205	1.222	1.274	1.293	1.248	1.293	1.218	1.240	1.230	5.32	15.7396
72	4-Bromofluorobenzene	1.225	1.065	1.005	1.037	1.080	1.075	1.074	1.060	------	1.078	5.98	15.8950
73	1,2,3-Trichloropropane	0.258	0.262	0.272	0.286	0.293	0.281	0.293	0.268	0.278	0.277	4.55	15.9661
74	trans-1,4-Dichloro-2-butene	0.180	0.207	0.230	0.255	0.273	0.272	0.291	0.277	0.273	0.251	14.87	16.0140
75	n-Propylbenzene	4.711	4.946	4.920	5.043	5.113	5.169	5.247	5.021	4.400	4.952	5.23	16.0768
76	Bromobenzene	0.929	1.031	0.990	1.036	1.077	1.092	1.113	1.073	1.039	1.042	5.39	16.2387
77	1,3,5-Trimethylbenzene	2.884	3.099	3.010	3.172	3.165	3.215	3.145	3.046	2.985	3.080	3.49	16.2933
78	2-Chlorotoluene	2.769	3.151	3.262	2.765	3.461	2.889	3.459	2.984	3.105	3.094	8.61	16.3974
79	4-Chlorotoluene	2.507	2.518	2.836	2.734	2.920	2.888	2.990	2.587	2.216	2.688	9.33	16.4470
80	tert-Butylbenzene	3.019	3.138	3.188	3.299	3.167	3.291	3.251	3.095	3.069	3.169	3.11	16.8155
81	1,2,4-Trimethylbenzene	2.862	3.221	3.053	3.178	3.116	3.156	3.147	3.120	3.000	3.095	3.53	16.8766
82	sec-Butylbenzene	4.113	4.388	4.276	4.358	4.276	4.357	4.186	4.137	3.919	4.223	3.57	17.1130
83	p-Isopropyltoluene	3.433	3.694	3.742	3.693	3.698	3.797	3.696	3.615	3.461	3.648	3.38	17.2849
84	1,3-Dichlorobenzene	1.929	2.040	1.886	1.943	1.994	2.036	2.053	1.980	1.929	1.977	2.97	17.5146
85	1,4-Dichlorobenzene	1.982	1.983	1.939	2.003	2.003	2.031	2.085	2.005	1.985	2.002	1.99	17.6600
86	n-Butylbenzene	3.462	3.474	3.331	3.246	3.430	3.498	3.376	3.520	3.231	3.396	3.15	17.8666
87	1,2-Dichlorobenzene	1.778	1.886	1.827	1.883	1.800	1.866	1.854	1.852	1.828	1.842	1.99	18.2186
88	1,2-Dibromo-3-chloropropane	0.152	0.145	0.161	0.163	0.162	0.160	0.172	0.164	0.183	0.162	6.78	19.3506
89	1,2,4-Trichlorobenzene	0.951	0.937	0.916	0.842	0.836	0.868	0.874	0.844	0.854	0.880	4.94	20.7306
90	Hexachlorobutadiene	0.559	0.584	0.559	0.515	0.468	0.514	0.496	0.487	0.500	0.520	7.43	20.9091
91	Naphthalene	2.303	2.243	2.296	2.119	2.009	2.018	2.181	1.969	2.118	2.139	5.86	21.2429
92	1,2,3-Trichlorobenzene	0.802	0.861	0.841	0.745	0.678	0.701	0.716	0.633	0.634	0.734	11.50	21.6577

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.9 Max_%RSD : 20.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
10	Acrolein	-0.00400	0.05387	0.9990
18	Acrylonitrile	-0.00781	0.11749	0.9993
28	2-Butanone	-0.00998	0.18177	0.9991
49	4-Methyl-2-pentanone	-0.02832	0.42645	0.9990
55	2-Hexanone	-0.02418	0.29428	0.9989

SG
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SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T002
IC_Beginning DateTime :11/03/09 15:53
Spike Amount :50 PPB
CC/CV File :RKP014
IC File :RKP006

Column Spec :RTX502.2 ID :0.32MM
IC_Ending DateTime :11/03/09 19:59
HPChem Method :V002K03
Date_Time :11/03/09 22:02

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	1930946	1	1	9.217	9.230	0				
	2	Dichlorodifluoromethane	47.827	-4.3	365319	0.189	0.198	3.386	3.390	5.89				
	3	Dichlorotetrafluoroethane												
	4	Chloromethane	41.672	-16.7	610984	0.316	0.380	3.728	3.745	8.30				
	5	Vinyl chloride	39.153	-21.7	471139	0.244	0.312	3.892	3.902	7.61				
	6	Bromomethane	39.305	-21.4	371976	0.193	0.245	4.487	4.494	14.12				
	7	Chloroethane	42.753	-14.5	278701	0.144	0.169	4.561	4.576	4.24				
	8	Dichlorofluoromethane	52.474	4.9	1107732	0.574	0.547	4.591	4.588	7.07				
	9	Trichlorofluoromethane	44.174	-11.7	490833	0.254	0.288	4.859	4.864	5.53				
4	10	Acrolein	165.236	-17.4	336047	0.044	0.049	5.290	5.302	18.98	-0.0040	0.0539		0.9990
	11	1,1,2-Trichloro-1,2,2-trifluoroethane	52.076	4.2	336966	0.175	0.168	5.365	5.365	3.55				
4	12	Acetone	181.874	-9.1	610979	0.079	0.087	5.350	5.358	7.98				
	13	1,1-Dichloroethene	50.379	0.8	841008	0.436	0.432	5.602	5.601	5.92				
5	14	tert-Butyl alcohol	265.125	6.0	365685	0.038	0.036	5.573	5.579	6.72				
	15	Methyl acetate												
	16	Iodomethane	55.863	11.7	1032888	0.535	0.479	6.019	6.021	12.53				
	17	Methylene chloride	43.148	-13.7	928960	0.481	0.557	6.108	6.118	11.67				
5	18	Acrylonitrile	251.237	0.5	1124834	0.117	0.109	6.212	6.216	15.67	-0.0078	0.1175		0.9993
	19	tert-Butyl methyl ether (MTBE)	53.151	6.3	1701056	0.881	0.829	6.242	6.244	8.24				
	20	Carbon disulfide	57.750	15.5	2286295	1.184	1.025	6.287	6.295	5.28				
	21	trans-1,2-Dichloroethene	50.230	0.5	913449	0.473	0.471	6.465	6.472	7.30				
	22	Isopropyl ether (DIPE)	51.410	2.8	2484981	1.287	1.252	6.718	6.725	6.52				
	23	Vinyl acetate	43.802	-12.4	1127714	0.584	0.667	6.852	6.865	4.44				
	24	1,1-Dichloroethane	50.471	0.9	1251055	0.648	0.642	6.956	6.966	6.59				
	25	tert-Butyl ethyl ether (ETBE)	51.982	4.0	1985735	1.028	0.989	7.209	7.214	6.96				
4	26	2-Butanone	186.551	-6.7	1290254	0.167	0.169	7.387	7.396	15.88	-0.0100	0.1818		0.9991
	27	2,2-Dichloropropane	49.291	-1.4	596677	0.309	0.313	7.640	7.642	5.20				
	28	cis-1,2-Dichloroethene	48.705	-2.6	1041694	0.539	0.554	7.700	7.701	5.54				
	29	tert-Butyl formate (TBF)												
	30	Chloroform	51.183	2.4	1190722	0.617	0.602	7.893	7.893	5.67				
	31	Bromochloromethane	50.005	0.0	679646	0.352	0.352	8.116	8.129	6.65				
	32	Tetrahydrofuran	49.209	-1.6	211490	0.110	0.111	8.131	8.146	5.30				
	33	Dibromofluoromethane	50.598	1.2	640810	0.332	0.328	8.161	8.170	11.10				
	34	Cyclohexane												
	35	1,1,1-Trichloroethane	49.975	-0.0	706327	0.366	0.366	8.414	8.415	5.94				
	36	tert-Amyl methyl ether (TAME)	52.271	4.5	2095335	1.085	1.038	8.652	8.665	6.82				
	37	1,2-Dichloroethane-d4	50.570	1.1	549258	0.284	0.281	8.785	8.787	9.65				
	38	CHLOROBENZENE-D5	50.000	0	1824665	1	1	14.080	14.090	0				
	39	1,1-Dichloropropene	52.574	5.1	315450	0.173	0.164	8.592	8.605	8.05				
	40	Carbon tetrachloride	51.134	2.3	613860	0.336	0.329	8.771	8.772	9.87				
	41	1,2-Dichloroethane	53.456	6.9	746928	0.409	0.383	8.904	8.908	8.71				
	42	Benzene	52.714	5.4	2835037	1.554	1.474	8.964	8.979	6.36				
	43	Methylcyclohexane												
	44	Trichloroethene	52.169	4.3	764615	0.419	0.402	9.767	9.779	7.84				
	45	1,2-Dichloropropane	51.546	3.1	764899	0.419	0.407	10.005	10.018	9.64				
	46	Bromodichloromethane	50.092	0.2	870941	0.477	0.476	10.377	10.390	11.25				
	47	Dibromomethane	52.283	4.6	453749	0.249	0.238	10.511	10.512	10.06				
	48	2-Chloroethyl vinyl ether	52.961	5.9	195545	0.107	0.101	10.689	10.703	14.45				

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4	49	4-Methyl-2-pentanone	195.440	-2.3	2989850	0.410	0.389	10.734	10.747	18.49	-0.0283	0.4265		0.9990
	50	cis-1,3-Dichloropropene	51.637	3.3	1155325	0.633	0.613	11.195	11.198	11.08				
	51	Toluene-d8	51.859	3.7	1856393	1.017	0.981	11.641	11.656	7.70				
	52	Toluene	52.817	5.6	2553828	1.400	1.325	11.775	11.788	6.63				
	53	Ethyl methacrylate	52.174	4.3	932084	0.511	0.490	11.835	11.851	10.32				
	54	trans-1,3-Dichloropropene	54.801	9.6	982534	0.538	0.491	11.983	11.985	13.68				
4	55	2-Hexanone	190.093	-5.0	1997329	0.274	0.262	12.162	12.173	20.08	-0.0242	0.2943		0.9989
	56	1,1,2-Trichloroethane	50.736	1.5	569703	0.312	0.308	12.281	12.282	7.76				
	57	1,3-Dichloropropane	50.666	1.3	1101295	0.604	0.596	12.667	12.677	8.58				
	58	Tetrachloroethene	50.847	1.7	515043	0.282	0.278	12.861	12.861	5.19				
	59	Dibromochloromethane	49.079	-1.8	698051	0.383	0.390	13.188	13.191	12.46				
	60	1,2-Dibromoethane	51.302	2.6	637232	0.349	0.340	13.515	13.522	9.93				
	61	1-Chlorohexane	52.942	5.9	1052426	0.577	0.545	13.590	13.604	6.83				
	62	Chlorobenzene	51.575	3.1	1875272	1.028	0.996	14.140	14.153	5.72				
	63	Ethylbenzene	51.728	3.5	2981126	1.634	1.579	14.170	14.173	5.68				
	64	1,1,1,2-Tetrachloroethane	51.341	2.7	674203	0.369	0.360	14.170	14.184	10.25				
2	65	m-Xylene & p-Xylene	102.333	2.3	4405865	1.207	1.180	14.274	14.289	7.85				
	66	o-Xylene	50.111	0.2	2319883	1.271	1.269	14.973	14.976	4.61				
	67	Styrene	50.832	1.7	1946623	1.067	1.049	15.017	15.021	8.19				
	68	1,2-DICHLOROBENZENE-D4	50.000	0	717190	1	1	18.171	18.179	0				
	69	Isopropylbenzene	52.287	4.6	2794399	3.896	3.726	15.479	15.482	4.34				
	70	Bromoform	50.729	1.5	420950	0.587	0.579	15.612	15.624	10.65				
	71	1,1,2,2-Tetrachloroethane	49.745	-0.5	877814	1.224	1.230	15.731	15.740	5.32				
	72	4-Bromofluorobenzene	48.434	-3.1	748629	1.044	1.078	15.895	15.895	5.98				
	73	1,2,3-Trichloropropane	48.599	-2.8	193012	0.269	0.277	15.955	15.966	4.55				
	74	trans-1,4-Dichloro-2-butene	51.971	3.9	186940	0.261	0.251	15.999	16.014	14.87				
	75	n-Propylbenzene	50.394	0.8	3579610	4.991	4.952	16.073	16.077	5.23				
	76	Bromobenzene	51.619	3.2	771647	1.076	1.042	16.237	16.239	5.39				
	77	1,3,5-Trimethylbenzene	48.543	-2.9	2144708	2.990	3.080	16.282	16.293	3.49				
	78	2-Chlorotoluene	46.409	-7.2	2059562	2.872	3.094	16.386	16.397	8.61				
	79	4-Chlorotoluene	48.579	-2.8	1873356	2.612	2.688	16.445	16.447	9.33				
	80	tert-Butylbenzene	50.318	0.6	2286938	3.189	3.169	16.817	16.816	3.11				
	81	1,2,4-Trimethylbenzene	48.467	-3.1	2151502	3.000	3.095	16.877	16.877	3.53				
	82	sec-Butylbenzene	49.155	-1.7	2977684	4.152	4.223	17.100	17.113	3.57				
	83	p-Isopropyltoluene	48.051	-3.9	2514200	3.506	3.648	17.278	17.285	3.38				
	84	1,3-Dichlorobenzene	47.836	-4.3	1356254	1.891	1.977	17.501	17.515	2.97				
	85	1,4-Dichlorobenzene	47.066	-5.9	1351453	1.884	2.002	17.650	17.660	1.99				
	86	n-Butylbenzene	43.030	-13.9	2096275	2.923	3.396	17.858	17.867	3.15				
	87	1,2-Dichlorobenzene	46.864	-6.3	1237931	1.726	1.842	18.215	18.219	1.99				
	88	1,2-Dibromo-3-chloropropane	45.889	-8.2	106894	0.149	0.162	19.346	19.351	6.78				
	89	1,2,4-Trichlorobenzene	42.183	-15.6	532561	0.743	0.880	20.729	20.731	4.94				
	90	Hexachlorobutadiene	44.818	-10.4	334371	0.466	0.520	20.907	20.909	7.43				
	91	Naphthalene	43.623	-12.8	1338713	1.867	2.139	21.235	21.243	5.86				
	92	1,2,3-Trichlorobenzene	42.023	-16.0	442680	0.617	0.734	21.651	21.658	11.50				

Spike Amount = Nominal Amount * M

SV 11/4/09

20149

DAILY CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP013
Instrument ID: TQ02
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 12/02/09
BFB Injection Time : 08:33
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.11
75	30.0 - 60.0% of mass 95	45.32
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.43
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.46
175	5.0 - 9.0% of mass 174	5.64(7.3)1
176	95.0 - 101.0% of mass 174	74.59(96.3)1
177	5.0 - 9.0% of mass 176	4.85(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0324	RLP014	12/02/09	09:05
2	MBLK1S	VO02L03B	RLP019	12/02/09	11:44
3	LCS1S	VO02L03L	RLP015	12/02/09	09:37
4	LCD1S	VO02L03C	RLP016	12/02/09	10:08
5	SB1-10V	L023-01	RLP032	12/02/09	18:37
6	SB2-19V	L023-02	RLP033	12/02/09	19:08
7	SB3-20V	L023-03	RLP034	12/02/09	19:40
8	SB4-20V	L023-04	RLP035	12/02/09	20:12

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: T002
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L023
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2101203	9.23	2049015	14.09	852775	18.18
2	MBLK1S	2042176	9.23	1965184	14.09	834501	18.18
3	LCS1S	2119470	9.23	2035985	14.09	863746	18.18
4	LCD1S	2089472	9.23	2110762	14.09	876332	18.18
5	SB1-10V	2100829	9.23	2040719	14.10	875141	18.19
6	SB2-19V	2133393	9.23	1985550	14.10	840447	18.19
7	SB3-20V	2129604	9.24	2066660	14.09	874139	18.18
8	SB4-20V	2064802	9.24	2050674	14.10	834948	18.18

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	113	0.00
2	T	Dichlorodifluoromethane	50.000	50.021	-0.0	120	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	44.379	11.2	105	-0.05
5	C,T	Vinyl chloride	50.000	46.611	6.8	111	-0.02
6	T	Bromomethane	50.000	44.449	11.1	118	-0.02
7	T	Chloroethane	50.000	48.389	3.2	111	-0.02
8	T	Dichlorofluoromethane	50.000	47.553	4.9	105	-0.02
9	T	Trichlorofluoromethane	50.000	60.774	-21.5#	141	-0.02
10	T	Acrolein	200.000	188.362	5.8	97	0.00
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	57.887	-15.8	130	0.00
12	T	Acetone	200.000	199.661	0.2	107	-0.02
13	C,T,M	1,1-Dichloroethene	50.000	53.586	-7.2	120	-0.03
14	T	tert-Butyl alcohol	250.000	266.226	-6.5	115	-0.02
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	59.352	-18.7	133	-0.03
17	T	Methylene chloride	50.000	48.879	2.2	118	-0.02
18	T	Acrylonitrile	250.000	255.594	-2.2	108	0.00
19	T	tert-Butyl methyl ether (MT	50.000	50.192	-0.4	108	0.00
20	T	Carbon disulfide	50.000	47.096	5.8	103	-0.03
21	T	trans-1,2-Dichloroethene	50.000	50.799	-1.6	112	0.00
22	T	Isopropyl ether (DIPE)	50.000	48.654	2.7	109	0.00
23	T	Vinyl acetate	50.000	59.640	-19.3	136	0.00
24	P,T	1,1-Dichloroethane	50.000	52.270	-4.5	115	0.00
25	T	tert-Butyl ethyl ether (ETB	50.000	50.656	-1.3	112	0.00
26	T	2-Butanone	200.000	198.230	0.9	105	0.00
27	T	2,2-Dichloropropane	50.000	57.845	-15.7	133	-0.02
28	T	cis-1,2-Dichloroethene	50.000	51.962	-3.9	117	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	50.058	-0.1	110	0.00
31	T	Bromochloromethane	50.000	49.966	0.1	109	0.00
32	T	Tetrahydrofuran	50.000	50.824	-1.6	109	0.00
33	S	Dibromofluoromethane	50.000	48.040	3.9	100	0.00
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	54.542	-9.1	123	0.00
36	T	tert-Amyl methyl ether (TAM	50.000	49.751	0.5	111	0.00
37	S	1,2-Dichloroethane-d4	50.000	48.637	2.7	104	0.00
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	115	0.00
39	T	1,1-Dichloropropene	50.000	50.524	-1.0	110	0.00
40	T	Carbon tetrachloride	50.000	54.533	-9.1	119	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	52.751	-5.5	114	0.00
42	T,M	Benzene	50.000	50.761	-1.5	113	0.00
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	50.502	-1.0	110	0.00
45	C,T	1,2-Dichloropropane	50.000	52.814	-5.6	115	0.00
46	T	Bromodichloromethane	50.000	52.236	-4.5	112	0.00
47	T	Dibromomethane	50.000	51.878	-3.8	112	0.01
48	T	2-Chloroethyl vinyl ether	50.000	40.780	18.4	91	0.00
49	T	4-Methyl-2-pentanone	200.000	199.348	0.3	104	0.00
50	T	cis-1,3-Dichloropropene	50.000	52.780	-5.6	113	0.01
51	S	Toluene-d8	50.000	52.405	-4.8	111	0.00
52	C,T,M	Toluene	50.000	50.859	-1.7	113	0.00
53	T	Ethyl methacrylate	50.000	54.232	-8.5	114	0.00
54	T	trans-1,3-Dichloropropene	50.000	54.653	-9.3	115	0.01
55	T	2-Hexanone	200.000	203.874	-1.9	108	0.00
56	T	1,1,2-Trichloroethane	50.000	52.592	-5.2	114	0.00
57	T	1,3-Dichloropropane	50.000	52.646	-5.3	113	0.00
58	T	Tetrachloroethene	50.000	50.763	-1.5	114	0.00
59	T	Dibromochloromethane	50.000	52.300	-4.6	111	0.01
60	T	1,2-Dibromoethane	50.000	53.197	-6.4	113	0.01
61	T	1-Chlorohexane	50.000	52.793	-5.6	116	0.00
62	P,M	Chlorobenzene	50.000	51.491	-3.0	113	0.00
63	C,T	Ethylbenzene	50.000	51.976	-4.0	116	0.01
64	T	1,1,1,2-Tetrachloroethane	50.000	53.087	-6.2	115	0.00
65	T	m-Xylene & p-Xylene	100.000	104.484	-4.5	114	0.00
66	T	o-Xylene	50.000	52.330	-4.7	116	0.01
67	T	Styrene	50.000	52.643	-5.3	114	0.01
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	119	0.00
69	T	Isopropylbenzene	50.000	50.449	-0.9	117	0.01
70	P,T	Bromoform	50.000	49.411	1.2	110	0.00
71	P,T	1,1,2,2-Tetrachloroethane	50.000	53.531	-7.1	121	0.00
72	S	4-Bromofluorobenzene	50.000	47.750	4.5	113	0.00
73	T	1,2,3-Trichloropropane	50.000	51.638	-3.3	116	0.00
74	T	trans-1,4-Dichloro-2-butene	50.000	56.143	-12.3	123	0.00
75	T	n-Propylbenzene	50.000	51.921	-3.8	119	0.00
76	T	Bromobenzene	50.000	50.290	-0.6	116	0.00
77	T	1,3,5-Trimethylbenzene	50.000	51.905	-3.8	120	0.00
78	T	2-Chlorotoluene	50.000	53.181	-6.4	113	0.00
79	T	4-Chlorotoluene	50.000	45.655	8.7	100	0.00
80	T	tert-Butylbenzene	50.000	52.986	-6.0	126	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	52.805	-5.6	124	0.00
82	T	sec-Butylbenzene	50.000	53.025	-6.0	124	0.00
83	T	p-Isopropyltoluene	50.000	52.326	-4.7	123	0.01
84	T	1,3-Dichlorobenzene	50.000	52.058	-4.1	123	0.00
85	T	1,4-Dichlorobenzene	50.000	50.872	-1.7	121	0.00
86	T	n-Butylbenzene	50.000	54.205	-8.4	127	0.00
87	T	1,2-Dichlorobenzene	50.000	49.822	0.4	121	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	52.017	-4.0	124	0.01
89	T	1,2,4-Trichlorobenzene	50.000	51.832	-3.7	130	0.00
90	T	Hexachlorobutadiene	50.000	49.275	1.5	130	0.00
91	T	Naphthalene	50.000	49.476	1.0	125	0.00
92	T	1,2,3-Trichlorobenzene	50.000	48.685	2.6	125	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	113	0.00
2	T	Dichlorodifluoromethane	0.198	0.198	0.0	120	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.337	11.3	105	-0.05
5	C,T	Vinyl chloride	0.312	0.290	7.1	111	-0.02
6	T	Bromomethane	0.245	0.218	11.0	118	-0.02
7	T	Chloroethane	0.169	0.163	3.6	111	-0.02
8	T	Dichlorofluoromethane	0.547	0.520	4.9	105	-0.02
9	T	Trichlorofluoromethane	0.288	0.350	-21.5#	141	-0.02
10	T	Acrolein	0.049	0.050	-2.0	97	0.00
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.194	-15.5	130	0.00
12	T	Acetone	0.087	0.087	0.0	107	-0.02
13	C,T,M	1,1-Dichloroethene	0.432	0.463	-7.2	120	-0.03
14	T	tert-Butyl alcohol	0.036	0.038	-5.6	115	-0.02
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.568	-18.6	133	-0.03
17	T	Methylene chloride	0.557	0.545	2.2	118	-0.02
18	T	Acrylonitrile	0.109	0.119	-9.2	108	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.832	-0.4	108	0.00
20	T	Carbon disulfide	1.025	0.966	5.8	103	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.478	-1.5	112	0.00
22	T	Isopropyl ether (DIPE)	1.252	1.218	2.7	109	0.00
23	T	Vinyl acetate	0.667	0.795	-19.2	136	0.00
24	P,T	1,1-Dichloroethane	0.642	0.671	-4.5	115	0.00
25	T	tert-Butyl ethyl ether (ETB	0.989	1.002	-1.3	112	0.00
26	T	2-Butanone	0.169	0.178	-5.3	105	0.00
27	T	2,2-Dichloropropane	0.313	0.363	-16.0	133	-0.02
28	T	cis-1,2-Dichloroethene	0.554	0.576	-4.0	117	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.603	-0.2	110	0.00
31	T	Bromochloromethane	0.352	0.352	0.0	109	0.00
32	T	Tetrahydrofuran	0.111	0.113	-1.8	109	0.00
33	S	Dibromofluoromethane	0.328	0.315	4.0	100	0.00
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.399	-9.0	123	0.00
36	T	tert-Amyl methyl ether (TAM	1.038	1.033	0.5	111	0.00
37	S	1,2-Dichloroethane-d4	0.281	0.274	2.5	104	0.00
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	115	0.00
39	T	1,1-Dichloropropene	0.164	0.166	-1.2	110	0.00
40	T	Carbon tetrachloride	0.329	0.359	-9.1	119	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.404	-5.5	114	0.00
42	T,M	Benzene	1.474	1.496	-1.5	113	0.00
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.406	-1.0	110	0.00
45	C,T	1,2-Dichloropropane	0.407	0.430	-5.7	115	0.00
46	T	Bromodichloromethane	0.476	0.498	-4.6	112	0.00
47	T	Dibromomethane	0.238	0.247	-3.8	112	0.01
48	T	2-Chloroethyl vinyl ether	0.101	0.083	17.8	91	0.00
49	T	4-Methyl-2-pentanone	0.389	0.418	-7.5	104	0.00
50	T	cis-1,3-Dichloropropene	0.613	0.647	-5.5	113	0.01
51	S	Toluene-d8	0.981	1.028	-4.8	111	0.00
52	C,T,M	Toluene	1.325	1.348	-1.7	113	0.00
53	T	Ethyl methacrylate	0.490	0.531	-8.4	114	0.00
54	T	trans-1,3-Dichloropropene	0.491	0.537	-9.4	115	0.01
55	T	2-Hexanone	0.262	0.294	-12.2	108	0.00
56	T	1,1,2-Trichloroethane	0.308	0.324	-5.2	114	0.00
57	T	1,3-Dichloropropane	0.596	0.627	-5.2	113	0.00
58	T	Tetrachloroethene	0.278	0.282	-1.4	114	0.00
59	T	Dibromochloromethane	0.390	0.408	-4.6	111	0.01
60	T	1,2-Dibromoethane	0.340	0.362	-6.5	113	0.01
61	T	1-Chlorohexane	0.545	0.575	-5.5	116	0.00
62	P,M	Chlorobenzene	0.996	1.026	-3.0	113	0.00
63	C,T	Ethylbenzene	1.579	1.642	-4.0	116	0.01
64	T	1,1,1,2-Tetrachloroethane	0.360	0.382	-6.1	115	0.00
65	T	m-Xylene & p-Xylene	1.180	1.233	-4.5	114	0.00
66	T	o-Xylene	1.269	1.328	-4.6	116	0.01
67	T	Styrene	1.049	1.105	-5.3	114	0.01
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	119	0.00
69	T	Isopropylbenzene	3.726	3.759	-0.9	117	0.01
70	P,T	Bromoform	0.579	0.572	1.2	110	0.00
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.317	-7.1	121	0.00
72	S	4-Bromofluorobenzene	1.078	1.029	4.5	113	0.00
73	T	1,2,3-Trichloropropane	0.277	0.286	-3.2	116	0.00
74	T	trans-1,4-Dichloro-2-butene	0.251	0.282	-12.4	123	0.00
75	T	n-Propylbenzene	4.952	5.142	-3.8	119	0.00
76	T	Bromobenzene	1.042	1.048	-0.6	116	0.00
77	T	1,3,5-Trimethylbenzene	3.080	3.198	-3.8	120	0.00
78	T	2-Chlorotoluene	3.094	3.291	-6.4	113	0.00
79	T	4-Chlorotoluene	2.688	2.455	8.7	100	0.00
80	T	tert-Butylbenzene	3.169	3.358	-6.0	126	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L02\RLP014.D Vial: 2
Acq On : 2 Dec 2009 9:05 am Operator: CGM
Sample : CVO02K0324 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.268	-5.6	124	0.00
82	T	sec-Butylbenzene	4.223	4.479	-6.1	124	0.00
83	T	p-Isopropyltoluene	3.648	3.817	-4.6	123	0.01
84	T	1,3-Dichlorobenzene	1.977	2.058	-4.1	123	0.00
85	T	1,4-Dichlorobenzene	2.002	2.037	-1.7	121	0.00
86	T	n-Butylbenzene	3.396	3.682	-8.4	127	0.00
87	T	1,2-Dichlorobenzene	1.842	1.835	0.4	121	0.00
88	T	1,2-Dibromo-3-chloropropane	0.162	0.169	-4.3	124	0.01
89	T	1,2,4-Trichlorobenzene	0.880	0.912	-3.6	130	0.00
90	T	Hexachlorobutadiene	0.520	0.513	1.3	130	0.00
91	T	Naphthalene	2.139	2.117	1.0	125	0.00
92	T	1,2,3-Trichlorobenzene	0.734	0.715	2.6	125	0.00

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP038
Instrument ID: T002
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L023
BFB Injection Date : 12/03/09
BFB Injection Time : 06:56
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.95
75	30.0 - 60.0% of mass 95	45.76
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.52
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	82.03
175	5.0 - 9.0% of mass 174	5.96(7.3)1
176	95.0 - 101.0% of mass 174	78.46(95.7)1
177	5.0 - 9.0% of mass 176	4.95(6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0325	RLP039	12/03/09	07:28
2	MBLK2S	VO02L05B	RLP044	12/03/09	10:06
3	LCS2S	VO02L05L	RLP040	12/03/09	07:59
4	LCD2S	VO02L05C	RLP041	12/03/09	08:31
5	SB12-30V	L023-05R	RLP046	12/03/09	11:09
6	SB12-50V	L023-06	RLP047	12/03/09	11:41
7	SB11-20V	L023-07	RLP048	12/03/09	12:12
8	SB11-40V	L023-08	RLP049	12/03/09	12:44

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: TQ02
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L023
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2024121	9.24	2043414	14.09	851951	18.18
2	MBLK2S	2101043	9.23	2007680	14.09	839964	18.18
3	LCS2S	2033341	9.23	1971357	14.09	859861	18.18
4	LCD2S	2114960	9.23	2047133	14.08	848891	18.17
5	SB12-30V	2182915	9.23	2095187	14.09	857210	18.18
6	SB12-50V	2029656	9.23	2028044	14.09	851206	18.18
7	SB11-20V	2114598	9.23	2043034	14.08	854628	18.17
8	SB11-40V	2082023	9.23	1988545	14.08	860756	18.17

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	109	0.01
2	T	Dichlorodifluoromethane	50.000	47.927	4.1	111	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	44.029	11.9	100	-0.03
5	C,T	Vinyl chloride	50.000	45.247	9.5	104	-0.02
6	T	Bromomethane	50.000	43.755	12.5	111	-0.02
7	T	Chloroethane	50.000	46.841	6.3	103	-0.02
8	T	Dichlorofluoromethane	50.000	53.029	-6.1	113	-0.02
9	T	Trichlorofluoromethane	50.000	60.004	-20.0#	134	-0.02
10	T	Acrolein	200.000	191.511	4.2	95	0.00
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	59.514	-19.0	129	0.00
12	T	Acetone	200.000	197.541	1.2	102	0.00
13	C,T,M	1,1-Dichloroethene	50.000	54.081	-8.2	117	-0.02
14	T	tert-Butyl alcohol	250.000	281.419	-12.6	117	0.00
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	59.761	-19.5	129	-0.02
17	T	Methylene chloride	50.000	49.046	1.9	114	0.00
18	T	Acrylonitrile	250.000	257.185	-2.9	105	0.01
19	T	tert-Butyl methyl ether (MT	50.000	50.903	-1.8	105	0.01
20	T	Carbon disulfide	50.000	48.377	3.2	102	-0.03
21	T	trans-1,2-Dichloroethene	50.000	53.217	-6.4	113	0.00
22	T	Isopropyl ether (DIPE)	50.000	50.139	-0.3	108	0.00
23	T	Vinyl acetate	50.000	58.360	-16.7	128	0.01
24	P,T	1,1-Dichloroethane	50.000	53.835	-7.7	114	0.00
25	T	tert-Butyl ethyl ether (ETB	50.000	51.961	-3.9	110	0.00
26	T	2-Butanone	200.000	198.458	0.8	102	0.00
27	T	2,2-Dichloropropane	50.000	58.222	-16.4	129	0.00
28	T	cis-1,2-Dichloroethene	50.000	52.773	-5.5	114	0.01
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	53.329	-6.7	113	0.01
31	T	Bromochloromethane	50.000	52.122	-4.2	109	0.00
32	T	Tetrahydrofuran	50.000	54.091	-8.2	112	0.01
33	S	Dibromofluoromethane	50.000	51.084	-2.2	103	0.00
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	57.422	-14.8	125	0.00
36	T	tert-Amyl methyl ether (TAM	50.000	51.805	-3.6	111	0.01
37	S	1,2-Dichloroethane-d4	50.000	50.103	-0.2	103	0.00
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	115	0.00
39	T	1,1-Dichloropropene	50.000	50.895	-1.8	110	0.00
40	T	Carbon tetrachloride	50.000	57.435	-14.9	125	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	51.257	-2.5	110	0.00
42	T,M	Benzene	50.000	50.125	-0.3	112	0.01
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	50.841	-1.7	110	0.00
45	C,T	1,2-Dichloropropane	50.000	52.380	-4.8	114	0.00
46	T	Bromodichloromethane	50.000	52.012	-4.0	111	0.01
47	T	Dibromomethane	50.000	50.659	-1.3	109	0.01
48	T	2-Chloroethyl vinyl ether	50.000	40.036	19.9	89	0.01
49	T	4-Methyl-2-pentanone	200.000	197.471	1.3	102	0.00
50	T	cis-1,3-Dichloropropene	50.000	53.782	-7.6	115	0.01
51	S	Toluene-d8	50.000	49.917	0.2	106	0.00
52	C,T,M	Toluene	50.000	51.915	-3.8	115	0.00
53	T	Ethyl methacrylate	50.000	53.810	-7.6	113	0.01
54	T	trans-1,3-Dichloropropene	50.000	54.360	-8.7	114	0.01
55	T	2-Hexanone	200.000	205.146	-2.6	109	0.00
56	T	1,1,2-Trichloroethane	50.000	52.394	-4.8	113	0.01
57	T	1,3-Dichloropropane	50.000	50.915	-1.8	109	0.00
58	T	Tetrachloroethene	50.000	51.895	-3.8	116	0.01
59	T	Dibromochloromethane	50.000	52.684	-5.4	112	0.01
60	T	1,2-Dibromoethane	50.000	53.267	-6.5	112	0.01
61	T	1-Chlorohexane	50.000	53.460	-6.9	118	0.01
62	P,M	Chlorobenzene	50.000	53.774	-7.5	117	0.00
63	C,T	Ethylbenzene	50.000	54.037	-8.1	121	0.01
64	T	1,1,1,2-Tetrachloroethane	50.000	55.598	-11.2	120	0.00
65	T	m-Xylene & p-Xylene	100.000	105.049	-5.0	114	0.00
66	T	o-Xylene	50.000	53.441	-6.9	118	0.01
67	T	Styrene	50.000	53.688	-7.4	115	0.01
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	119	0.00
69	T	Isopropylbenzene	50.000	52.895	-5.8	122	0.01
70	P,T	Bromoform	50.000	51.436	-2.9	115	0.00
71	P,T	1,1,2,2-Tetrachloroethane	50.000	53.363	-6.7	120	0.00
72	S	4-Bromofluorobenzene	50.000	47.671	4.7	113	0.01
73	T	1,2,3-Trichloropropane	50.000	51.981	-4.0	117	0.00
74	T	trans-1,4-Dichloro-2-butene	50.000	57.425	-14.8	125	0.00
75	T	n-Propylbenzene	50.000	53.557	-7.1	123	0.01
76	T	Bromobenzene	50.000	51.551	-3.1	118	0.01
77	T	1,3,5-Trimethylbenzene	50.000	52.426	-4.9	121	0.00
78	T	2-Chlorotoluene	50.000	49.763	0.5	106	0.00
79	T	4-Chlorotoluene	50.000	49.144	1.7	107	0.01
80	T	tert-Butylbenzene	50.000	52.920	-5.8	126	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	52.489	-5.0	124	0.00
82	T	sec-Butylbenzene	50.000	53.276	-6.6	125	0.00
83	T	p-Isopropyltoluene	50.000	54.240	-8.5	127	0.01
84	T	1,3-Dichlorobenzene	50.000	52.028	-4.1	122	0.00
85	T	1,4-Dichlorobenzene	50.000	53.072	-6.1	126	0.00
86	T	n-Butylbenzene	50.000	56.751	-13.5	133	0.00
87	T	1,2-Dichlorobenzene	50.000	51.544	-3.1	125	0.01
88	T	1,2-Dibromo-3-chloropropane	50.000	52.923	-5.8	126	0.01
89	T	1,2,4-Trichlorobenzene	50.000	50.231	-0.5	125	0.01
90	T	Hexachlorobutadiene	50.000	47.167	5.7	124	0.00
91	T	Naphthalene	50.000	48.277	3.4	122	0.00
92	T	1,2,3-Trichlorobenzene	50.000	45.472	9.1	117	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	109	0.01
2	T	Dichlorodifluoromethane	0.198	0.190	4.0	111	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.334	12.1	100	-0.03
5	C,T	Vinyl chloride	0.312	0.282	9.6	104	-0.02
6	T	Bromomethane	0.245	0.214	12.7	111	-0.02
7	T	Chloroethane	0.169	0.158	6.5	103	-0.02
8	T	Dichlorofluoromethane	0.547	0.580	-6.0	113	-0.02
9	T	Trichlorofluoromethane	0.288	0.345	-19.8	134	-0.02
10	T	Acrolein	0.049	0.051	-4.1	95	0.00
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.199	-18.5	129	0.00
12	T	Acetone	0.087	0.086	1.1	102	0.00
13	C,T,M	1,1-Dichloroethene	0.432	0.468	-8.3	117	-0.02
14	T	tert-Butyl alcohol	0.036	0.040	-11.1	117	0.00
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.572	-19.4	129	-0.02
17	T	Methylene chloride	0.557	0.547	1.8	114	0.00
18	T	Acrylonitrile	0.109	0.119	-9.2	105	0.01
19	T	tert-Butyl methyl ether (MT	0.829	0.844	-1.8	105	0.01
20	T	Carbon disulfide	1.025	0.992	3.2	102	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.501	-6.4	113	0.00
22	T	Isopropyl ether (DIPE)	1.252	1.255	-0.2	108	0.00
23	T	Vinyl acetate	0.667	0.778	-16.6	128	0.01
24	P,T	1,1-Dichloroethane	0.642	0.691	-7.6	114	0.00
25	T	tert-Butyl ethyl ether (ETB	0.989	1.028	-3.9	110	0.00
26	T	2-Butanone	0.169	0.178	-5.3	102	0.00
27	T	2,2-Dichloropropane	0.313	0.365	-16.6	129	0.00
28	T	cis-1,2-Dichloroethene	0.554	0.585	-5.6	114	0.01
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.643	-6.8	113	0.01
31	T	Bromochloromethane	0.352	0.367	-4.3	109	0.00
32	T	Tetrahydrofuran	0.111	0.120	-8.1	112	0.01
33	S	Dibromofluoromethane	0.328	0.335	-2.1	103	0.00
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.420	-14.8	125	0.00
36	T	tert-Amyl methyl ether (TAM	1.038	1.075	-3.6	111	0.01
37	S	1,2-Dichloroethane-d4	0.281	0.282	-0.4	103	0.00
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	115	0.00
39	T	1,1-Dichloropropene	0.164	0.167	-1.8	110	0.00
40	T	Carbon tetrachloride	0.329	0.378	-14.9	125	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.393	-2.6	110	0.00
42	T,M	Benzene	1.474	1.477	-0.2	112	0.01
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.408	-1.5	110	0.00
45	C,T	1,2-Dichloropropane	0.407	0.426	-4.7	114	0.00
46	T	Bromodichloromethane	0.476	0.496	-4.2	111	0.01
47	T	Dibromomethane	0.238	0.241	-1.3	109	0.01
48	T	2-Chloroethyl vinyl ether	0.101	0.081	19.8	89	0.01
49	T	4-Methyl-2-pentanone	0.389	0.414	-6.4	102	0.00
50	T	cis-1,3-Dichloropropene	0.613	0.659	-7.5	115	0.01
51	S	Toluene-d8	0.981	0.979	0.2	106	0.00
52	C,T,M	Toluene	1.325	1.376	-3.8	115	0.00
53	T	Ethyl methacrylate	0.490	0.527	-7.6	113	0.01
54	T	trans-1,3-Dichloropropene	0.491	0.534	-8.8	114	0.01
55	T	2-Hexanone	0.262	0.296	-13.0	109	0.00
56	T	1,1,2-Trichloroethane	0.308	0.322	-4.5	113	0.01
57	T	1,3-Dichloropropane	0.596	0.607	-1.8	109	0.00
58	T	Tetrachloroethene	0.278	0.288	-3.6	116	0.01
59	T	Dibromochloromethane	0.390	0.411	-5.4	112	0.01
60	T	1,2-Dibromoethane	0.340	0.363	-6.8	112	0.01
61	T	1-Chlorohexane	0.545	0.582	-6.8	118	0.01
62	P,M	Chlorobenzene	0.996	1.072	-7.6	117	0.00
63	C,T	Ethylbenzene	1.579	1.707	-8.1	121	0.01
64	T	1,1,1,2-Tetrachloroethane	0.360	0.400	-11.1	120	0.00
65	T	m-Xylene & p-Xylene	1.180	1.239	-5.0	114	0.00
66	T	o-Xylene	1.269	1.356	-6.9	118	0.01
67	T	Styrene	1.049	1.127	-7.4	115	0.01
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	119	0.00
69	T	Isopropylbenzene	3.726	3.942	-5.8	122	0.01
70	P,T	Bromoform	0.579	0.595	-2.8	115	0.00
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.313	-6.7	120	0.00
72	S	4-Bromofluorobenzene	1.078	1.027	4.7	113	0.01
73	T	1,2,3-Trichloropropane	0.277	0.288	-4.0	117	0.00
74	T	trans-1,4-Dichloro-2-butene	0.251	0.288	-14.7	125	0.00
75	T	n-Propylbenzene	4.952	5.305	-7.1	123	0.01
76	T	Bromobenzene	1.042	1.075	-3.2	118	0.01
77	T	1,3,5-Trimethylbenzene	3.080	3.230	-4.9	121	0.00
78	T	2-Chlorotoluene	3.094	3.079	0.5	106	0.00
79	T	4-Chlorotoluene	2.688	2.642	1.7	107	0.01
80	T	tert-Butylbenzene	3.169	3.354	-5.8	126	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP039.D Vial: 2
Acq On : 3 Dec 2009 7:28 am Operator: CGM
Sample : CVO02K0325 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.249	-5.0	124	0.00
82	T	sec-Butylbenzene	4.223	4.500	-6.6	125	0.00
83	T	p-Isopropyltoluene	3.648	3.957	-8.5	127	0.01
84	T	1,3-Dichlorobenzene	1.977	2.057	-4.0	122	0.00
85	T	1,4-Dichlorobenzene	2.002	2.125	-6.1	126	0.00
86	T	n-Butylbenzene	3.396	3.855	-13.5	133	0.00
87	T	1,2-Dichlorobenzene	1.842	1.898	-3.0	125	0.01
88	T	1,2-Dibromo-3-chloropropane	0.162	0.172	-6.2	126	0.01
89	T	1,2,4-Trichlorobenzene	0.880	0.884	-0.5	125	0.01
90	T	Hexachlorobutadiene	0.520	0.491	5.6	124	0.00
91	T	Naphthalene	2.139	2.066	3.4	122	0.00
92	T	1,2,3-Trichlorobenzene	0.734	0.668	9.0	117	0.00

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 11/3/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K03S

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RKP001	BFB02K01	1µL	NA	NA	NA	15:20
02	002	V002K031	.04µL				~~8260 Ket/Ac TBA/Acn~~ 2 8 10 ppb
03	003	2	.08µL				4 16 20
04	004	3	.2µL				10 40 50
05	005	4	.4µL				20 80 100
06	006	5	1µL				50 200 250
07	007	6	1.6µL				80 320 400
08	008	7	2µL				100 400 500
09	009	8	4µL				200 800 1000
10	010	9	6µL				300 1200 1500
11	011	15/55					
12	012	V002K01B					
13	013	IV002K031	4/5/1µL				80 200 250
14	014	2					50 200 250
15	015	Rinse					22:32
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							CGM 11/3/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC Ket/AA	SV1 - 15 - 17 - 2	1000
DCC 8260	SV1 - 15 - 17 - 3	250/1250
DCC Gases	SV1 - 15 - 16 - 2	250
BFB	SV1 - 15 - 17 - 1	250
IS/SURR.	SV1 - 15 - 17 - 1	250
LCS Ket/AA	SV1 - 15 - 15 - 1	250
LCS 8260	SV1 - 15 - 6 - 1	80/250
LCS Gases	SV1 - 15 - 5 - 2	250
SOLVENT 15	SV1 - 15 - 19 - 1 ID	250
METHANOL 55	SV1 - 15 - 19 - 2	250
DATA FILE	09K03	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO02	

Comments:

Analyzed By: CGM

Date Disposed: 11/4/09

Disposed By: CGM

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EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/2/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K0324

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP013	BFB02L03	1ML				08:33
02	014	CV002K0324	4.5ml				
03	015	V002L03L		10			
04	016	↓ C					
05	017	V002L04L					
06	018	↓ C					
07	019	V002L03B	5.0				
08	020	V002L04B	5.0				
09	021	09L028-01	☆	☆			
10	022	-02					
11	023	-03					
12	024	-04					
13	025	-05					
14	026	-06					
15	027	-07					
16	028	-08					
17	029	-09					
18	030	-10					
19	031	-11					
20	032	09L023-01					
21	033	-02					
22	034	-03					
23	035	-04					20:12
24	036	-05					RR IX, out of 12-hr
25	037	Rinse					

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03
STANDARDS	
NAME	ID / CONC. (mg/L)
DCC	SV1-15-16-3
DCC	-8-2
DCC	-25-1
BFB	-27-82 CGM 12/2/09 / 50
IS/SURR.	-27-82 / 250
LCS	-15-1
LCS	-6-1
LCS	-5-2
SOLVENT	ID
METHANOL	
DATA FILE	09L02
Electronic Data Archival	
Location	Date
HPCHEM_VOA/T002	

Comments:

☆ Please refer to sample wt. log.

Analyzed By: CGM

Date Disposed: 12/3/09

Disposed By: CGM

2069

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/3/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH VC02K0325

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP038	BFB02L05	1ML				06:56
02	039	CVC02K0325	4.5 ml				
03	040	VC02L05L		10			
04	041	↓ C					
05	042	VC02L06L					
06	043	↓ C					
07	044	VC02L05B	5.0mL				
08	045	VC02L06B	5.0mL				
09	046	09L023-05R	☆	☆		✓	
10	047	-06				✓	
11	048	-07				✓	
12	049	↓ -08				✓	
13	050	09K297-02	5.0mL	1.0	<2		RR 1X, toluene contam.
14	051	↓ -01					
15	052	09K308-01					1X, toluene contam.
16	053	-02					
17	054	-03					
18	055	-04					1X, toluene contam.
19	056	-05					CGM 12/3/09
20	057	-06					
21	058	09L049-04	☆	☆		✓	05:29
22	059	Rinse					
23	060						
24	061						
25	062						

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	VC02K03

STANDARDS		
NAME	ID	CONC. (mg/L)
DCC	SV1-15-16-3	
DCC	-8-2	
DCC	-25-1	
BFB	CGM 12/3/09 ~~25~~ 27 - ~~3~~ 2	50
IS/SURR.	~~25~~ 27 - ~~3~~ 2	250
LCS	-15-1	
LCS	-6-1	
LCS	-5-2	

SOLVENT	ID
METHANOL	
DATA FILE	09L03

Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO02	

Comments:

☆ Please refer to sample w/- log.

Analyzed By: CGM

Date Disposed: 12/7/09

Disposed By: CGM

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EXTRACTION LOGS

PRESERVATION LOG FOR VOLATILES

METHOD ☑ 5035 **Book #** E02-028

Matrix: SOIL Starting Date/Time: 12/2/2009 10:45 Ending Date/Time 12/2/2009 12:00

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.88	34.88	5	1.00
09L028-01	31.28	37	5.72	0.87
09L028-02	31.36	36.59	5.23	0.96
09L028-03	31.32	36.32	5	1.00
09L028-04	31.26	34.49	3.23	1.55
09L028-05	31.13	35.05	3.92	1.28
09L028-06	31.39	36.56	5.17	0.97
09L028-07	31.22	36.21	4.99	1.00
09L028-08	31.42	36.54	5.12	0.98
09L028-09	31.24	36.25	5.01	1.00
09L028-10	31.32	35.48	4.16	1.20
09L028-11	31.18	35.22	4.04	1.24
09L023-01	31.26	36.32	5.06	0.99
09L023-02	31.3	36.24	4.94	1.01
09L023-03	31.35	37.48	6.13	0.82
09L023-04	31.2	37.54	6.34	0.79
09L023-05	31.15	37.31	6.16	0.81
09L023-06	31.31	37.43	6.12	0.82
09L023-07	31.24	36.94	5.7	0.88
09L023-08	31.3	37.59	6.29	0.79
NOTHING FOLLOWS.				

Standards / Reagents	ID / Lot#	Amount Added
SURROGATE		
LCS/MS		
REAGENT WATER		5.0ML
$NaHS0_4$ H_20		
SAND	SW1A-03-711	5.0G

Comments

☑ Volumetric dispenser was checked with 5-ml volumetric flask.

FROZEN ENCORES.

Prepared By: RT

Standard Added By: RT

Witnessed By: CGM

Checked By: CGM

Extract Received By: CGM

Extract Location N/A

PRESERVATION LOG FOR VOLATILES

METHOD ☑ 5035 **Book #** E02-028

Matrix: SOIL Starting Date/Time: 12/3/2009 9:40 Ending Date/Time 12/3/2009 10:10

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.86	34.86	5	1.00
09L062-01	31.35	37.44	6.09	0.82
09L062-02	31.45	37.69	6.24	0.80
09L062-03	31.27	37.16	5.89	0.85
09L062-03M	31.28	37.16	5.88	0.85
09L062-03S	31.3	36.77	5.47	0.91
09L062-04	31.31	36.69	5.38	0.93
09L062-05	31.27	37.24	5.97	0.84
09L062-06	31.26	37.42	6.16	0.81
09L062-07	31.23	37.57	6.34	0.79
09L062-08	31.27	37.22	5.95	0.84
09L062-09	31.26	37.45	6.19	0.81
09L062-10	31.38	37.35	5.97	0.84
09L062-11	31.39	37.23	5.84	0.86
09L062-14	31.24	37.3	6.06	0.83
09L023-05R	31.31	37.12	5.81	0.86
NOTHING FOLLOWS.				

Standards / Reagents	ID / Lot#	Amount Added
SURROGATE		
LCS/MS		
REAGENT WATER		5.0ML
$NaHSO_4$ H_2O		
SAND	SW1A-03-711	5.0G

Comments

☑ Volumetric dispenser was checked with 5-ml volumetric flask.

FROZEN ENCORES.

Prepared By: RT

Standard Added By: RT

Witnessed By: CGM

Checked By: CGM

Extract Received By: CGM

Extract Location N/A

TABLE OF CONTENTS

CLIENT: **ALLWEST GEOSCIENCE, INC.**

PROJECT: **VA GLAHS**

SDG: **09L062**

SECTION		PAGE
Cover Letter, COC/Sample Receipt Form		1000 – 1003
GC/MS-VOA	METHOD 5035/8260B	2000 – 2052
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-21-2009
EMAX Batch No.: 09L062

Attn: John Grey

Allwest Geoscience, Inc.
1751 Jenks Dr.
Corona, CA 92880

Subject: Laboratory Report
Project: VA GLAHS

Enclosed is the Laboratory report for samples received on 12/02/09.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB9-20V	L062-01	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB9-40V	L062-02	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB14-20V	L062-03	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB14-40V	L062-04	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB15-20V	L062-05	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB15-40V	L062-06	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB13-20V	L062-07	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB13-40V	L062-08	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB31-40V	L062-09	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB16-20V	L062-10	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB16-40V	L062-11	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB17-20V	L062-12	12/02/09	SOIL	CANCELLED
SB17-40V	L062-13	12/02/09	SOIL	CANCELLED
SB10-20V	L062-14	12/01/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB14-20VMS	L062-03M	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB14-20VMSD	L062-03S	12/02/09	SOIL	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meet all NELAC requirements unless noted in the Case Narrative.

AG-0901 09L062

CHAIN OF CUSTODY FORM

P.O. NUMBER:

SITE/PROJECT NAME: U.S. Dept. Veterans Affairs

JOB NUMBER: 02-3454-EI

SITE/PROJECT LOCATION: VA GLAHS

SAMPLER(S) SIGNATURE: Jay a. Boughta

SUBMIT RESULTS TO:
AllWest Geoscience
~~4442 Avery Park Avenue~~ 1751 Jenks Dr
~~Las Vegas, NV 89110~~ Corona, CA 92880
ATTN: ~~Jay A. Boughta~~ John Gary
PHONE NO. (949) 350-4682
FAX NO. (702) 463-7003

ANALYTICAL METHOD

	SAMPLE NUMBER (I.D.)	YEAR 2009 DATE MM/DD	TIME AM/PM	DEPTH BELOW GRADE (ft)	NO. OF CONTAINERS	TPHg 8015M	BTEX 8260B + MTBE ETBE TAME DIPE TBA	8260B Full Suite	MS/MSD		REMARKS
1	SB9-20V	12/1	12:22pm	20	3+1			X			
2	SB9-40V	12/1	12:40pm	40	3+1			X			
3	SB14-20V	12/2	7:35am	20	9+1			X	X		run MS/MSD on SB14-20V
4	SB14-40V	12/2	7:48am	40	3+1			X			
5	SB15-20V	12/2	8:13am	20	3+1			X			
6	SB15-40V	12/2	8:30am	40	3+1			X			
7	SB13-20V	12/2	9:00am	20	3+1			X			all samples <400cpm B
8	SB13-40V	12/2	9:12am	40	3+1			X			and <0.1 MR/hr G
9	SB31-40V	12/2	10:00am	40	3+1			X			
10	SB16-20V	12/2	9:36am	20	3+1			X			
11	SB16-40V	12/2	9:46am	40	3+1			X			
12	SB17-20V	12/2	10:53	20	3+1			X			
13	SB17-40V	12/2	11:13	40	3+1			X			

SAMPLES INTACT: YES..... NO.....
SAMPLES PROPERLY COOLED: YES..... NO.....
TEMPERATURED STORED:
PRESERVATIVES ADDED: YES.... NO..... TYPE:
SAMPLES ACCEPTED: YES..... NO.....
IF NOT, WHY:

SAMPLES PLACED IN LAB REFRIGERATOR
YES..... NO..... REP. INITIALS.....

LABORATORY NAME: EMAX Labs

RELINQUISHED	DATE/TIME	DATE/TIME	RECEIVED
RELINQUISHED BY (SIGNATURE)/COMPANY: Jay a. Boughta/Allwest	DATE/TIME 12-2-09 12:00pm	DATE/TIME 12-2-09 12:00pm	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME 12/2/09 15:40	DAT/TIME 12-2-09 1540	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME	DATE/TIME	RECEIVED BY (SIGNATURE)/COMPANY:

T=3.7 C

1001

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 09 L062
☑ EMAX Courier	SEE COC	Recepient I. PATEL
☐ Client Delivery		Date 12/2/09
☐ Third Party		Time 1540

COC Inspection

☑ Client Name	☐ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 3.7 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Comments: ☐ **PM was informed on non-compliant coolers imediately.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code
01-14		NO Time &	D2, A2	R2
		Analysis on		
		Labels.		
-14	53,54,55,56	SB10-20V	Rec'd (3) Encore	R6
		DATE 12-1-09	& one JAR	
			Not listed on COC.	
12,13			Encors Not Rec'd	R5
			Rec'd only JAR.	

REVIEWS

Sample Labeling _____ Date 12/2/09

SRF _____ Date 12/2/09

PM _____ Date 12/3/09

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	cancel
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	Proceed with analysis (VOCs).
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		collection time is 11:40 AM
B4	_____	G1	Temperature is out of range		per client
C1	Wrong container	G2	Out of Holding Time		via phone
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ALLWEST GEOSCIENCE, INC.

VA GLAHS

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 09L062

CASE NARRATIVE

Client : ALLWEST GEOSCIENCE, INC.

Project : VA GLAHS

SDG : 09L062

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

A total of twelve (12) soil samples were received on 12/02/09 for Volatile Organics by GC/MS analysis, Method SW 5035/8260B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 and USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary form for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for VO02L06L/C were all within QC limits.
Percent recoveries for VO02L09L/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries were within project QC limits except for three analytes low in MS. However, MSD recovery was acceptable and RPD was within limits. Check QC summaries form for details.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.
Project : VA GLAHS

SDG NO. : 09L062
Instrument ID : T-002

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	V002L06B	1	NA	12/03/0922:51	12/03/0922:51	RLP068	RKP006	V002L06	Method Blank
LCS1S	V002L06L	1	NA	12/03/0921:16	12/03/0921:16	RLP065	RKP006	V002L06	Lab Control Sample (LCS)
LCD1S	V002L06C	1	NA	12/03/0921:48	12/03/0921:48	RLP066	RKP006	V002L06	LCS Duplicate
SB9-20V	L062-01	0.82	14.2	12/03/0923:23	12/03/0923:23	RLP069	RKP006	V002L06	Field Sample
SB9-40V	L062-02	0.80	14.4	12/03/0923:55	12/03/0923:55	RLP070	RKP006	V002L06	Field Sample
SB14-20V	L062-03	0.85	8.4	12/04/0900:26	12/04/0900:26	RLP071	RKP006	V002L06	Field Sample
SB14-20VMS	L062-03M	0.85	8.4	12/04/0900:57	12/04/0900:57	RLP072	RKP006	V002L06	Matrix Spike Sample (MS)
SB14-20VMSD	L062-03S	0.91	8.4	12/04/0901:29	12/04/0901:29	RLP073	RKP006	V002L06	MS Duplicate (MSD)
SB14-40V	L062-04	0.93	7.3	12/04/0902:01	12/04/0902:01	RLP074	RKP006	V002L06	Field Sample
SB15-20V	L062-05	0.84	9.3	12/04/0902:33	12/04/0902:33	RLP075	RKP006	V002L06	Field Sample
SB15-40V	L062-06	0.81	17.6	12/04/0903:04	12/04/0903:04	RLP076	RKP006	V002L06	Field Sample
SB13-20V	L062-07	0.79	12.7	12/04/0903:36	12/04/0903:36	RLP077	RKP006	V002L06	Field Sample
SB13-40V	L062-08	0.84	9.2	12/04/0904:08	12/04/0904:08	RLP078	RKP006	V002L06	Field Sample
MBLK2S	V002L09B	1	NA	12/04/0917:05	12/04/0917:05	RLP085	RKP006	V002L09	Method Blank
LCS2S	V002L09L	1	NA	12/04/0915:30	12/04/0915:30	RLP082	RKP006	V002L09	Lab Control Sample (LCS)
LCD2S	V002L09C	1	NA	12/04/0916:01	12/04/0916:01	RLP083	RKP006	V002L09	LCS Duplicate
SB31-40V	L062-09	0.81	9.9	12/04/0917:36	12/04/0917:36	RLP086	RKP006	V002L09	Field Sample
SB16-20V	L062-10	0.84	13.0	12/04/0918:08	12/04/0918:08	RLP087	RKP006	V002L09	Field Sample
SB16-40V	L062-11	0.86	8.0	12/04/0918:41	12/04/0918:41	RLP088	RKP006	V002L09	Field Sample
SB10-20V	L062-14	0.83	10.2	12/04/0919:13	12/04/0919:13	RLP089	RKP006	V002L09	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

2003

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/03/09 23:23
Sample ID:	S89-20V	Date Analyzed:	12/03/09 23:23
Lab Samp ID:	L062-01	Dilution Factor:	0.82
Lab File ID:	RLP069	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: 14.2
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	6.4J	9.6	4.8
2-HEXANONE	ND	9.6	4.8
4-METHYL-2-PENTANONE	ND	9.6	4.8
ACETONE	20	9.6	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.6	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.6	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.6	1.9
METHYLENE CHLORIDE	ND	9.6	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	99	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/03/09 23:55
Sample ID:	SB9-40V	Date Analyzed:	12/03/09 23:55
Lab Samp ID:	L062-02	Dilution Factor:	0.80
Lab File ID:	RLP070	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: 14.4
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
2-BUTANONE	ND	9.3	4.7
2-HEXANONE	ND	9.3	4.7
4-METHYL-2-PENTANONE	ND	9.3	4.7
ACETONE	ND	9.3	4.7
BENZENE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.7	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.7	1.9
O-XYLENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	104	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 00:26
Sample ID:	SB14-20V	Date Analyzed:	12/04/09 00:26
Lab Samp ID:	L062-03	Dilution Factor:	0.85
Lab File ID:	RLP071	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: 8.4
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.9
1,1,2-TRICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHENE	ND	4.6	1.9
1,2-DICHLOROETHANE	ND	4.6	1.9
1,2-DICHLOROPROPANE	ND	4.6	1.9
2-BUTANONE	ND	9.3	4.6
2-HEXANONE	ND	9.3	4.6
4-METHYL-2-PENTANONE	ND	9.3	4.6
ACETONE	ND	9.3	4.6
BENZENE	ND	4.6	1.9
BROMODICHLOROMETHANE	ND	4.6	1.9
BROMOFORM	ND	4.6	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.6	1.9
CARBON TETRACHLORIDE	ND	4.6	1.9
CHLOROBENZENE	ND	4.6	1.9
CHLOROETHANE	ND	4.6	1.9
CHLOROFORM	ND	4.6	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.6	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.9
DIBROMOCHLOROMETHANE	ND	4.6	1.9
ETHYLBENZENE	ND	4.6	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.6	1.9
O-XYLENE	ND	4.6	1.9
STYRENE	ND	4.6	1.9
TETRACHLOROETHYLENE	ND	4.6	1.9
TOLUENE	ND	4.6	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.9
TRICHLOROETHENE	ND	4.6	1.9
VINYL CHLORIDE	ND	4.6	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 02:01
Sample ID:	SB14-40V	Date Analyzed:	12/04/09 02:01
Lab Samp ID:	L062-04	Dilution Factor:	0.93
Lab File ID:	RLP074	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: 7.3
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	100	70-140
TOLUENE-D8	104	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	97	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 02:33
Sample ID:	SB15-20V	Date Analyzed:	12/04/09 02:33
Lab Samp ID:	L062-05	Dilution Factor:	0.84
Lab File ID:	RLP075	Matrix :	SOIL
Ext Btch ID:	VOO2L06	% Moisture :	9.3
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.9
1,1,2-TRICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHENE	ND	4.6	1.9
1,2-DICHLOROETHANE	ND	4.6	1.9
1,2-DICHLOROPROPANE	ND	4.6	1.9
2-BUTANONE	ND	9.3	4.6
2-HEXANONE	ND	9.3	4.6
4-METHYL-2-PENTANONE	ND	9.3	4.6
ACETONE	11	9.3	4.6
BENZENE	ND	4.6	1.9
BROMODICHLOROMETHANE	ND	4.6	1.9
BROMOFORM	ND	4.6	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.6	1.9
CARBON TETRACHLORIDE	ND	4.6	1.9
CHLOROBENZENE	ND	4.6	1.9
CHLOROETHANE	ND	4.6	1.9
CHLOROFORM	ND	4.6	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.6	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.9
DIBROMOCHLOROMETHANE	ND	4.6	1.9
ETHYLBENZENE	ND	4.6	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.6	1.9
O-XYLENE	ND	4.6	1.9
STYRENE	ND	4.6	1.9
TETRACHLOROETHYLENE	ND	4.6	1.9
TOLUENE	ND	4.6	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.9
TRICHLOROETHENE	ND	4.6	1.9
VINYL CHLORIDE	ND	4.6	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.	Date Collected: 12/02/09
Project : VA GLAHS	Date Received: 12/02/09
Batch No. : 09L062	Date Extracted: 12/04/09 03:04
Sample ID: SB15-40V	Date Analyzed: 12/04/09 03:04
Lab Samp ID: L062-06	Dilution Factor: 0.81
Lab File ID: RLP076	Matrix : SOIL
Ext Btch ID: V002L06	% Moisture : 17.6
Calib. Ref.: RKP006	Instrument ID : T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	2.0
1,1,2,2-TETRACHLOROETHANE	ND	4.9	2.0
1,1,2-TRICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHENE	ND	4.9	2.0
1,2-DICHLOROETHANE	ND	4.9	2.0
1,2-DICHLOROPROPANE	ND	4.9	2.0
2-BUTANONE	ND	9.8	4.9
2-HEXANONE	ND	9.8	4.9
4-METHYL-2-PENTANONE	ND	9.8	4.9
ACETONE	ND	9.8	4.9
BENZENE	ND	4.9	2.0
BROMODICHLOROMETHANE	ND	4.9	2.0
BROMOFORM	ND	4.9	2.0
BROMOMETHANE	ND	9.8	2.0
CARBON DISULFIDE	ND	4.9	2.0
CARBON TETRACHLORIDE	ND	4.9	2.0
CHLOROBENZENE	ND	4.9	2.0
CHLOROETHANE	ND	4.9	2.0
CHLOROFORM	ND	4.9	2.0
CHLOROMETHANE	ND	9.8	2.0
CIS-1,2-DICHLOROETHENE	ND	4.9	2.0
CIS-1,3-DICHLOROPROPENE	ND	4.9	2.0
DIBROMOCHLOROMETHANE	ND	4.9	2.0
ETHYLBENZENE	ND	4.9	2.0
M/P-XYLENES	ND	9.8	2.0
METHYLENE CHLORIDE	ND	9.8	2.0
MTBE	ND	4.9	2.0
O-XYLENE	ND	4.9	2.0
STYRENE	ND	4.9	2.0
TETRACHLOROETHYLENE	ND	4.9	2.0
TOLUENE	ND	4.9	2.0
TRANS-1,2-DICHLOROETHENE	ND	4.9	2.0
TRANS-1,3-DICHLOROPROPENE	ND	4.9	2.0
TRICHLOROETHENE	ND	4.9	2.0
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 03:36
Sample ID:	SB13-20V	Date Analyzed:	12/04/09 03:36
Lab Samp ID:	L062-07	Dilution Factor:	0.79
Lab File ID:	RLP077	Matrix :	SOIL
Ext Btch ID:	V002L06	% Moisture :	12.7
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.5	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.5	1.8
1,1,2-TRICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHENE	ND	4.5	1.8
1,2-DICHLOROETHANE	ND	4.5	1.8
1,2-DICHLOROPROPANE	ND	4.5	1.8
2-BUTANONE	ND	9.0	4.5
2-HEXANONE	ND	9.0	4.5
4-METHYL-2-PENTANONE	ND	9.0	4.5
ACETONE	7.4J	9.0	4.5
BENZENE	ND	4.5	1.8
BROMODICHLOROMETHANE	ND	4.5	1.8
BROMOFORM	ND	4.5	1.8
BROMOMETHANE	ND	9.0	1.8
CARBON DISULFIDE	ND	4.5	1.8
CARBON TETRACHLORIDE	ND	4.5	1.8
CHLOROBENZENE	ND	4.5	1.8
CHLOROETHANE	ND	4.5	1.8
CHLOROFORM	ND	4.5	1.8
CHLOROMETHANE	ND	9.0	1.8
CIS-1,2-DICHLOROETHENE	ND	4.5	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.5	1.8
DIBROMOCHLOROMETHANE	ND	4.5	1.8
ETHYLBENZENE	ND	4.5	1.8
M/P-XYLENES	ND	9.0	1.8
METHYLENE CHLORIDE	ND	9.0	1.8
MTBE	ND	4.5	1.8
O-XYLENE	ND	4.5	1.8
STYRENE	ND	4.5	1.8
TETRACHLOROETHYLENE	ND	4.5	1.8
TOLUENE	ND	4.5	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.5	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.5	1.8
TRICHLOROETHENE	ND	4.5	1.8
VINYL CHLORIDE	ND	4.5	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	105	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	99	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 04:08
Sample ID:	SB13-40V	Date Analyzed:	12/04/09 04:08
Lab Samp ID:	L062-08	Dilution Factor:	0.84
Lab File ID:	RLP078	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: 9.2
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.9
1,1,2-TRICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHENE	ND	4.6	1.9
1,2-DICHLOROETHANE	ND	4.6	1.9
1,2-DICHLOROPROPANE	ND	4.6	1.9
2-BUTANONE	ND	9.3	4.6
2-HEXANONE	ND	9.3	4.6
4-METHYL-2-PENTANONE	ND	9.3	4.6
ACETONE	ND	9.3	4.6
BENZENE	ND	4.6	1.9
BROMODICHLOROMETHANE	ND	4.6	1.9
BROMOFORM	ND	4.6	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.6	1.9
CARBON TETRACHLORIDE	ND	4.6	1.9
CHLOROBENZENE	ND	4.6	1.9
CHLOROETHANE	ND	4.6	1.9
CHLOROFORM	ND	4.6	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.6	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.9
DIBROMOCHLOROMETHANE	ND	4.6	1.9
ETHYLBENZENE	ND	4.6	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.6	1.9
O-XYLENE	ND	4.6	1.9
STYRENE	ND	4.6	1.9
TETRACHLOROETHYLENE	ND	4.6	1.9
TOLUENE	ND	4.6	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.9
TRICHLOROETHENE	ND	4.6	1.9
VINYL CHLORIDE	ND	4.6	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	109	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	105	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 17:36
Sample ID:	SB31-40V	Date Analyzed:	12/04/09 17:36
Lab Samp ID:	L062-09	Dilution Factor:	0.81
Lab File ID:	RLP086	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	9.9
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.5	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.5	1.8
1,1,2-TRICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHENE	ND	4.5	1.8
1,2-DICHLOROETHANE	ND	4.5	1.8
1,2-DICHLOROPROPANE	ND	4.5	1.8
2-BUTANONE	ND	9.0	4.5
2-HEXANONE	ND	9.0	4.5
4-METHYL-2-PENTANONE	ND	9.0	4.5
ACETONE	ND	9.0	4.5
BENZENE	ND	4.5	1.8
BROMODICHLOROMETHANE	ND	4.5	1.8
BROMOFORM	ND	4.5	1.8
BROMOMETHANE	ND	9.0	1.8
CARBON DISULFIDE	ND	4.5	1.8
CARBON TETRACHLORIDE	ND	4.5	1.8
CHLOROBENZENE	ND	4.5	1.8
CHLOROETHANE	ND	4.5	1.8
CHLOROFORM	ND	4.5	1.8
CHLOROMETHANE	ND	9.0	1.8
CIS-1,2-DICHLOROETHENE	ND	4.5	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.5	1.8
DIBROMOCHLOROMETHANE	ND	4.5	1.8
ETHYLBENZENE	ND	4.5	1.8
M/P-XYLENES	ND	9.0	1.8
METHYLENE CHLORIDE	ND	9.0	1.8
MTBE	ND	4.5	1.8
O-XYLENE	ND	4.5	1.8
STYRENE	ND	4.5	1.8
TETRACHLOROETHYLENE	ND	4.5	1.8
TOLUENE	ND	4.5	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.5	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.5	1.8
TRICHLOROETHENE	ND	4.5	1.8
VINYL CHLORIDE	ND	4.5	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	100	70-140
TOLUENE-D8	106	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 18:08
Sample ID:	SB16-20V	Date Analyzed:	12/04/09 18:08
Lab Samp ID:	L062-10	Dilution Factor:	0.84
Lab File ID:	RLP087	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	13.0
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	ND	9.7	4.8
2-HEXANONE	ND	9.7	4.8
4-METHYL-2-PENTANONE	ND	9.7	4.8
ACETONE	ND	9.7	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.7	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.7	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.7	1.9
METHYLENE CHLORIDE	ND	9.7	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	88	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 18:41
Sample ID:	SB16-40V	Date Analyzed:	12/04/09 18:41
Lab Samp ID:	L062-11	Dilution Factor:	0.86
Lab File ID:	RLP088	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	8.0
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
2-BUTANONE	7.6J	9.3	4.7
2-HEXANONE	ND	9.3	4.7
4-METHYL-2-PENTANONE	ND	9.3	4.7
ACETONE	32	9.3	4.7
BENZENE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.7	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.7	1.9
O-XYLENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	70-140
TOLUENE-D8	108	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/01/09
Project	: VA GLAHS	Date Received:	12/02/09
Batch No.	: 09L062	Date Extracted:	12/04/09 19:13
Sample ID:	SB10-20V	Date Analyzed:	12/04/09 19:13
Lab Samp ID:	L062-14	Dilution Factor:	0.83
Lab File ID:	RLP089	Matrix	: SOIL
Ext Btch ID:	V002L09	% Moisture	: 10.2
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.8
1,1,2-TRICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHENE	ND	4.6	1.8
1,2-DICHLOROETHANE	ND	4.6	1.8
1,2-DICHLOROPROPANE	ND	4.6	1.8
2-BUTANONE	ND	9.2	4.6
2-HEXANONE	ND	9.2	4.6
4-METHYL-2-PENTANONE	ND	9.2	4.6
ACETONE	ND	9.2	4.6
BENZENE	ND	4.6	1.8
BROMODICHLOROMETHANE	ND	4.6	1.8
BROMOFORM	ND	4.6	1.8
BROMOMETHANE	ND	9.2	1.8
CARBON DISULFIDE	ND	4.6	1.8
CARBON TETRACHLORIDE	ND	4.6	1.8
CHLOROBENZENE	ND	4.6	1.8
CHLOROETHANE	ND	4.6	1.8
CHLOROFORM	ND	4.6	1.8
CHLOROMETHANE	ND	9.2	1.8
CIS-1,2-DICHLOROETHENE	ND	4.6	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.8
DIBROMOCHLOROMETHANE	ND	4.6	1.8
ETHYLBENZENE	ND	4.6	1.8
M/P-XYLENES	ND	9.2	1.8
METHYLENE CHLORIDE	ND	9.2	1.8
MTBE	ND	4.6	1.8
O-XYLENE	ND	4.6	1.8
STYRENE	ND	4.6	1.8
TETRACHLOROETHYLENE	ND	4.6	1.8
TOLUENE	ND	4.6	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.8
TRICHLOROETHENE	ND	4.6	1.8
VINYL CHLORIDE	ND	4.6	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	70-140
TOLUENE-D8	104	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

QC SUMMARIES

2016

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L062	Date Extracted:	12/03/09 22:51
Sample ID:	MBLK1S	Date Analyzed:	12/03/09 22:51
Lab Samp ID:	V002L06B	Dilution Factor:	1
Lab File ID:	RLP068	Matrix	: SOIL
Ext Btch ID:	V002L06	% Moisture	: NA
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	96	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L062
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	V002L06B	V002L06L	V002L06C		
LAB FILE ID:	RLP068	RLP065	RLP066		
DATE EXTRACTED:	12/03/0922:51	12/03/0921:16	12/03/0921:48	DATE COLLECTED:	NA
DATE ANALYZED:	12/03/0922:51	12/03/0921:16	12/03/0921:48	DATE RECEIVED:	12/03/09
PREP. BATCH:	V002L06	V002L06	V002L06		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	52.2	104	50.0	49.0	98	6	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	52.1	104	50.0	50.0	100	4	55-130	30
1,1,2-Trichloroethane	ND	50.0	52.2	104	50.0	51.9	104	1	60-125	30
1,1-Dichloroethane	ND	50.0	50.6	101	50.0	49.9	100	2	75-125	30
1,1-Dichloroethene	ND	50.0	48.1	96	50.0	46.7	93	3	65-135	30
1,2-Dichloroethane	ND	50.0	54.1	108	50.0	51.3	103	5	70-135	30
1,2-Dichloropropane	ND	50.0	51.7	103	50.0	51.0	102	1	70-120	30
2-Butanone	ND	200	218	109	200	210	105	3	30-160	30
2-Hexanone	ND	200	222	111	200	217	108	3	45-145	30
4-Methyl-2-Pentanone	ND	200	222	111	200	212	106	5	45-145	30
Acetone	ND	200	211	106	200	204	102	4	20-160	30
Benzene	ND	50.0	49.4	99	50.0	48.2	96	2	75-125	30
Bromodichloromethane	ND	50.0	51.5	103	50.0	51.0	102	1	70-130	30
Bromoform	ND	50.0	50.2	100	50.0	48.2	96	4	55-135	30
Bromomethane	ND	50.0	42.2	84	50.0	41.3	83	2	30-160	30
Carbon Disulfide	ND	50.0	37.7	75	50.0	37.4	75	1	45-160	30
Carbon Tetrachloride	ND	50.0	51.9	104	50.0	51.1	102	1	65-135	30
Chlorobenzene	ND	50.0	50.8	102	50.0	49.9	100	2	75-125	30
Chloroethane	ND	50.0	47.4	95	50.0	44.7	89	6	40-155	30
Chloroform	ND	50.0	53.8	108	50.0	51.5	103	4	70-125	30
Chloromethane	ND	50.0	41.4	83	50.0	40.7	81	2	50-130	30
cis-1,2-Dichloroethene	ND	50.0	49.3	99	50.0	47.5	95	4	65-125	30
cis-1,3-Dichloropropene	ND	50.0	52.7	105	50.0	51.6	103	2	70-125	30
Dibromochloromethane	ND	50.0	50.1	100	50.0	50.4	101	1	65-130	30
Ethylbenzene	ND	50.0	49.6	99	50.0	49.3	99	1	75-125	30
m/p-Xylenes	ND	100	102	102	100	101	101	1	80-125	30
Methylene Chloride	ND	50.0	44.2	88	50.0	43.3	87	2	55-140	30
MTBE	ND	50.0	52.6	105	50.0	51.9	104	1	60-150	20
o-Xylene	ND	50.0	50.4	101	50.0	49.2	98	2	75-125	30
Styrene	ND	50.0	52.9	106	50.0	50.6	101	5	75-125	30
Tetrachloroethylene	ND	50.0	46.6	93	50.0	46.7	93	0	65-140	30
Toluene	ND	50.0	49.2	98	50.0	47.1	94	4	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	46.6	93	50.0	45.1	90	3	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	54.9	110	50.0	55.3	111	1	65-125	30
Trichloroethene	ND	50.0	48.7	97	50.0	47.1	94	3	75-125	30
Vinyl Chloride	ND	50.0	41.1	82	50.0	39.3	79	4	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	51.2	102	50.0	48.8	98	70-140
Toluene-d8	50.0	51.6	103	50.0	52.9	106	85-115
4-Bromofluorobenzene	50.0	46.3	93	50.0	45.8	92	85-120
Dibromofluoromethane	50.0	48.8	98	50.0	49.2	98	70-130

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L062	Date Extracted:	12/04/09 17:05
Sample ID:	MBLK2S	Date Analyzed:	12/04/09 17:05
Lab Samp ID:	V002L09B	Dilution Factor:	1
Lab File ID:	RLP085	Matrix	: SOIL
Ext Btch ID:	V002L09	% Moisture	: NA
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	70-140
TOLUENE-D8	105	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L062
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2S				
LAB SAMP ID:	V002L09B	V002L09L	V002L09C		
LAB FILE ID:	RLP085	RLP082	RLP083		
DATE EXTRACTED:	12/04/0917:05	12/04/0915:30	12/04/0916:01	DATE COLLECTED:	NA
DATE ANALYZED:	12/04/0917:05	12/04/0915:30	12/04/0916:01	DATE RECEIVED:	12/04/09
PREP. BATCH:	V002L09	V002L09	V002L09		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	53.9	108	50.0	53.9	108	0	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	53.7	107	50.0	53.2	106	1	55-130	30
1,1,2-Trichloroethane	ND	50.0	54.4	109	50.0	54.3	109	0	60-125	30
1,1-Dichloroethane	ND	50.0	51.6	103	50.0	51.2	102	1	75-125	30
1,1-Dichloroethene	ND	50.0	52.8	106	50.0	50.0	100	5	65-135	30
1,2-Dichloroethane	ND	50.0	52.7	105	50.0	53.5	107	2	70-135	30
1,2-Dichloropropane	ND	50.0	53.0	106	50.0	53.5	107	1	70-120	30
2-Butanone	ND	200	190	95	200	194	97	2	30-160	30
2-Hexanone	ND	200	202	101	200	212	106	5	45-145	30
4-Methyl-2-Pentanone	ND	200	198	99	200	207	103	4	45-145	30
Acetone	ND	200	189	95	200	192	96	1	20-160	30
Benzene	ND	50.0	49.2	98	50.0	49.9	100	1	75-125	30
Bromodichloromethane	ND	50.0	52.7	105	50.0	53.8	108	2	70-130	30
Bromoform	ND	50.0	48.4	97	50.0	48.5	97	0	55-135	30
Bromomethane	ND	50.0	40.7	81	50.0	36.9	74	10	30-160	30
Carbon Disulfide	ND	50.0	44.6	89	50.0	43.4	87	3	45-160	30
Carbon Tetrachloride	ND	50.0	54.8	110	50.0	55.8	112	2	65-135	30
Chlorobenzene	ND	50.0	52.3	105	50.0	52.3	105	0	75-125	30
Chloroethane	ND	50.0	45.2	90	50.0	42.2	84	7	40-155	30
Chloroform	ND	50.0	52.2	104	50.0	50.3	101	4	70-125	30
Chloromethane	ND	50.0	35.9	72	50.0	39.8	80	10	50-130	30
cis-1,2-Dichloroethene	ND	50.0	52.6	105	50.0	51.9	104	1	65-125	30
cis-1,3-Dichloropropene	ND	50.0	54.3	109	50.0	54.9	110	1	70-125	30
Dibromochloromethane	ND	50.0	53.3	107	50.0	53.5	107	0	65-130	30
Ethylbenzene	ND	50.0	52.7	105	50.0	51.8	104	2	75-125	30
m/p-Xylenes	ND	100	104	104	100	107	107	3	80-125	30
Methylene Chloride	ND	50.0	49.1	98	50.0	48.5	97	1	55-140	30
MTBE	ND	50.0	51.9	104	50.0	50.1	100	4	60-150	20
o-Xylene	ND	50.0	53.8	108	50.0	52.2	104	3	75-125	30
Styrene	ND	50.0	55.0	110	50.0	53.7	107	2	75-125	30
Tetrachloroethylene	ND	50.0	50.9	102	50.0	50.9	102	0	65-140	30
Toluene	ND	50.0	51.9	104	50.0	52.1	104	0	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	49.7	99	50.0	49.6	99	0	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	55.6	111	50.0	56.0	112	1	65-125	30
Trichloroethene	ND	50.0	51.5	103	50.0	51.9	104	1	75-125	30
Vinyl Chloride	ND	50.0	38.9	78	50.0	40.3	81	4	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	48.1	96	50.0	49.8	100	70-140
Toluene-d8	50.0	51.8	104	50.0	52.0	104	85-115
4-Bromofluorobenzene	50.0	45.4	91	50.0	46.3	93	85-120
Dibromofluoromethane	50.0	48.3	97	50.0	48.3	97	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L062
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	8.4
DILUTION FACTOR:	0.85	0.85	0.91		
SAMPLE ID:	SB14-20V				
LAB SAMP ID:	L062-03	L062-03M	L062-03S		
LAB FILE ID:	RLP071	RLP072	RLP073		
DATE EXTRACTED:	12/04/0900:26	12/04/0900:57	12/04/0901:29	DATE COLLECTED:	12/02/09
DATE ANALYZED:	12/04/0900:26	12/04/0900:57	12/04/0901:29	DATE RECEIVED:	12/02/09
PREP. BATCH:	V002L06	V002L06	V002L06		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	46.4	43.0	93	49.7	45.4	91	2	70-135	30
1,1,2,2-Tetrachloroethane	ND	46.4	39.7	86	49.7	47.8	96	11	55-130	30
1,1,2-Trichloroethane	ND	46.4	40.4	87	49.7	46.8	94	8	60-125	30
1,1-Dichloroethane	ND	46.4	43.7	94	49.7	44.6	90	4	75-125	30
1,1-Dichloroethene	ND	46.4	41.7	90	49.7	42.9	86	5	65-135	30
1,2-Dichloroethane	ND	46.4	41.9	90	49.7	47.0	95	5	70-135	30
1,2-Dichloropropane	ND	46.4	39.0	84	49.7	45.0	91	8	70-120	30
2-Butanone	ND	186	187	101	199	205	103	2	30-160	30
2-Hexanone	ND	186	186	100	199	207	104	4	45-145	30
4-Methyl-2-Pentanone	ND	186	187	101	199	209	105	4	45-145	30
Acetone	ND	186	200	108	199	200	101	7	20-160	30
Benzene	ND	46.4	36.5	79	49.7	42.6	86	8	75-125	30
Bromodichloromethane	ND	46.4	37.9	82	49.7	45.0	91	10	70-130	30
Bromoform	ND	46.4	35.3	76	49.7	43.2	87	13	55-135	30
Bromomethane	ND	46.4	33.8	73	49.7	33.9	68	7	30-160	30
Carbon Disulfide	ND	46.4	33.8	73	49.7	29.5	59	21	45-160	30
Carbon Tetrachloride	ND	46.4	41.5	89	49.7	46.1	93	4	65-135	30
Chlorobenzene	ND	46.4	35.9	77	49.7	42.3	85	10	75-125	30
Chloroethane	ND	46.4	38.6	83	49.7	37.5	76	9	40-155	30
Chloroform	ND	46.4	43.8	94	49.7	47.4	95	1	70-125	30
Chloromethane	ND	46.4	33.8	73	49.7	37.6	76	4	50-130	30
cis-1,2-Dichloroethene	ND	46.4	40.1	86	49.7	42.1	85	1	65-125	30
cis-1,3-Dichloropropene	ND	46.4	37.9	82	49.7	43.7	88	7	70-125	30
Dibromochloromethane	ND	46.4	37.1	80	49.7	44.0	89	11	65-130	30
Ethylbenzene	ND	46.4	35.2	76	49.7	42.1	85	11	75-125	30
m/p-Xylenes	ND	92.8	70.7	76*	99.3	84.2	85	11	80-125	30
Methylene Chloride	ND	46.4	36.7	79	49.7	38.7	78	1	55-140	30
MTBE	ND	46.4	46.7	101	49.7	48.0	97	4	60-150	50
o-Xylene	ND	46.4	33.6	72*	49.7	41.3	83	14	75-125	30
Styrene	ND	46.4	32.9	71*	49.7	41.5	84	17	75-125	30
Tetrachloroethylene	ND	46.4	33.3	72	49.7	38.6	78	8	65-140	30
Toluene	ND	46.4	36.4	78	49.7	42.2	85	9	70-125	30
Trans-1,2-Dichloroethene	ND	46.4	38.0	82	49.7	41.1	83	1	65-135	30
Trans-1,3-Dichloropropene	ND	46.4	39.5	85	49.7	48.8	98	14	65-125	30
Trichloroethene	ND	46.4	35.8	77	49.7	43.0	87	12	75-125	30
Vinyl Chloride	ND	46.4	34.7	75	49.7	35.6	72	4	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	46.4	48.5	105	49.7	52.5	106	70-140
Toluene-d8	46.4	46.4	100	49.7	51.4	104	85-115
4-Bromofluorobenzene	46.4	43.0	93	49.7	47.5	96	85-120
Dibromofluoromethane	46.4	48.0	103	49.7	48.9	99	70-130

INITIAL CALIBRATIONS

2022

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RKP001
Instrument ID: T002
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L062
BFB Injection Date : 11/03/09
BFB Injection Time : 15:20
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.89
75	30.0 - 60.0% of mass 95	44.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.11
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.20
175	5.0 - 9.0% of mass 174	5.63(7.3)1
176	95.0 - 101.0% of mass 174	75.69(98.1)1
177	5.0 - 9.0% of mass 176	4.89(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD02	V002K031	RKP002	11/03/09	15:53
2	VSTD04	V002K032	RKP003	11/03/09	16:23
3	VSTD010	V002K033	RKP004	11/03/09	16:54
4	VSTD020	V002K034	RKP005	11/03/09	17:25
5	VSTD050	V002K035	RKP006	11/03/09	17:55
6	VSTD080	V002K036	RKP007	11/03/09	18:26
7	VSTD100	V002K037	RKP008	11/03/09	18:57
8	VSTD200	V002K038	RKP009	11/03/09	19:28
9	VSTD300	V002K039	RKP010	11/03/09	19:59
10	VSTD050	IV002K032	RKP014	11/03/09	22:02

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T002
Beginning DateTime :11/03/09 15:53
Spike Units :PPB
IC File :RKP006

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :11/03/09 19:59
HPChem Method :V002K03

M	IDX	Parameters	2 15:53 RKP002	4 16:23 RKP003	10 16:54 RKP004	20 17:25 RKP005	50 17:55 RKP006	80 18:26 RKP007	100 18:57 RKP008	200 19:28 RKP009	300 19:59 RKP010	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	0	9.2300
	2	Dichlorodifluoromethane	0.213	0.202	0.212	0.180	0.186	0.208	0.191	0.194	0.193	0.198	5.89	3.3896
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	0.444	0.401	0.403	0.349	0.363	0.385	0.358	0.352	0.362	0.380	8.30	3.7449
	5	Vinyl chloride	0.350	0.316	0.337	0.298	0.296	0.333	0.305	0.284	0.285	0.312	7.61	3.9019
	6	Bromomethane	0.305	0.297	0.258	0.218	0.209	0.236	0.224	0.223	0.234	0.245	14.12	4.4935
	7	Chloroethane	0.165	0.171	0.172	0.154	0.166	0.181	0.168	0.172	0.170	0.169	4.24	4.5762
	8	Dichlorofluoromethane	0.459	0.547	0.516	0.544	0.560	0.585	0.568	0.578	0.564	0.547	7.07	4.5877
	9	Trichlorofluoromethane	0.267	0.285	0.308	0.273	0.280	0.318	0.285	0.285	0.288	0.288	5.53	4.8637
4	10	Acrolein	0.029	0.040	0.044	0.054	0.058	0.052	0.055	0.051	0.055	0.049	18.98	5.3017
	11	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.156	0.166	0.165	0.168	0.177	0.167	0.170	0.171	0.168	3.55	5.3650
4	12	Acetone	0.079	0.099	0.078	0.090	0.092	0.086	0.091	0.080	0.089	0.087	7.98	5.3578
	13	1,1-Dichloroethene	0.376	0.423	0.434	0.415	0.435	0.459	0.449	0.452	0.448	0.432	5.92	5.6008
5	14	tert-Butyl alcohol	0.032	0.032	0.036	0.038	0.037	0.035	0.038	0.035	0.038	0.036	6.72	5.5793
	15	Methyl acetate	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	16	Iodomethane	0.368	0.406	0.472	0.459	0.483	0.539	0.530	0.529	0.522	0.479	12.53	6.0206
	17	Methylene chloride	0.701	0.621	0.568	0.529	0.520	0.533	0.531	0.523	0.491	0.557	11.67	6.1181
5	18	Acrylonitrile	0.071	0.094	0.105	0.119	0.124	0.117	0.124	0.112	0.116	0.109	15.67	6.2156
	19	tert-Butyl methyl ether (MTBE)	0.671	0.774	0.822	0.849	0.871	0.869	0.876	0.886	0.840	0.829	8.24	6.2437
	20	Carbon disulfide	0.908	0.993	1.019	0.998	1.053	1.069	1.050	1.091	1.045	1.025	5.28	6.2949
	21	trans-1,2-Dichloroethene	0.383	0.477	0.481	0.469	0.482	0.506	0.478	0.487	0.475	0.471	7.30	6.4717
	22	Isopropyl ether (DIPE)	1.073	1.200	1.230	1.239	1.261	1.350	1.303	1.311	1.298	1.252	6.52	6.7246
	23	Vinyl acetate	0.714	0.647	0.698	0.645	0.660	0.701	0.656	0.635	0.643	0.667	4.44	6.8651
	24	1,1-Dichloroethane	0.550	0.614	0.633	0.657	0.657	0.679	0.676	0.683	0.628	0.642	6.59	6.9659
	25	tert-Butyl ethyl ether (ETBE)	0.841	0.917	1.003	0.976	1.012	1.030	1.044	1.039	1.042	0.989	6.96	7.2138
4	26	2-Butanone	0.107	0.156	0.155	0.188	0.190	0.176	0.190	0.172	0.183	0.169	15.88	7.3955
	27	2,2-Dichloropropane	0.288	0.331	0.330	0.319	0.307	0.329	0.323	0.298	0.297	0.313	5.20	7.6418
	28	cis-1,2-Dichloroethene	0.477	0.544	0.559	0.570	0.557	0.577	0.572	0.571	0.556	0.554	5.54	7.7013
	29	tert-Butyl formate (TBF)	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Chloroform	0.520	0.597	0.598	0.602	0.617	0.644	0.606	0.618	0.619	0.602	5.67	7.8930
	31	Bromochloromethane	0.292	0.351	0.352	0.361	0.365	0.367	0.366	0.356	0.358	0.352	6.65	8.1293
	32	Tetrahydrofuran	0.105	0.116	0.112	0.119	0.117	0.107	0.112	0.101	0.112	0.111	5.30	8.1458
	33	Dibromofluoromethane	0.249	0.305	0.323	0.340	0.354	0.357	0.347	0.348	------	0.328	11.10	8.1700
	34	Cyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	35	1,1,1-Trichloroethane	0.317	0.353	0.376	0.376	0.365	0.391	0.383	0.370	0.362	0.366	5.94	8.4152
	36	tert-Amyl methyl ether (TAME)	0.878	0.982	1.015	1.064	1.054	1.085	1.097	1.077	1.090	1.038	6.82	8.6648
	37	1,2-Dichloroethane-d4	0.223	0.263	0.281	0.288	0.297	0.305	0.299	0.294	------	0.281	9.65	8.7872
	38	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	0	14.0903
	39	1,1-Dichloropropene	0.146	0.167	0.152	0.150	0.174	0.186	0.172	0.172	0.160	0.164	8.05	8.6053
	40	Carbon tetrachloride	0.273	0.324	0.313	0.290	0.346	0.371	0.357	0.353	0.333	0.329	9.87	8.7722
	41	1,2-Dichloroethane	0.321	0.368	0.365	0.356	0.410	0.429	0.403	0.403	0.392	0.383	8.71	8.9077
	42	Benzene	1.350	1.532	1.419	1.334	1.520	1.610	1.520	1.543	1.436	1.474	6.36	8.9788
	43	Methylcyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	44	Trichloroethene	0.350	0.395	0.387	0.365	0.425	0.451	0.419	0.418	0.404	0.402	7.84	9.7786
	45	1,2-Dichloropropane	0.331	0.394	0.382	0.383	0.429	0.463	0.430	0.438	0.409	0.407	9.64	10.0183
	46	Bromodichloromethane	0.387	0.434	0.429	0.442	0.513	0.537	0.522	0.517	0.507	0.476	11.25	10.3901
	47	Dibromomethane	0.193	0.220	0.223	0.228	0.254	0.270	0.255	0.251	0.248	0.238	10.06	10.5124

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	48	2-Chloroethyl vinyl ether	------	0.075	0.087	0.096	0.104	0.102	0.113	0.119	0.113	0.101	14.45	10.7028
4	49	4-Methyl-2-pentanone	0.232	0.349	0.338	0.409	0.464	0.432	0.446	0.417	0.414	0.389	18.49	10.7471
	50	cis-1,3-Dichloropropene	0.512	0.559	0.554	0.567	0.658	0.707	0.677	0.669	0.615	0.613	11.08	11.1982
	51	Toluene-d8	0.865	0.960	0.927	0.909	1.063	1.055	1.026	1.042	------	0.981	7.70	11.6560
	52	Toluene	1.189	1.353	1.253	1.223	1.370	1.468	1.367	1.375	1.327	1.325	6.63	11.7882
	53	Ethyl methacrylate	0.408	0.444	0.443	0.464	0.534	0.550	0.532	0.520	0.511	0.490	10.32	11.8510
	54	trans-1,3-Dichloropropene	0.361	0.444	0.455	0.450	0.538	0.556	0.544	0.555	0.519	0.491	13.68	11.9849
4	55	2-Hexanone	0.154	0.225	0.221	0.267	0.313	0.298	0.311	0.281	0.290	0.262	20.08	12.1733
	56	1,1,2-Trichloroethane	0.261	0.300	0.303	0.286	0.328	0.338	0.324	0.323	0.305	0.308	7.76	12.2824
	57	1,3-Dichloropropane	0.497	0.566	0.573	0.558	0.641	0.653	0.641	0.620	0.612	0.596	8.58	12.6774
	58	Tetrachloroethene	0.265	0.271	0.266	0.257	0.285	0.302	0.290	0.286	0.275	0.278	5.19	12.8608
	59	Dibromochloromethane	0.310	0.341	0.364	0.349	0.422	0.440	0.432	0.432	0.417	0.390	12.46	13.1913
	60	1,2-Dibromoethane	0.271	0.319	0.328	0.323	0.371	0.375	0.372	0.354	0.351	0.340	9.93	13.5218
	61	1-Chlorohexane	0.507	0.534	0.509	0.493	0.569	0.603	0.581	0.561	0.547	0.545	6.83	13.6044
	62	Chlorobenzene	0.923	1.004	0.962	0.936	1.049	1.093	1.023	1.026	0.950	0.996	5.72	14.1531
	63	Ethylbenzene	1.494	1.642	1.530	1.459	1.626	1.733	1.622	1.614	1.493	1.579	5.68	14.1730
	64	1,1,1,2-Tetrachloroethane	0.287	0.347	0.344	0.331	0.383	0.409	0.383	0.388	0.367	0.360	10.25	14.1845
2	65	m-Xylene & p-Xylene	1.116	1.225	1.192	1.139	1.249	1.311	1.203	1.198	0.985	1.180	7.85	14.2886
	66	o-Xylene	1.217	1.277	1.202	1.215	1.320	1.378	1.295	1.288	1.227	1.269	4.61	14.9761
	67	Styrene	0.899	1.021	0.980	0.996	1.122	1.171	1.100	1.120	1.036	1.049	8.19	15.0208
	68	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	0	18.1789
	69	Isopropylbenzene	3.540	3.762	3.564	3.856	3.828	3.905	3.877	3.728	3.472	3.726	4.34	15.4818
	70	Bromoform	------	0.466	0.504	0.565	0.616	0.606	0.631	0.619	0.621	0.579	10.65	15.6241
	71	1,1,2,2-Tetrachloroethane	1.078	1.205	1.222	1.274	1.293	1.248	1.293	1.218	1.240	1.230	5.32	15.7396
	72	4-Bromofluorobenzene	1.225	1.065	1.005	1.037	1.080	1.075	1.074	1.060	------	1.078	5.98	15.8950
	73	1,2,3-Trichloropropane	0.258	0.262	0.272	0.286	0.293	0.281	0.293	0.268	0.278	0.277	4.55	15.9661
	74	trans-1,4-Dichloro-2-butene	0.180	0.207	0.230	0.255	0.273	0.272	0.291	0.277	0.273	0.251	14.87	16.0140
	75	n-Propylbenzene	4.711	4.946	4.920	5.043	5.113	5.169	5.247	5.021	4.400	4.952	5.23	16.0768
	76	Bromobenzene	0.929	1.031	0.990	1.036	1.077	1.092	1.113	1.073	1.039	1.042	5.39	16.2387
	77	1,3,5-Trimethylbenzene	2.884	3.099	3.010	3.172	3.165	3.215	3.145	3.046	2.985	3.080	3.49	16.2933
	78	2-Chlorotoluene	2.769	3.151	3.262	2.765	3.461	2.889	3.459	2.984	3.105	3.094	8.61	16.3974
	79	4-Chlorotoluene	2.507	2.518	2.836	2.734	2.920	2.888	2.990	2.587	2.216	2.688	9.33	16.4470
	80	tert-Butylbenzene	3.019	3.138	3.188	3.299	3.167	3.291	3.251	3.095	3.069	3.169	3.11	16.8155
	81	1,2,4-Trimethylbenzene	2.862	3.221	3.053	3.178	3.116	3.156	3.147	3.120	3.000	3.095	3.53	16.8766
	82	sec-Butylbenzene	4.113	4.388	4.276	4.358	4.276	4.357	4.186	4.137	3.919	4.223	3.57	17.1130
	83	p-Isopropyltoluene	3.433	3.694	3.742	3.693	3.698	3.797	3.696	3.615	3.461	3.648	3.38	17.2849
	84	1,3-Dichlorobenzene	1.929	2.040	1.886	1.943	1.994	2.036	2.053	1.980	1.929	1.977	2.97	17.5146
	85	1,4-Dichlorobenzene	1.982	1.983	1.939	2.003	2.003	2.031	2.085	2.005	1.985	2.002	1.99	17.6600
	86	n-Butylbenzene	3.462	3.474	3.331	3.246	3.430	3.498	3.376	3.520	3.231	3.396	3.15	17.8666
	87	1,2-Dichlorobenzene	1.778	1.886	1.827	1.883	1.800	1.866	1.854	1.852	1.828	1.842	1.99	18.2186
	88	1,2-Dibromo-3-chloropropane	0.152	0.145	0.161	0.163	0.162	0.160	0.172	0.164	0.183	0.162	6.78	19.3506
	89	1,2,4-Trichlorobenzene	0.951	0.937	0.916	0.842	0.836	0.868	0.874	0.844	0.854	0.880	4.94	20.7306
	90	Hexachlorobutadiene	0.559	0.584	0.559	0.515	0.468	0.514	0.496	0.487	0.500	0.520	7.43	20.9091
	91	Naphthalene	2.303	2.243	2.296	2.119	2.009	2.018	2.181	1.969	2.118	2.139	5.86	21.2429
	92	1,2,3-Trichlorobenzene	0.802	0.861	0.841	0.745	0.678	0.701	0.716	0.633	0.634	0.734	11.50	21.6577

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.9 Max_%RSD : 20.1

Sg 11/4/09

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

DN	Parameter	x0	x1	CCF
1	Acrolein	-0.00400	0.05387	0.9990
14	Acrylonitrile	-0.00781	0.11749	0.9993
26	2-Butanone	-0.00998	0.18177	0.9991
49	4-Methyl-2-pentanone	-0.02832	0.42645	0.9990
55	2-Hexanone	-0.02418	0.29428	0.9989

SECOND SOURCE VERIFICATION

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IV002K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	104	-0.01
2	T	Dichlorodifluoromethane	50.000	47.827	4.3	105	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	41.672	16.7	90	-0.03
5	C,T	Vinyl chloride	50.000	39.153	21.7#	86	-0.01
6	T	Bromomethane	50.000	39.305	21.4#	96	0.00
7	T	Chloroethane	50.000	42.753	14.5	90	-0.01
8	T	Dichlorofluoromethane	50.000	52.474	-4.9	106	0.00
9	T	Trichlorofluoromethane	50.000	44.174	11.7	94	-0.01
10	T	Acrolein	200.000	165.236	17.4	78	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	52.076	-4.2	108	0.00
12	T	Acetone	200.000	181.874	9.1	90	-0.01
13	C,T,M	1,1-Dichloroethene	50.000	50.378	-0.8	104	0.00
14	T	tert-Butyl alcohol	250.000	265.125	-6.0	105	-0.01
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	55.863	-11.7	115	0.00
17	T	Methylene chloride	50.000	43.148	13.7	96	-0.01
18	T	Acrylonitrile	250.000	251.237	-0.5	98	0.00
19	T	tert-Butyl methyl ether (MT	50.000	53.151	-6.3	105	0.00
20	T	Carbon disulfide	50.000	57.750	-15.5	117	-0.01
21	T	trans-1,2-Dichloroethene	50.000	50.230	-0.5	102	-0.01
22	T	Isopropyl ether (DIPE)	50.000	51.410	-2.8	106	-0.01
23	T	Vinyl acetate	50.000	43.802	12.4	92	-0.01
24	P,T	1,1-Dichloroethane	50.000	50.471	-0.9	102	-0.01
25	T	tert-Butyl ethyl ether (ETB	50.000	51.982	-4.0	105	-0.01
26	T	2-Butanone	200.000	186.552	6.7	91	-0.01
27	T	2,2-Dichloropropane	50.000	49.291	1.4	104	-0.01
28	T	cis-1,2-Dichloroethene	50.000	48.705	2.6	100	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	51.183	-2.4	104	0.00
31	T	Bromochloromethane	50.000	50.005	-0.0	100	-0.01
32	T	Tetrahydrofuran	50.000	49.209	1.6	97	-0.01
33	S	Dibromofluoromethane	50.000	50.598	-1.2	97	-0.01
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	49.975	0.0	104	-0.01
36	T	tert-Amyl methyl ether (TAM	50.000	52.271	-4.5	107	-0.01
37	S	1,2-Dichloroethane-d4	50.000	50.570	-1.1	99	-0.01
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	103	-0.01
39	T	1,1-Dichloropropene	50.000	52.573	-5.1	102	-0.01
40	T	Carbon tetrachloride	50.000	51.134	-2.3	100	0.00

(#) = Out of Range

5a 11/4/09

2027

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	53.456	-6.9	103	-0.01
42	T,M	Benzene	50.000	52.713	-5.4	105	-0.01
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	52.169	-4.3	101	-0.01
45	C,T	1,2-Dichloropropane	50.000	51.545	-3.1	100	-0.01
46	T	Bromodichloromethane	50.000	50.092	-0.2	95	-0.01
47	T	Dibromomethane	50.000	52.283	-4.6	100	0.00
48	T	2-Chloroethyl vinyl ether	50.000	52.961	-5.9	105	-0.01
49	T	4-Methyl-2-pentanone	200.000	195.440	2.3	91	-0.01
50	T	cis-1,3-Dichloropropene	50.000	51.637	-3.3	99	0.00
51	S	Toluene-d8	50.000	51.859	-3.7	98	-0.01
52	C,T,M	Toluene	50.000	52.817	-5.6	105	-0.01
53	T	Ethyl methacrylate	50.000	52.174	-4.3	98	-0.01
54	T	trans-1,3-Dichloropropene	50.000	54.801	-9.6	103	0.00
55	T	2-Hexanone	200.000	190.093	5.0	90	-0.01
56	T	1,1,2-Trichloroethane	50.000	50.737	-1.5	98	0.00
57	T	1,3-Dichloropropane	50.000	50.666	-1.3	97	-0.01
58	T	Tetrachloroethene	50.000	50.848	-1.7	102	0.00
59	T	Dibromochloromethane	50.000	49.079	1.8	93	0.00
60	T	1,2-Dibromoethane	50.000	51.302	-2.6	97	0.00
61	T	1-Chlorohexane	50.000	52.942	-5.9	104	-0.01
62	P,M	Chlorobenzene	50.000	51.575	-3.2	101	-0.01
63	C,T	Ethylbenzene	50.000	51.728	-3.5	103	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	51.341	-2.7	99	-0.01
65	T	m-Xylene & p-Xylene	100.000	102.333	-2.3	99	-0.01
66	T	o-Xylene	50.000	50.111	-0.2	99	0.00
67	T	Styrene	50.000	50.832	-1.7	98	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	100	-0.01
69	T	Isopropylbenzene	50.000	52.287	-4.6	102	0.00
70	P,T	Bromoform	50.000	50.729	-1.5	95	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	50.000	49.745	0.5	94	-0.01
72	S	4-Bromofluorobenzene	50.000	48.434	3.1	96	0.00
73	T	1,2,3-Trichloropropane	50.000	48.600	2.8	92	-0.01
74	T	trans-1,4-Dichloro-2-butene	50.000	51.971	-3.9	95	-0.01
75	T	n-Propylbenzene	50.000	50.394	-0.8	97	0.00
76	T	Bromobenzene	50.000	51.619	-3.2	100	0.00
77	T	1,3,5-Trimethylbenzene	50.000	48.543	2.9	94	-0.01
78	T	2-Chlorotoluene	50.000	46.408	7.2	83	-0.01
79	T	4-Chlorotoluene	50.000	48.579	2.8	89	0.00
80	T	tert-Butylbenzene	50.000	50.317	-0.6	101	0.00

(#) = Out of Range

SM 11/4/09

2028

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	48.467	3.1	96	0.00
82	T	sec-Butylbenzene	50.000	49.155	1.7	97	-0.01
83	T	p-Isopropyltoluene	50.000	48.051	3.9	95	0.00
84	T	1,3-Dichlorobenzene	50.000	47.836	4.3	95	-0.01
85	T	1,4-Dichlorobenzene	50.000	47.066	5.9	94	-0.01
86	T	n-Butylbenzene	50.000	43.030	13.9	85	-0.01
87	T	1,2-Dichlorobenzene	50.000	46.864	6.3	96	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	45.889	8.2	92	0.00
89	T	1,2,4-Trichlorobenzene	50.000	42.183	15.6	89	0.00
90	T	Hexachlorobutadiene	50.000	44.818	10.4	100	0.00
91	T	Naphthalene	50.000	43.623	12.8	93	-0.01
92	T	1,2,3-Trichlorobenzene	50.000	42.023	16.0	91	-0.01

Su 11/4/09

DAILY CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP063
Instrument ID: T002
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L062
BFB Injection Date : 12/03/09
BFB Injection Time : 20:13
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.15
75	30.0 - 60.0% of mass 95	45.87
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.41
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	74.04
175	5.0 - 9.0% of mass 174	5.62(7.6)1
176	95.0 - 101.0% of mass 174	71.86(97.1)1
177	5.0 - 9.0% of mass 176	4.78(6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0326	RLP064	12/03/09	20:45
2	MBLK1S	V002L06B	RLP068	12/03/09	22:51
3	LCS1S	V002L06L	RLP065	12/03/09	21:16
4	LCD1S	V002L06C	RLP066	12/03/09	21:48
5	SB9-20V	L062-01	RLP069	12/03/09	23:23
6	SB9-40V	L062-02	RLP070	12/03/09	23:55
7	SB14-20V	L062-03	RLP071	12/04/09	00:26
8	SB14-20VMS	L062-03M	RLP072	12/04/09	00:57
9	SB14-20VMSD	L062-03S	RLP073	12/04/09	01:29
10	SB14-40V	L062-04	RLP074	12/04/09	02:01
11	SB15-20V	L062-05	RLP075	12/04/09	02:33
12	SB15-40V	L062-06	RLP076	12/04/09	03:04
13	SB13-20V	L062-07	RLP077	12/04/09	03:36
14	SB13-40V	L062-08	RLP078	12/04/09	04:08

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: T002
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L062
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2059664	9.23	2035434	14.08	840144	18.17
2	MBLK1S	2018636	9.23	2074255	14.08	847166	18.17
3	LCS1S	2113082	9.23	2061731	14.08	882060	18.17
4	LCD1S	2148032	9.22	2068062	14.08	896205	18.17
5	SB9-20V	2110387	9.23	2083395	14.08	872707	18.17
6	SB9-40V	2092281	9.22	2031619	14.08	843468	18.16
7	SB14-20V	2097069	9.21	2079271	14.07	874504	18.17
8	SB14-20VMS	2102070	9.21	2148175	14.08	904618	18.17
9	SB14-20VMSD	2200171	9.23	2127719	14.07	907013	18.17
10	SB14-40V	2183308	9.22	2088311	14.08	900338	18.17
11	SB15-20V	2168499	9.23	2104406	14.08	893322	18.17
12	SB15-40V	2116629	9.22	2113168	14.08	877393	18.16
13	SB13-20V	2153978	9.23	2081069	14.08	876312	18.17
14	SB13-40V	2065621	9.22	2098516	14.07	884880	18.16

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	111	0.00
2	T	Dichlorodifluoromethane	50.000	40.920	18.2	96	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	42.433	15.1	98	-0.05
5	C,T	Vinyl chloride	50.000	42.240	15.5	98	-0.03
6	T	Bromomethane	50.000	44.495	11.0	115	-0.02
7	T	Chloroethane	50.000	48.393	3.2	109	-0.02
8	T	Dichlorofluoromethane	50.000	53.020	-6.0	115	-0.03
9	T	Trichlorofluoromethane	50.000	52.595	-5.2	120	-0.02
10	T	Acrolein	200.000	180.335	9.8	91	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	55.392	-10.8	122	-0.02
12	T	Acetone	200.000	200.195	-0.1	105	-0.02
13	C,T,M	1,1-Dichloroethene	50.000	52.788	-5.6	116	-0.03
14	T	tert-Butyl alcohol	250.000	265.646	-6.3	113	-0.02
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	63.874	-27.7#	140	-0.03
17	T	Methylene chloride	50.000	50.312	-0.6	119	-0.02
18	T	Acrylonitrile	250.000	259.821	-3.9	108	0.00
19	T	tert-Butyl methyl ether (MT	50.000	51.802	-3.6	109	0.00
20	T	Carbon disulfide	50.000	46.984	6.0	101	-0.03
21	T	trans-1,2-Dichloroethene	50.000	53.041	-6.1	115	-0.02
22	T	Isopropyl ether (DIPE)	50.000	53.042	-6.1	116	-0.02
23	T	Vinyl acetate	50.000	53.813	-7.6	120	0.00
24	P,T	1,1-Dichloroethane	50.000	55.097	-10.2	119	-0.02
25	T	tert-Butyl ethyl ether (ETB	50.000	51.157	-2.3	111	-0.02
26	T	2-Butanone	200.000	192.484	3.8	100	-0.02
27	T	2,2-Dichloropropane	50.000	56.522	-13.0	128	-0.02
28	T	cis-1,2-Dichloroethene	50.000	54.636	-9.3	120	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	54.826	-9.7	118	0.00
31	T	Bromochloromethane	50.000	51.588	-3.2	110	-0.02
32	T	Tetrahydrofuran	50.000	51.012	-2.0	107	0.00
33	S	Dibromofluoromethane	50.000	49.595	0.8	102	-0.02
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	56.190	-12.4	125	-0.02
36	T	tert-Amyl methyl ether (TAM	50.000	50.459	-0.9	110	0.00
37	S	1,2-Dichloroethane-d4	50.000	48.591	2.8	102	-0.02
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	114	-0.02
39	T	1,1-Dichloropropene	50.000	50.219	-0.4	108	0.00
40	T	Carbon tetrachloride	50.000	54.356	-8.7	118	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	54.762	-9.5	117	-0.02
42	T,M	Benzene	50.000	51.819	-3.6	115	0.00
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	52.851	-5.7	114	-0.02
45	C,T	1,2-Dichloropropane	50.000	53.991	-8.0	117	0.00
46	T	Bromodichloromethane	50.000	54.273	-8.5	115	0.00
47	T	Dibromomethane	50.000	52.189	-4.4	112	0.00
48	T	2-Chloroethyl vinyl ether	50.000	53.059	-6.1	118	-0.02
49	T	4-Methyl-2-pentanone	200.000	198.698	0.7	103	-0.02
50	T	cis-1,3-Dichloropropene	50.000	54.686	-9.4	117	0.00
51	S	Toluene-d8	50.000	51.256	-2.5	108	0.00
52	C,T,M	Toluene	50.000	52.446	-4.9	116	0.00
53	T	Ethyl methacrylate	50.000	52.714	-5.4	111	0.00
54	T	trans-1,3-Dichloropropene	50.000	54.349	-8.7	114	0.00
55	T	2-Hexanone	200.000	200.909	-0.5	106	-0.02
56	T	1,1,2-Trichloroethane	50.000	52.615	-5.2	113	0.00
57	T	1,3-Dichloropropane	50.000	53.642	-7.3	114	-0.02
58	T	Tetrachloroethene	50.000	51.253	-2.5	114	0.00
59	T	Dibromochloromethane	50.000	52.586	-5.2	111	0.00
60	T	1,2-Dibromoethane	50.000	53.330	-6.7	112	0.00
61	T	1-Chlorohexane	50.000	50.535	-1.1	111	0.00
62	P,M	Chlorobenzene	50.000	53.402	-6.8	116	-0.02
63	C,T	Ethylbenzene	50.000	53.020	-6.0	118	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	55.429	-10.9	119	0.00
65	T	m-Xylene & p-Xylene	100.000	106.583	-6.6	115	0.00
66	T	o-Xylene	50.000	52.352	-4.7	115	0.00
67	T	Styrene	50.000	53.800	-7.6	115	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	117	-0.02
69	T	Isopropylbenzene	50.000	52.365	-4.7	119	0.00
70	P,T	Bromoform	50.000	50.663	-1.3	111	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	50.000	53.928	-7.9	120	-0.02
72	S	4-Bromofluorobenzene	50.000	47.972	4.1	112	0.00
73	T	1,2,3-Trichloropropane	50.000	50.437	-0.9	112	-0.02
74	T	trans-1,4-Dichloro-2-butene	50.000	53.573	-7.1	115	0.00
75	T	n-Propylbenzene	50.000	52.026	-4.1	118	0.00
76	T	Bromobenzene	50.000	51.882	-3.8	117	0.00
77	T	1,3,5-Trimethylbenzene	50.000	53.072	-6.1	121	-0.02
78	T	2-Chlorotoluene	50.000	48.752	2.5	102	-0.02
79	T	4-Chlorotoluene	50.000	53.333	-6.7	115	0.00
80	T	tert-Butylbenzene	50.000	53.214	-6.4	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	53.248	-6.5	124	0.00
82	T	sec-Butylbenzene	50.000	53.739	-7.5	124	0.00
83	T	p-Isopropyltoluene	50.000	54.069	-8.1	125	0.00
84	T	1,3-Dichlorobenzene	50.000	52.052	-4.1	121	0.00
85	T	1,4-Dichlorobenzene	50.000	51.477	-3.0	120	-0.02
86	T	n-Butylbenzene	50.000	48.948	2.1	113	-0.02
87	T	1,2-Dichlorobenzene	50.000	51.853	-3.7	124	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	50.158	-0.3	118	0.00
89	T	1,2,4-Trichlorobenzene	50.000	50.876	-1.8	125	0.00
90	T	Hexachlorobutadiene	50.000	48.695	2.6	127	-0.02
91	T	Naphthalene	50.000	49.165	1.7	122	-0.02
92	T	1,2,3-Trichlorobenzene	50.000	47.701	4.6	121	-0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	111	0.00
2	T	Dichlorodifluoromethane	0.198	0.162	18.2	96	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.322	15.3	98	-0.05
5	C,T	Vinyl chloride	0.312	0.263	15.7	98	-0.03
6	T	Bromomethane	0.245	0.218	11.0	115	-0.02
7	T	Chloroethane	0.169	0.163	3.6	109	-0.02
8	T	Dichlorofluoromethane	0.547	0.580	-6.0	115	-0.03
9	T	Trichlorofluoromethane	0.288	0.303	-5.2	120	-0.02
10	T	Acrolein	0.049	0.048	2.0	91	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.186	-10.7	122	-0.02
12	T	Acetone	0.087	0.087	0.0	105	-0.02
13	C,T,M	1,1-Dichloroethene	0.432	0.456	-5.6	116	-0.03
14	T	tert-Butyl alcohol	0.036	0.038	-5.6	113	-0.02
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.612	-27.8#	140	-0.03
17	T	Methylene chloride	0.557	0.561	-0.7	119	-0.02
18	T	Acrylonitrile	0.109	0.121	-11.0	108	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.859	-3.6	109	0.00
20	T	Carbon disulfide	1.025	0.963	6.0	101	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.500	-6.2	115	-0.02
22	T	Isopropyl ether (DIPE)	1.252	1.328	-6.1	116	-0.02
23	T	Vinyl acetate	0.667	0.717	-7.5	120	0.00
24	P,T	1,1-Dichloroethane	0.642	0.707	-10.1	119	-0.02
25	T	tert-Butyl ethyl ether (ETB	0.989	1.012	-2.3	111	-0.02
26	T	2-Butanone	0.169	0.172	-1.8	100	-0.02
27	T	2,2-Dichloropropane	0.313	0.354	-13.1	128	-0.02
28	T	cis-1,2-Dichloroethene	0.554	0.605	-9.2	120	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.661	-9.8	118	0.00
31	T	Bromochloromethane	0.352	0.363	-3.1	110	-0.02
32	T	Tetrahydrofuran	0.111	0.114	-2.7	107	0.00
33	S	Dibromofluoromethane	0.328	0.325	0.9	102	-0.02
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.411	-12.3	125	-0.02
36	T	tert-Amyl methyl ether (TAM	1.038	1.048	-1.0	110	0.00
37	S	1,2-Dichloroethane-d4	0.281	0.273	2.8	102	-0.02
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	114	-0.02
39	T	1,1-Dichloropropene	0.164	0.165	-0.6	108	0.00
40	T	Carbon tetrachloride	0.329	0.358	-8.8	118	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.419	-9.4	117	-0.02
42	T,M	Benzene	1.474	1.527	-3.6	115	0.00
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.425	-5.7	114	-0.02
45	C,T	1,2-Dichloropropane	0.407	0.439	-7.9	117	0.00
46	T	Bromodichloromethane	0.476	0.517	-8.6	115	0.00
47	T	Dibromomethane	0.238	0.248	-4.2	112	0.00
48	T	2-Chloroethyl vinyl ether	0.101	0.107	-5.9	118	-0.02
49	T	4-Methyl-2-pentanone	0.389	0.417	-7.2	103	-0.02
50	T	cis-1,3-Dichloropropene	0.613	0.671	-9.5	117	0.00
51	S	Toluene-d8	0.981	1.006	-2.5	108	0.00
52	C,T,M	Toluene	1.325	1.390	-4.9	116	0.00
53	T	Ethyl methacrylate	0.490	0.516	-5.3	111	0.00
54	T	trans-1,3-Dichloropropene	0.491	0.534	-8.8	114	0.00
55	T	2-Hexanone	0.262	0.290	-10.7	106	-0.02
56	T	1,1,2-Trichloroethane	0.308	0.324	-5.2	113	0.00
57	T	1,3-Dichloropropane	0.596	0.639	-7.2	114	-0.02
58	T	Tetrachloroethene	0.278	0.285	-2.5	114	0.00
59	T	Dibromochloromethane	0.390	0.410	-5.1	111	0.00
60	T	1,2-Dibromoethane	0.340	0.363	-6.8	112	0.00
61	T	1-Chlorohexane	0.545	0.551	-1.1	111	0.00
62	P,M	Chlorobenzene	0.996	1.064	-6.8	116	-0.02
63	C,T	Ethylbenzene	1.579	1.675	-6.1	118	0.00
64	T	1,1,1,2-Tetrachloroethane	0.360	0.399	-10.8	119	0.00
65	T	m-Xylene & p-Xylene	1.180	1.257	-6.5	115	0.00
66	T	o-Xylene	1.269	1.328	-4.6	115	0.00
67	T	Styrene	1.049	1.129	-7.6	115	0.00
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	117	-0.02
69	T	Isopropylbenzene	3.726	3.902	-4.7	119	0.00
70	P,T	Bromoform	0.579	0.586	-1.2	111	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.327	-7.9	120	-0.02
72	S	4-Bromofluorobenzene	1.078	1.034	4.1	112	0.00
73	T	1,2,3-Trichloropropane	0.277	0.279	-0.7	112	-0.02
74	T	trans-1,4-Dichloro-2-butene	0.251	0.269	-7.2	115	0.00
75	T	n-Propylbenzene	4.952	5.153	-4.1	118	0.00
76	T	Bromobenzene	1.042	1.081	-3.7	117	0.00
77	T	1,3,5-Trimethylbenzene	3.080	3.269	-6.1	121	-0.02
78	T	2-Chlorotoluene	3.094	3.017	2.5	102	-0.02
79	T	4-Chlorotoluene	2.688	2.868	-6.7	115	0.00
80	T	tert-Butylbenzene	3.169	3.372	-6.4	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L03\RLP064.D Vial: 2
Acq On : 3 Dec 2009 8:45 pm Operator: CGM
Sample : CVO02K0326 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.296	-6.5	124	0.00
82	T	sec-Butylbenzene	4.223	4.539	-7.5	124	0.00
83	T	p-Isopropyltoluene	3.648	3.945	-8.1	125	0.00
84	T	1,3-Dichlorobenzene	1.977	2.058	-4.1	121	0.00
85	T	1,4-Dichlorobenzene	2.002	2.061	-2.9	120	-0.02
86	T	n-Butylbenzene	3.396	3.325	2.1	113	-0.02
87	T	1,2-Dichlorobenzene	1.842	1.910	-3.7	124	0.00
88	T	1,2-Dibromo-3-chloropropane	0.162	0.163	-0.6	118	0.00
89	T	1,2,4-Trichlorobenzene	0.880	0.896	-1.8	125	0.00
90	T	Hexachlorobutadiene	0.520	0.507	2.5	127	-0.02
91	T	Naphthalene	2.139	2.104	1.6	122	-0.02
92	T	1,2,3-Trichlorobenzene	0.734	0.701	4.5	121	-0.02

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP080
Instrument ID: T002
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L062
BFB Injection Date : 12/04/09
BFB Injection Time : 14:31
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.79
75	30.0 - 60.0% of mass 95	47.00
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.87
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.57
175	5.0 - 9.0% of mass 174	5.45(7.0)1
176	95.0 - 101.0% of mass 174	74.29(95.8)1
177	5.0 - 9.0% of mass 176	4.87(6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0327	RLP081	12/04/09	14:58
2	MBLK2S	V002L09B	RLP085	12/04/09	17:05
3	LCS2S	V002L09L	RLP082	12/04/09	15:30
4	LCD2S	V002L09C	RLP083	12/04/09	16:01
5	SB31-40V	L062-09	RLP086	12/04/09	17:36
6	SB16-20V	L062-10	RLP087	12/04/09	18:08
7	SB16-40V	L062-11	RLP088	12/04/09	18:41
8	SB10-20V	L062-14	RLP089	12/04/09	19:13

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: T002
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L062
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2086483	9.23	2074743	14.08	879760	18.17
2	MBLK2S	2114672	9.23	2073376	14.08	862907	18.17
3	LCS2S	2130624	9.21	2080808	14.08	894367	18.17
4	LCD2S	2152724	9.22	2069998	14.08	897032	18.17
5	SB31-40V	2177897	9.22	2063688	14.08	873643	18.17
6	SB16-20V	2165654	9.22	2114215	14.08	895742	18.17
7	SB16-40V	2098375	9.23	2034661	14.08	869378	18.17
8	SB10-20V	2107628	9.23	2066841	14.08	858009	18.17

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	112	0.00
2	T	Dichlorodifluoromethane	50.000	42.051	15.9	100	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	40.041	19.9	94	-0.04
5	C,T	Vinyl chloride	50.000	40.861	18.3	96	-0.01
6	T	Bromomethane	50.000	39.401	21.2#	103	-0.01
7	T	Chloroethane	50.000	42.999	14.0	98	-0.01
8	T	Dichlorofluoromethane	50.000	53.587	-7.2	117	-0.01
9	T	Trichlorofluoromethane	50.000	53.259	-6.5	123	-0.03
10	T	Acrolein	200.000	180.841	9.6	93	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	59.271	-18.5	132	0.00
12	T	Acetone	200.000	183.100	8.5	97	-0.01
13	C,T,M	1,1-Dichloroethene	50.000	53.664	-7.3	120	-0.03
14	T	tert-Butyl alcohol	250.000	261.475	-4.6	112	-0.01
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	62.258	-24.5#	138	-0.03
17	T	Methylene chloride	50.000	49.644	0.7	119	-0.01
18	T	Acrylonitrile	250.000	243.482	2.6	102	0.00
19	T	tert-Butyl methyl ether (MT	50.000	50.272	-0.5	107	0.00
20	T	Carbon disulfide	50.000	45.853	8.3	100	-0.03
21	T	trans-1,2-Dichloroethene	50.000	52.565	-5.1	115	-0.01
22	T	Isopropyl ether (DIPE)	50.000	51.167	-2.3	114	-0.01
23	T	Vinyl acetate	50.000	51.753	-3.5	117	0.00
24	P,T	1,1-Dichloroethane	50.000	53.486	-7.0	117	-0.01
25	T	tert-Butyl ethyl ether (ETB	50.000	50.941	-1.9	112	-0.01
26	T	2-Butanone	200.000	183.049	8.5	96	-0.01
27	T	2,2-Dichloropropane	50.000	61.591	-23.2#	141	-0.01
28	T	cis-1,2-Dichloroethene	50.000	54.879	-9.8	122	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	54.105	-8.2	118	0.00
31	T	Bromochloromethane	50.000	52.053	-4.1	112	-0.01
32	T	Tetrahydrofuran	50.000	50.818	-1.6	108	0.00
33	S	Dibromofluoromethane	50.000	49.188	1.6	102	-0.01
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	57.495	-15.0	129	-0.01
36	T	tert-Amyl methyl ether (TAM	50.000	50.106	-0.2	111	0.00
37	S	1,2-Dichloroethane-d4	50.000	48.110	3.8	102	-0.01
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	117	-0.01
39	T	1,1-Dichloropropene	50.000	52.636	-5.3	116	0.00
40	T	Carbon tetrachloride	50.000	57.084	-14.2	127	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	51.934	-3.9	113	-0.01
42	T,M	Benzene	50.000	50.498	-1.0	114	0.00
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	54.217	-8.4	120	-0.01
45	C,T	1,2-Dichloropropane	50.000	53.814	-7.6	119	0.00
46	T	Bromodichloromethane	50.000	53.683	-7.4	116	0.00
47	T	Dibromomethane	50.000	52.797	-5.6	115	0.00
48	T	2-Chloroethyl vinyl ether	50.000	41.777	16.4	94	0.00
49	T	4-Methyl-2-pentanone	200.000	193.004	3.5	102	-0.01
50	T	cis-1,3-Dichloropropene	50.000	54.539	-9.1	119	0.00
51	S	Toluene-d8	50.000	49.889	0.2	107	0.00
52	C,T,M	Toluene	50.000	53.337	-6.7	120	0.00
53	T	Ethyl methacrylate	50.000	54.869	-9.7	117	0.00
54	T	trans-1,3-Dichloropropene	50.000	53.126	-6.3	113	0.00
55	T	2-Hexanone	200.000	192.485	3.8	103	-0.01
56	T	1,1,2-Trichloroethane	50.000	52.411	-4.8	115	0.00
57	T	1,3-Dichloropropane	50.000	52.288	-4.6	113	-0.01
58	T	Tetrachloroethene	50.000	53.006	-6.0	120	0.00
59	T	Dibromochloromethane	50.000	52.922	-5.8	114	0.00
60	T	1,2-Dibromoethane	50.000	53.104	-6.2	114	0.00
61	T	1-Chlorohexane	50.000	55.735	-11.5	125	0.00
62	P,M	Chlorobenzene	50.000	53.278	-6.6	118	-0.01
63	C,T	Ethylbenzene	50.000	54.148	-8.3	123	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	55.058	-10.1	121	0.00
65	T	m-Xylene & p-Xylene	100.000	109.688	-9.7	121	-0.01
66	T	o-Xylene	50.000	53.058	-6.1	119	0.00
67	T	Styrene	50.000	54.057	-8.1	118	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	122	-0.01
69	T	Isopropylbenzene	50.000	52.082	-4.2	124	0.00
70	P,T	Bromoform	50.000	48.419	3.2	111	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	50.000	52.117	-4.2	121	-0.01
72	S	4-Bromofluorobenzene	50.000	46.438	7.1	113	0.00
73	T	1,2,3-Trichloropropane	50.000	50.735	-1.5	118	-0.01
74	T	trans-1,4-Dichloro-2-butene	50.000	56.316	-12.6	127	-0.01
75	T	n-Propylbenzene	50.000	52.394	-4.8	124	0.00
76	T	Bromobenzene	50.000	50.505	-1.0	120	0.00
77	T	1,3,5-Trimethylbenzene	50.000	53.503	-7.0	128	-0.01
78	T	2-Chlorotoluene	50.000	49.883	0.2	109	-0.01
79	T	4-Chlorotoluene	50.000	48.440	3.1	109	0.00
80	T	tert-Butylbenzene	50.000	52.683	-5.4	129	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	53.161	-6.3	129	-0.01
82	T	sec-Butylbenzene	50.000	53.528	-7.1	129	0.00
83	T	p-Isopropyltoluene	50.000	54.272	-8.5	131	0.00
84	T	1,3-Dichlorobenzene	50.000	52.342	-4.7	127	-0.01
85	T	1,4-Dichlorobenzene	50.000	51.990	-4.0	127	-0.01
86	T	n-Butylbenzene	50.000	57.131	-14.3	139	-0.01
87	T	1,2-Dichlorobenzene	50.000	51.638	-3.3	129	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	51.462	-2.9	126	0.00
89	T	1,2,4-Trichlorobenzene	50.000	53.580	-7.2	138	0.00
90	T	Hexachlorobutadiene	50.000	48.061	3.9	131	-0.01
91	T	Naphthalene	50.000	49.312	1.4	129	-0.01
92	T	1,2,3-Trichlorobenzene	50.000	48.540	2.9	129	-0.01

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	112	0.00
2	T	Dichlorodifluoromethane	0.198	0.166	16.2	100	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.304	20.0#	94	-0.04
5	C,T	Vinyl chloride	0.312	0.255	18.3	96	-0.01
6	T	Bromomethane	0.245	0.193	21.2#	103	-0.01
7	T	Chloroethane	0.169	0.145	14.2	98	-0.01
8	T	Dichlorofluoromethane	0.547	0.586	-7.1	117	-0.01
9	T	Trichlorofluoromethane	0.288	0.306	-6.3	123	-0.03
10	T	Acrolein	0.049	0.048	2.0	93	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.199	-18.5	132	0.00
12	T	Acetone	0.087	0.080	8.0	97	-0.01
13	C,T,M	1,1-Dichloroethene	0.432	0.464	-7.4	120	-0.03
14	T	tert-Butyl alcohol	0.036	0.037	-2.8	112	-0.01
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.596	-24.4#	138	-0.03
17	T	Methylene chloride	0.557	0.554	0.5	119	-0.01
18	T	Acrylonitrile	0.109	0.113	-3.7	102	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.833	-0.5	107	0.00
20	T	Carbon disulfide	1.025	0.940	8.3	100	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.495	-5.1	115	-0.01
22	T	Isopropyl ether (DIPE)	1.252	1.281	-2.3	114	-0.01
23	T	Vinyl acetate	0.667	0.690	-3.4	117	0.00
24	P,T	1,1-Dichloroethane	0.642	0.687	-7.0	117	-0.01
25	T	tert-Butyl ethyl ether (ETB	0.989	1.008	-1.9	112	-0.01
26	T	2-Butanone	0.169	0.164	3.0	96	-0.01
27	T	2,2-Dichloropropane	0.313	0.386	-23.3#	141	-0.01
28	T	cis-1,2-Dichloroethene	0.554	0.608	-9.7	122	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.652	-8.3	118	0.00
31	T	Bromochloromethane	0.352	0.366	-4.0	112	-0.01
32	T	Tetrahydrofuran	0.111	0.113	-1.8	108	0.00
33	S	Dibromofluoromethane	0.328	0.323	1.5	102	-0.01
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.421	-15.0	129	-0.01
36	T	tert-Amyl methyl ether (TAM	1.038	1.040	-0.2	111	0.00
37	S	1,2-Dichloroethane-d4	0.281	0.271	3.6	102	-0.01
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	117	-0.01
39	T	1,1-Dichloropropene	0.164	0.173	-5.5	116	0.00
40	T	Carbon tetrachloride	0.329	0.376	-14.3	127	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.398	-3.9	113	-0.01
42	T,M	Benzene	1.474	1.488	-0.9	114	0.00
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.435	-8.2	120	-0.01
45	C,T	1,2-Dichloropropane	0.407	0.438	-7.6	119	0.00
46	T	Bromodichloromethane	0.476	0.512	-7.6	116	0.00
47	T	Dibromomethane	0.238	0.251	-5.5	115	0.00
48	T	2-Chloroethyl vinyl ether	0.101	0.085	15.8	94	0.00
49	T	4-Methyl-2-pentanone	0.389	0.404	-3.9	102	-0.01
50	T	cis-1,3-Dichloropropene	0.613	0.669	-9.1	119	0.00
51	S	Toluene-d8	0.981	0.979	0.2	107	0.00
52	C,T,M	Toluene	1.325	1.413	-6.6	120	0.00
53	T	Ethyl methacrylate	0.490	0.537	-9.6	117	0.00
54	T	trans-1,3-Dichloropropene	0.491	0.522	-6.3	113	0.00
55	T	2-Hexanone	0.262	0.277	-5.7	103	-0.01
56	T	1,1,2-Trichloroethane	0.308	0.323	-4.9	115	0.00
57	T	1,3-Dichloropropane	0.596	0.623	-4.5	113	-0.01
58	T	Tetrachloroethene	0.278	0.294	-5.8	120	0.00
59	T	Dibromochloromethane	0.390	0.413	-5.9	114	0.00
60	T	1,2-Dibromoethane	0.340	0.362	-6.5	114	0.00
61	T	1-Chlorohexane	0.545	0.607	-11.4	125	0.00
62	P,M	Chlorobenzene	0.996	1.062	-6.6	118	-0.01
63	C,T	Ethylbenzene	1.579	1.710	-8.3	123	0.00
64	T	1,1,1,2-Tetrachloroethane	0.360	0.396	-10.0	121	0.00
65	T	m-Xylene & p-Xylene	1.180	1.294	-9.7	121	-0.01
66	T	o-Xylene	1.269	1.346	-6.1	119	0.00
67	T	Styrene	1.049	1.135	-8.2	118	0.00
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	122	-0.01
69	T	Isopropylbenzene	3.726	3.881	-4.2	124	0.00
70	P,T	Bromoform	0.579	0.560	3.3	111	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.282	-4.2	121	-0.01
72	S	4-Bromofluorobenzene	1.078	1.001	7.1	113	0.00
73	T	1,2,3-Trichloropropane	0.277	0.281	-1.4	118	-0.01
74	T	trans-1,4-Dichloro-2-butene	0.251	0.282	-12.4	127	-0.01
75	T	n-Propylbenzene	4.952	5.189	-4.8	124	0.00
76	T	Bromobenzene	1.042	1.053	-1.1	120	0.00
77	T	1,3,5-Trimethylbenzene	3.080	3.296	-7.0	128	-0.01
78	T	2-Chlorotoluene	3.094	3.087	0.2	109	-0.01
79	T	4-Chlorotoluene	2.688	2.605	3.1	109	0.00
80	T	tert-Butylbenzene	3.169	3.339	-5.4	129	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L04\RLP081.D Vial: 2
Acq On : 4 Dec 2009 2:58 pm Operator: DN
Sample : CVO02K0327 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.290	-6.3	129	-0.01
82	T	sec-Butylbenzene	4.223	4.521	-7.1	129	0.00
83	T	p-Isopropyltoluene	3.648	3.959	-8.5	131	0.00
84	T	1,3-Dichlorobenzene	1.977	2.069	-4.7	127	-0.01
85	T	1,4-Dichlorobenzene	2.002	2.081	-3.9	127	-0.01
86	T	n-Butylbenzene	3.396	3.881	-14.3	139	-0.01
87	T	1,2-Dichlorobenzene	1.842	1.902	-3.3	129	0.00
88	T	1,2-Dibromo-3-chloropropane	0.162	0.167	-3.1	126	0.00
89	T	1,2,4-Trichlorobenzene	0.880	0.943	-7.2	138	0.00
90	T	Hexachlorobutadiene	0.520	0.500	3.8	131	-0.01
91	T	Naphthalene	2.139	2.110	1.4	129	-0.01
92	T	1,2,3-Trichlorobenzene	0.734	0.713	2.9	129	-0.01

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 11/3/09 ☑ 5-ml Purge ☐ 25-ml Purge **Book # A02 -023**

BATCH V002K035

Sample Prep. ID.	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RKP001	BFB02K01	1µL	NA	NA	NA	15:20
02	002	V002K031	.04µL				8260 Ket/Ac TBA/Acn 2 8 10 ppb
03	003	2	.08µL				4 16 20
04	004	3	.2µL				10 40 50
05	005	4	.4µL				20 80 100
06	006	5	1µL				50 200 250
07	007	6	1.6µL				80 320 400
08	008	7	2µL				100 400 500
09	009	8	4µL				200 800 1000
10	010	9	6µL				300 1200 1500
11	011	15/55					
12	012	V002K01B					
13	013	1V002K031	4/5µL				80 200 250
14	014	2					50 200 250
15	015	Rinse					22:32
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							CGM 11/3/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC Ket/AA	SV1 - 15 - 17 - 2	1000
DCC 8260	SV1 - 15 - 17 - 3	250/1250
DCC Gases	SV1 - 15 - 16 - 2	250
BFB	SV1 - 15 - 17 - 1	250
IS/SURR.	SV1 - 15 - 17 - 1	250
LCS Ket/AA	SV1 - 15 - 15 - 1	250
LCS 8260	SV1 - 15 - 6 - 1	80/250
LCS Gases	SV1 - 15 - 5 - 2	250
SOLVENT IS	SV1 - 15 - 19 - 1 ID	250
METHANOL SS	SV1 - 15 - 19 - 2	250
DATA FILE	09K03	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO02	

Comments:

Analyzed By: CGM

Date Disposed: 11/4/09

Disposed By: CGM

2018

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/3/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K0326

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP063	BFB02L06	1ml				20:13
02	064	CV00K0326 (2 CGM 12/10/09)	4.5ml				
03	065	V002L06L		1.0			
04	066	C					
05	067	Rinse					
06	068	V002L06B	5.0g	1.0			
07	069	09L062-01	☆	☆		✓	
08	070	-02				✓	
09	071	-03				✓	
10	072	-03M				✓	
11	073	-03S				✓	
12	074	-03D				✓	
13	075	-05				✓	
14	076	-06				✓	
15	077	-07				✓	
16	078	-08				✓	04:08
17	079	-09 X				✓	autosampler error
18	080	-10 X				✓	(lost vial)
19	081	-11				✓	
20	082	-14				✓	
21	083	Rinse					
22							
23							
24							
25							CGM 12/3/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS		
NAME	ID	CONC. (mg/L)
DCC	SV1-15-16-3	
DCC	-8-2	
DCC	-~~27~~ 25-1	
BFB	-~~27~~ 25-2	80/250
IS/SURR.	-~~27~~ 25-2	
LCS	-~~15~~ 25-1	
LCS	-6-1	
LCS	-5-2	
SOLVENT	ID	
METHANOL		
DATA FILE	09L03	

CGM 12/3/09

Electronic Data Archival	
Location	Date
HPCHEM_VOA/T002	

Comments:

☆ Please refer to sample wt. log.

Analyzed By: CGM

Date Disposed: 12/7/09

Disposed By: CGM

2019

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/4/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K0327

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP079	BFB02L08	1ML				
02	080	↓ 09 ✓	.5ML				14:31
03	081	CV002K0327 ✓	45/1ML				
04	082	V002L09L ✓		1.0			
05	083	↓ C ✓	↓	↓			
06	084	Rinse					
07	085	V002L09B ✓	5.0g	1.0			
08	086	09L062-09 ✓	★	★		✓	
09	087	-10 ✓				✓	
10	088	-11 ✓				✓	
11	089	↓ -14 ✓				✓	
12	090	09L073-06 ✓				✓	
13	091	09L075-01 ✓				✓	
14	092	-02 ✓				✓	
15	093	-03 ✓				✓	
16	094	-04 ✓				✓	
17	095	-05 ✓				✓	
18	096	-06 ✓				✓	
19	097	-06M ✓				✓	
20	098	-06S ✓				✓	
21	099	-07 ✓				✓	
22	100	-08 ✓				✓	
23	101	-09 ✓				✓	
24	~~102~~ 102 CGM 12/4/09	↓ -10 ✓	↓	↓		✓	02:02
25	103	Rinse					

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC	SV1-15-16-3	
DCC	-8-2	
DCC	-25-1	
BFB	-27-2	50/
IS/SURR.	-27-2	250
LCS	-15-1	
LCS	-6-1	
LCS	-5-2	
SOLVENT BFB	SV1-14-66-3 ID	SD
METHANOL		
DATA FILE	09L04	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO02	

Comments:

★ Please refer to sample wt. log.

Analyzed By: DN / CGM

Date Disposed: 12/7/09

Disposed By: CGM

2050

EXTRACTION LOGS

PRESERVATION LOG FOR VOLATILES

METHOD ☑ 5035 **Book #** E02-028

Matrix: SOIL Starting Date/Time: 12/3/2009 9:40 Ending Date/Time 12/3/2009 10:10

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.86	34.86	5	1.00
09L062-01	31.35	37.44	6.09	0.82
09L062-02	31.45	37.69	6.24	0.80
09L062-03	31.27	37.16	5.89	0.85
09L062-03M	31.28	37.16	5.88	0.85
09L062-03S	31.3	36.77	5.47	0.91
09L062-04	31.31	36.69	5.38	0.93
09L062-05	31.27	37.24	5.97	0.84
09L062-06	31.26	37.42	6.16	0.81
09L062-07	31.23	37.57	6.34	0.79
09L062-08	31.27	37.22	5.95	0.84
09L062-09	31.26	37.45	6.19	0.81
09L062-10	31.38	37.35	5.97	0.84
09L062-11	31.39	37.23	5.84	0.86
09L062-14	31.24	37.3	6.06	0.83
09L023-05R	31.31	37.12	5.81	0.86
NOTHING FOLLOWS.				

Standards / Reagents	ID / Lot#	Amount Added
SURROGATE		
LCS/MS		
REAGENT WATER		5.0ML
$NaHS0_4$ H_20		
SAND	SW1A-03-711	5.0G

Comments

☑ Volumetric dispenser was checked with 5-ml volumetric flask.

FROZEN ENCORES.

Prepared By: RT

Standard Added By: RT

Witnessed By: CGM

Checked By: CGM

Extract Received By: CGM

Extract Location N/A

TABLE OF CONTENTS

CLIENT: **ALLWEST GEOSCIENCE, INC.**

PROJECT: **VA GLAHS**

SDG: **09L108**

SECTION		PAGE
Cover Letter, COC/Sample Receipt Form		1000 – 1003
GC/MS-VOA	METHOD 5035/8260B	2000 – 2052
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-23-2009
EMAX Batch No.: 09L108

Attn: John Gery

Allwest Geoscience, Inc.
1751 Jenks Dr.
Corona, CA 92880

Subject: Laboratory Report
Project: VA GLAHS

Enclosed is the Laboratory report for samples received on 12/04/09.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB24-20V	L108-01	12/03/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB24-40V	L108-02	12/03/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB25-20V	L108-03	12/03/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB26-20V	L108-04	12/03/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB26-40V	L108-05	12/03/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB28-20V	L108-06	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB28-40V	L108-07	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB27-20V	L108-08	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB40-40V	L108-09	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB32-20V	L108-10	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB32-40V	L108-11	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB33-20V	L108-12	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS
SB33-40V	L108-13	12/04/09	SOIL	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meet all NELAC requirements unless noted in the Case Narrative.

09 L108

CHAIN OF CUSTODY FORM

P.O. NUMBER:

SITE/PROJECT NAME: U.S. Dept. of Veterans Affairs

JOB NUMBER: 02-3454-EF

SITE/PROJECT LOCATION: VA GLAHS

SAMPLER(S) SIGNATURE: Jay A. Boughton

SUBMIT RESULTS TO:
Allwest Geoscience
1751 Jenks Dr. Corona, CA 92880
~~4442 Avery Park Avenue~~
~~Las Vegas, NV 89110~~
ATTN: ~~Jay A. Boughton~~ John Gery
PHONE NO. (949) 350-4682
FAX NO. (702) 463-7003

ANALYTICAL METHOD

	SAMPLE NUMBER (I.D.)	YEAR 2009 DATE MM/DD	TIME AM/PM	DEPTH BELOW GRADE (ft)	NO. OF CONTAINERS	TPHg 8015M	BTEX 8260B + MTBE ETBE TAME DIPE TBA	8260B Full Suite			REMARKS
1	SB24-20V	12/3	12:26	20	3+1			X			<0.1 mr/hr
2	SB24-40V		12:40	40	3+1			X			<400 cpm
3	SB25-20V		10:15	20	3+1			X			
4	SB26-20V		12:58	20	3+1			X			
5	SB26-40V		2:15	40	3+1			X			
6	SB28-20V	12/4	7:10am	20	3+1			X			
7	SB28-40V		7:27am	40	3+1			X			
8	SB27-20V		8:20am	20	3+1			X			
	~~SB27-40V~~			~~40~~	~~3+1~~			~~X~~			No Sample
9	SB40-40V		12:00pm	40	3+1			X			
10	SB32-20V		10:05	20	3+1			X			
11	SB32-40V		10:15	40	3+1			X			
12	SB33-20V		11:36	20	3+1			X			
13	SB33-40V		12:09	40	3+1			X			

SAMPLES INTACT: YES..... NO.....
SAMPLES PROPERLY COOLED: YES..... NO.....
TEMPERATURED STORED:
PRESERVATIVES ADDED: YES.... NO..... TYPE:
SAMPLES ACCEPTED: YES..... NO.....
IF NOT, WHY:

SAMPLES PLACED IN LAB REFRIGERATOR
YES..... NO..... REP. INITIALS.....

LABORATORY NAME: EMAX

RELINQUISHED	DATE/TIME	DATE/TIME	RECEIVED
RELINQUISHED BY (SIGNATURE)/COMPANY: Jay A. Boughton / Allwest	DATE/TIME 12-4-09 2:10pm	DATE/TIME 12/4/09	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME 1500	DAT/TIME 12-4-09	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME	DATE/TIME	RECEIVED BY (SIGNATURE)/COMPANY:

T = 2.7°C

1001

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☑ EMAX Courier	808 Cu	ECN	09 L 108
☐ Client Delivery		Recepient	I LATEL
☐ Third Party		Date	12-4-09
		Time	1500

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☑ Plastic bag
Temperatures (Cool. ≤6 °C but not frozen)	☑ Cooler 1 2.7 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Comments: ☐ **PM was informed on non-compliant coolers imediately.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code
01-13		No Time	No Time D2	R5
		No Analysis	No Analysis A2	
02-05		DATE 12/3/09	D1 (DATE)	R6
07-13		DATE 12/4/09	D1 (DATE)	R6

REVIEWS

Sample Labeling [signature] Date 12-4-09

SRF [signature] Date 12/4/09

PM Guondunhtor Date 12/8/09

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4		E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	Follow COC
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	Follow date on label
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4		G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1			
C4		H2			

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ALLWEST GEOSCIENCE, INC.

VA GLAHS

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 09L108

CASE NARRATIVE

Client : ALLWEST GEOSCIENCE, INC.

Project : VA GLAHS

SDG : 09L108

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

A total of thirteen (13) soil samples were received on 12/04/09 for Volatile Organics by GC/MS analysis, Method SW 5035/8260B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 and USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary form for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for VO02L15L/C were all within QC limits.
Percent recoveries for VO02L17L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.
Project : VA GLAHS

SDG NO. : 09L108
Instrument ID : T-002

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	V002L15B	1	NA	12/08/0912:50	12/08/0912:50	RLP184	RKP006	V002L15	Method Blank
LCS1S	V002L15L	1	NA	12/08/0909:15	12/08/0909:15	RLP177	RKP006	V002L15	Lab Control Sample (LCS)
LCD1S	V002L15C	1	NA	12/08/0909:45	12/08/0909:45	RLP178	RKP006	V002L15	LCS Duplicate
SB24-20V	L108-01	0.81	14.1	12/08/0918:32	12/08/0918:32	RLP195	RKP006	V002L15	Field Sample
SB24-40V	L108-02	0.89	12.1	12/08/0919:02	12/08/0919:02	RLP196	RKP006	V002L15	Field Sample
SB25-20V	L108-03	0.86	9.5	12/08/0919:33	12/08/0919:33	RLP197	RKP006	V002L15	Field Sample
SB26-20V	L108-04	0.84	14.3	12/08/0920:03	12/08/0920:03	RLP198	RKP006	V002L15	Field Sample
MBLK2S	V002L17B	1	NA	12/08/0923:35	12/08/0923:35	RLP205	RKP006	V002L17	Method Blank
LCS2S	V002L17L	1	NA	12/08/0922:05	12/08/0922:05	RLP202	RKP006	V002L17	Lab Control Sample (LCS)
LCD2S	V002L17C	1	NA	12/08/0922:34	12/08/0922:34	RLP203	RKP006	V002L17	LCS Duplicate
SB26-40V	L108-05	0.83	13.1	12/09/0900:05	12/09/0900:05	RLP206	RKP006	V002L17	Field Sample
SB28-20V	L108-06	0.82	14.4	12/09/0900:36	12/09/0900:36	RLP207	RKP006	V002L17	Field Sample
SB28-40V	L108-07	0.84	17.7	12/09/0901:06	12/09/0901:06	RLP208	RKP006	V002L17	Field Sample
SB27-20V	L108-08	0.91	7.3	12/09/0901:36	12/09/0901:36	RLP209	RKP006	V002L17	Field Sample
SB40-40V	L108-09	0.88	10.6	12/09/0902:07	12/09/0902:07	RLP210	RKP006	V002L17	Field Sample
SB32-20V	L108-10	0.83	9.4	12/09/0902:36	12/09/0902:36	RLP211	RKP006	V002L17	Field Sample
SB32-40V	L108-11	0.83	10.3	12/09/0903:06	12/09/0903:06	RLP212	RKP006	V002L17	Field Sample
SB33-20V	L108-12	0.91	8.7	12/09/0903:37	12/09/0903:37	RLP213	RKP006	V002L17	Field Sample
SB33-40V	L108-13	0.86	18.9	12/09/0904:07	12/09/0904:07	RLP214	RKP006	V002L17	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

2003

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/08/09 18:32
Sample ID:	SB24-20V	Date Analyzed:	12/08/09 18:32
Lab Samp ID:	L108-01	Dilution Factor:	0.81
Lab File ID:	RLP195	Matrix :	SOIL
Ext Btch ID:	V002L15	% Moisture :	14.1
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
2-BUTANONE	ND	9.4	4.7
2-HEXANONE	ND	9.4	4.7
4-METHYL-2-PENTANONE	ND	9.4	4.7
ACETONE	ND	9.4	4.7
BENZENE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.4	1.9
CARBON DISULFIDE	ND	4.7	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	9.4	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
M/P-XYLENES	ND	9.4	1.9
METHYLENE CHLORIDE	ND	9.4	1.9
MTBE	ND	4.7	1.9
O-XYLENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	107	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	88	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/08/09 19:02
Sample ID:	SB24-40V	Date Analyzed:	12/08/09 19:02
Lab Samp ID:	L108-02	Dilution Factor:	0.89
Lab File ID:	RLP196	Matrix :	SOIL
Ext Btch ID:	V002L15	% Moisture :	12.1
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.1	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.1	2.0
1,1,2-TRICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHENE	ND	5.1	2.0
1,2-DICHLOROETHANE	ND	5.1	2.0
1,2-DICHLOROPROPANE	ND	5.1	2.0
2-BUTANONE	5.5J	10	5.1
2-HEXANONE	ND	10	5.1
4-METHYL-2-PENTANONE	ND	10	5.1
ACETONE	22	10	5.1
BENZENE	ND	5.1	2.0
BROMODICHLOROMETHANE	ND	5.1	2.0
BROMOFORM	ND	5.1	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.1	2.0
CARBON TETRACHLORIDE	ND	5.1	2.0
CHLOROBENZENE	ND	5.1	2.0
CHLOROETHANE	ND	5.1	2.0
CHLOROFORM	ND	5.1	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.1	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.1	2.0
DIBROMOCHLOROMETHANE	ND	5.1	2.0
ETHYLBENZENE	ND	5.1	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.1	2.0
O-XYLENE	ND	5.1	2.0
STYRENE	ND	5.1	2.0
TETRACHLOROETHYLENE	ND	5.1	2.0
TOLUENE	ND	5.1	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.1	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.1	2.0
TRICHLOROETHENE	ND	5.1	2.0
VINYL CHLORIDE	ND	5.1	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	70-140
TOLUENE-D8	101	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	97	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/08/09 19:33
Sample ID:	SB25-20V	Date Analyzed:	12/08/09 19:33
Lab Samp ID:	L108-03	Dilution Factor:	0.86
Lab File ID:	RLP197	Matrix :	SOIL
Ext.Btch ID:	V002L15	% Moisture :	9.5
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	16	9.5	4.8
2-HEXANONE	ND	9.5	4.8
4-METHYL-2-PENTANONE	ND	9.5	4.8
ACETONE	71	9.5	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.5	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.5	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.5	1.9
METHYLENE CHLORIDE	ND	9.5	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	109	70-140
TOLUENE-D8	101	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/08/09 20:03
Sample ID:	SB26-20V	Date Analyzed:	12/08/09 20:03
Lab Samp ID:	L108-04	Dilution Factor:	0.84
Lab File ID:	RLP198	Matrix :	SOIL
Ext Btch ID:	V002L15	% Moisture :	14.3
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	2.0
1,1,2,2-TETRACHLOROETHANE	ND	4.9	2.0
1,1,2-TRICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHENE	ND	4.9	2.0
1,2-DICHLOROETHANE	ND	4.9	2.0
1,2-DICHLOROPROPANE	ND	4.9	2.0
2-BUTANONE	6.3J	9.8	4.9
2-HEXANONE	ND	9.8	4.9
4-METHYL-2-PENTANONE	ND	9.8	4.9
ACETONE	21	9.8	4.9
BENZENE	ND	4.9	2.0
BROMODICHLOROMETHANE	ND	4.9	2.0
BROMOFORM	ND	4.9	2.0
BROMOMETHANE	ND	9.8	2.0
CARBON DISULFIDE	ND	4.9	2.0
CARBON TETRACHLORIDE	ND	4.9	2.0
CHLOROBENZENE	ND	4.9	2.0
CHLOROETHANE	ND	4.9	2.0
CHLOROFORM	ND	4.9	2.0
CHLOROMETHANE	ND	9.8	2.0
CIS-1,2-DICHLOROETHENE	ND	4.9	2.0
CIS-1,3-DICHLOROPROPENE	ND	4.9	2.0
DIBROMOCHLOROMETHANE	ND	4.9	2.0
ETHYLBENZENE	ND	4.9	2.0
M/P-XYLENES	ND	9.8	2.0
METHYLENE CHLORIDE	ND	9.8	2.0
MTBE	ND	4.9	2.0
O-XYLENE	ND	4.9	2.0
STYRENE	ND	4.9	2.0
TETRACHLOROETHYLENE	ND	4.9	2.0
TOLUENE	ND	4.9	2.0
TRANS-1,2-DICHLOROETHENE	ND	4.9	2.0
TRANS-1,3-DICHLOROPROPENE	ND	4.9	2.0
TRICHLOROETHENE	ND	4.9	2.0
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 00:05
Sample ID:	SB26-40V	Date Analyzed:	12/09/09 00:05
Lab Samp ID:	L108-05	Dilution Factor:	0.83
Lab File ID:	RLP206	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	13.1
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	ND	9.6	4.8
2-HEXANONE	ND	9.6	4.8
4-METHYL-2-PENTANONE	ND	9.6	4.8
ACETONE	ND	9.6	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.6	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.6	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.6	1.9
METHYLENE CHLORIDE	ND	9.6	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 00:36
Sample ID:	SB28-20V	Date Analyzed:	12/09/09 00:36
Lab Samp ID:	L108-06	Dilution Factor:	0.82
Lab File ID:	RLP207	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	14.4
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	ND	9.6	4.8
2-HEXANONE	ND	9.6	4.8
4-METHYL-2-PENTANONE	ND	9.6	4.8
ACETONE	25	9.6	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.6	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.6	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.6	1.9
METHYLENE CHLORIDE	ND	9.6	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 01:06
Sample ID:	SB28-40V	Date Analyzed:	12/09/09 01:06
Lab Samp ID:	L108-07	Dilution Factor:	0.84
Lab File ID:	RLP208	Matrix :	SOIL
Ext Btch ID:	VO02L17	% Moisture :	17.7
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.1	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.1	2.0
1,1,2-TRICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHANE	ND	5.1	2.0
1,1-DICHLOROETHENE	ND	5.1	2.0
1,2-DICHLOROETHANE	ND	5.1	2.0
1,2-DICHLOROPROPANE	ND	5.1	2.0
2-BUTANONE	ND	10	5.1
2-HEXANONE	ND	10	5.1
4-METHYL-2-PENTANONE	ND	10	5.1
ACETONE	ND	10	5.1
BENZENE	ND	5.1	2.0
BROMODICHLOROMETHANE	ND	5.1	2.0
BROMOFORM	ND	5.1	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.1	2.0
CARBON TETRACHLORIDE	ND	5.1	2.0
CHLOROBENZENE	ND	5.1	2.0
CHLOROETHANE	ND	5.1	2.0
CHLOROFORM	ND	5.1	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.1	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.1	2.0
DIBROMOCHLOROMETHANE	ND	5.1	2.0
ETHYLBENZENE	ND	5.1	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.1	2.0
O-XYLENE	ND	5.1	2.0
STYRENE	ND	5.1	2.0
TETRACHLOROETHYLENE	ND	5.1	2.0
TOLUENE	ND	5.1	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.1	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.1	2.0
TRICHLOROETHENE	ND	5.1	2.0
VINYL CHLORIDE	ND	5.1	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 01:36
Sample ID:	SB27-20V	Date Analyzed:	12/09/09 01:36
Lab Samp ID:	L108-08	Dilution Factor:	0.91
Lab File ID:	RLP209	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	7.3
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	2.0
1,1,2,2-TETRACHLOROETHANE	ND	4.9	2.0
1,1,2-TRICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHENE	ND	4.9	2.0
1,2-DICHLOROETHANE	ND	4.9	2.0
1,2-DICHLOROPROPANE	ND	4.9	2.0
2-BUTANONE	ND	9.8	4.9
2-HEXANONE	ND	9.8	4.9
4-METHYL-2-PENTANONE	ND	9.8	4.9
ACETONE	ND	9.8	4.9
BENZENE	ND	4.9	2.0
BROMODICHLOROMETHANE	ND	4.9	2.0
BROMOFORM	ND	4.9	2.0
BROMOMETHANE	ND	9.8	2.0
CARBON DISULFIDE	ND	4.9	2.0
CARBON TETRACHLORIDE	ND	4.9	2.0
CHLOROBENZENE	ND	4.9	2.0
CHLOROETHANE	ND	4.9	2.0
CHLOROFORM	ND	4.9	2.0
CHLOROMETHANE	ND	9.8	2.0
CIS-1,2-DICHLOROETHENE	ND	4.9	2.0
CIS-1,3-DICHLOROPROPENE	ND	4.9	2.0
DIBROMOCHLOROMETHANE	ND	4.9	2.0
ETHYLBENZENE	ND	4.9	2.0
M/P-XYLENES	ND	9.8	2.0
METHYLENE CHLORIDE	ND	9.8	2.0
MTBE	ND	4.9	2.0
O-XYLENE	ND	4.9	2.0
STYRENE	ND	4.9	2.0
TETRACHLOROETHYLENE	ND	4.9	2.0
TOLUENE	ND	4.9	2.0
TRANS-1,2-DICHLOROETHENE	ND	4.9	2.0
TRANS-1,3-DICHLOROPROPENE	ND	4.9	2.0
TRICHLOROETHENE	ND	4.9	2.0
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	107	70-140
TOLUENE-D8	97	85-115
4-BROMOFLUOROBENZENE	93	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 02:07
Sample ID:	SB40-40V	Date Analyzed:	12/09/09 02:07
Lab Samp ID:	L108-09	Dilution Factor:	0.88
Lab File ID:	RLP210	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	10.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	2.0
1,1,2,2-TETRACHLOROETHANE	ND	4.9	2.0
1,1,2-TRICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHENE	ND	4.9	2.0
1,2-DICHLOROETHANE	ND	4.9	2.0
1,2-DICHLOROPROPANE	ND	4.9	2.0
2-BUTANONE	ND	9.8	4.9
2-HEXANONE	ND	9.8	4.9
4-METHYL-2-PENTANONE	ND	9.8	4.9
ACETONE	ND	9.8	4.9
BENZENE	ND	4.9	2.0
BROMODICHLOROMETHANE	ND	4.9	2.0
BROMOFORM	ND	4.9	2.0
BROMOMETHANE	ND	9.8	2.0
CARBON DISULFIDE	ND	4.9	2.0
CARBON TETRACHLORIDE	ND	4.9	2.0
CHLOROBENZENE	ND	4.9	2.0
CHLOROETHANE	ND	4.9	2.0
CHLOROFORM	ND	4.9	2.0
CHLOROMETHANE	ND	9.8	2.0
CIS-1,2-DICHLOROETHENE	ND	4.9	2.0
CIS-1,3-DICHLOROPROPENE	ND	4.9	2.0
DIBROMOCHLOROMETHANE	ND	4.9	2.0
ETHYLBENZENE	ND	4.9	2.0
M/P-XYLENES	ND	9.8	2.0
METHYLENE CHLORIDE	ND	9.8	2.0
MTBE	ND	4.9	2.0
O-XYLENE	ND	4.9	2.0
STYRENE	ND	4.9	2.0
TETRACHLOROETHYLENE	ND	4.9	2.0
TOLUENE	ND	4.9	2.0
TRANS-1,2-DICHLOROETHENE	ND	4.9	2.0
TRANS-1,3-DICHLOROPROPENE	ND	4.9	2.0
TRICHLOROETHENE	ND	4.9	2.0
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	104	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	97	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 02:36
Sample ID:	SB32-20V	Date Analyzed:	12/09/09 02:36
Lab Samp ID:	L108-10	Dilution Factor:	0.83
Lab File ID:	RLP211	Matrix	: SOIL
Ext Btch ID:	V002L17	% Moisture	: 9.4
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.8
1,1,2-TRICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHANE	ND	4.6	1.8
1,1-DICHLOROETHENE	ND	4.6	1.8
1,2-DICHLOROETHANE	ND	4.6	1.8
1,2-DICHLOROPROPANE	ND	4.6	1.8
2-BUTANONE	ND	9.2	4.6
2-HEXANONE	ND	9.2	4.6
4-METHYL-2-PENTANONE	ND	9.2	4.6
ACETONE	7.6J	9.2	4.6
BENZENE	ND	4.6	1.8
BROMODICHLOROMETHANE	ND	4.6	1.8
BROMOFORM	ND	4.6	1.8
BROMOMETHANE	ND	9.2	1.8
CARBON DISULFIDE	ND	4.6	1.8
CARBON TETRACHLORIDE	ND	4.6	1.8
CHLOROBENZENE	ND	4.6	1.8
CHLOROETHANE	ND	4.6	1.8
CHLOROFORM	ND	4.6	1.8
CHLOROMETHANE	ND	9.2	1.8
CIS-1,2-DICHLOROETHENE	ND	4.6	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.8
DIBROMOCHLOROMETHANE	ND	4.6	1.8
ETHYLBENZENE	ND	4.6	1.8
M/P-XYLENES	ND	9.2	1.8
METHYLENE CHLORIDE	ND	9.2	1.8
MTBE	ND	4.6	1.8
O-XYLENE	ND	4.6	1.8
STYRENE	ND	4.6	1.8
TETRACHLOROETHYLENE	ND	4.6	1.8
TOLUENE	ND	4.6	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.8
TRICHLOROETHENE	ND	4.6	1.8
VINYL CHLORIDE	ND	4.6	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	70-140
TOLUENE-D8	98	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 03:06
Sample ID:	SB32-40V	Date Analyzed:	12/09/09 03:06
Lab Samp ID:	L108-11	Dilution Factor:	0.83
Lab File ID:	RLP212	Matrix	: SOIL
Ext Btch ID:	VO02L17	% Moisture	: 10.3
Calib. Ref.:	RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.6	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.6	1.9
1,1,2-TRICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHANE	ND	4.6	1.9
1,1-DICHLOROETHENE	ND	4.6	1.9
1,2-DICHLOROETHANE	ND	4.6	1.9
1,2-DICHLOROPROPANE	ND	4.6	1.9
2-BUTANONE	ND	9.3	4.6
2-HEXANONE	ND	9.3	4.6
4-METHYL-2-PENTANONE	ND	9.3	4.6
ACETONE	ND	9.3	4.6
BENZENE	ND	4.6	1.9
BROMODICHLOROMETHANE	ND	4.6	1.9
BROMOFORM	ND	4.6	1.9
BROMOMETHANE	ND	9.3	1.9
CARBON DISULFIDE	ND	4.6	1.9
CARBON TETRACHLORIDE	ND	4.6	1.9
CHLOROBENZENE	ND	4.6	1.9
CHLOROETHANE	ND	4.6	1.9
CHLOROFORM	ND	4.6	1.9
CHLOROMETHANE	ND	9.3	1.9
CIS-1,2-DICHLOROETHENE	ND	4.6	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.6	1.9
DIBROMOCHLOROMETHANE	ND	4.6	1.9
ETHYLBENZENE	ND	4.6	1.9
M/P-XYLENES	ND	9.3	1.9
METHYLENE CHLORIDE	ND	9.3	1.9
MTBE	ND	4.6	1.9
O-XYLENE	ND	4.6	1.9
STYRENE	ND	4.6	1.9
TETRACHLOROETHYLENE	ND	4.6	1.9
TOLUENE	ND	4.6	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.6	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.6	1.9
TRICHLOROETHENE	ND	4.6	1.9
VINYL CHLORIDE	ND	4.6	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	110	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	89	85-120
DIBROMOFLUOROMETHANE	103	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected	: 12/04/09
Project	: VA GLAHS	Date Received	: 12/04/09
Batch No.	: 09L108	Date Extracted	: 12/09/09 03:37
Sample ID	: SB33-20V	Date Analyzed	: 12/09/09 03:37
Lab Samp ID	: L108-12	Dilution Factor	: 0.91
Lab File ID	: RLP213	Matrix	: SOIL
Ext Btch ID	: V002L17	% Moisture	: 8.7
Calib. Ref.	: RKP006	Instrument ID	: T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	7.3J	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	29	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/04/09
Project	: VA GLAHS	Date Received:	12/04/09
Batch No.	: 09L108	Date Extracted:	12/09/09 04:07
Sample ID:	SB33-40V	Date Analyzed:	12/09/09 04:07
Lab Samp ID:	L108-13	Dilution Factor:	0.86
Lab File ID:	RLP214	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	18.9
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.3	2.1
1,1,2,2-TETRACHLOROETHANE	ND	5.3	2.1
1,1,2-TRICHLOROETHANE	ND	5.3	2.1
1,1-DICHLOROETHANE	ND	5.3	2.1
1,1-DICHLOROETHENE	ND	5.3	2.1
1,2-DICHLOROETHANE	ND	5.3	2.1
1,2-DICHLOROPROPANE	ND	5.3	2.1
2-BUTANONE	7.1J	11	5.3
2-HEXANONE	ND	11	5.3
4-METHYL-2-PENTANONE	ND	11	5.3
ACETONE	21	11	5.3
BENZENE	ND	5.3	2.1
BROMODICHLOROMETHANE	ND	5.3	2.1
BROMOFORM	ND	5.3	2.1
BROMOMETHANE	ND	11	2.1
CARBON DISULFIDE	ND	5.3	2.1
CARBON TETRACHLORIDE	ND	5.3	2.1
CHLOROBENZENE	ND	5.3	2.1
CHLOROETHANE	ND	5.3	2.1
CHLOROFORM	ND	5.3	2.1
CHLOROMETHANE	ND	11	2.1
CIS-1,2-DICHLOROETHENE	ND	5.3	2.1
CIS-1,3-DICHLOROPROPENE	ND	5.3	2.1
DIBROMOCHLOROMETHANE	ND	5.3	2.1
ETHYLBENZENE	ND	5.3	2.1
M/P-XYLENES	ND	11	2.1
METHYLENE CHLORIDE	ND	11	2.1
MTBE	ND	5.3	2.1
O-XYLENE	ND	5.3	2.1
STYRENE	ND	5.3	2.1
TETRACHLOROETHYLENE	ND	5.3	2.1
TOLUENE	ND	5.3	2.1
TRANS-1,2-DICHLOROETHENE	ND	5.3	2.1
TRANS-1,3-DICHLOROPROPENE	ND	5.3	2.1
TRICHLOROETHENE	ND	5.3	2.1
VINYL CHLORIDE	ND	5.3	2.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

QC SUMMARIES

2017

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: D9L108	Date Extracted:	12/08/09 12:50
Sample ID:	MBLK1S	Date Analyzed:	12/08/09 12:50
Lab Samp ID:	V002L15B	Dilution Factor:	1
Lab File ID:	RLP184	Matrix :	SOIL
Ext Btch ID:	V002L15	% Moisture :	NA
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	95	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L108
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VO02L15B	VO02L15L	VO02L15C		
LAB FILE ID:	RLP184	RLP177	RLP178		
DATE EXTRACTED:	12/08/0912:50	12/08/0909:15	12/08/0909:45	DATE COLLECTED:	NA
DATE ANALYZED:	12/08/0912:50	12/08/0909:15	12/08/0909:45	DATE RECEIVED:	12/08/09
PREP. BATCH:	VO02L15	VO02L15	VO02L15		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	53.1	106	50.0	54.3	109	2	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	47.5	95	50.0	48.8	98	3	55-130	30
1,1,2-Trichloroethane	ND	50.0	48.6	97	50.0	50.5	101	4	60-125	30
1,1-Dichloroethane	ND	50.0	55.0	110	50.0	54.8	110	0	75-125	30
1,1-Dichloroethene	ND	50.0	54.6	109	50.0	54.9	110	0	65-135	30
1,2-Dichloroethane	ND	50.0	52.9	106	50.0	53.9	108	2	70-135	30
1,2-Dichloropropane	ND	50.0	51.9	104	50.0	52.1	104	0	70-120	30
2-Butanone	ND	200	185	92	200	195	98	5	30-160	30
2-Hexanone	ND	200	187	94	200	192	96	2	45-145	30
4-Methyl-2-Pentanone	ND	200	188	94	200	194	97	3	45-145	30
Acetone	ND	200	187	94	200	192	96	3	20-160	30
Benzene	ND	50.0	51.0	102	50.0	52.2	104	2	75-125	30
Bromodichloromethane	ND	50.0	49.0	98	50.0	50.4	101	3	70-130	30
Bromoform	ND	50.0	47.2	94	50.0	47.3	95	0	55-135	30
Bromomethane	ND	50.0	39.8	80	50.0	41.8	84	5	30-160	30
Carbon Disulfide	ND	50.0	58.0	116	50.0	58.7	117	1	45-160	30
Carbon Tetrachloride	ND	50.0	53.5	107	50.0	54.2	108	1	65-135	30
Chlorobenzene	ND	50.0	51.5	103	50.0	52.4	105	2	75-125	30
Chloroethane	ND	50.0	45.2	90	50.0	43.9	88	3	40-155	30
Chloroform	ND	50.0	54.7	109	50.0	55.8	112	2	70-125	30
Chloromethane	ND	50.0	38.1	76	50.0	38.3	77	0	50-130	30
cis-1,2-Dichloroethene	ND	50.0	52.3	105	50.0	53.4	107	2	65-125	30
cis-1,3-Dichloropropene	ND	50.0	51.4	103	50.0	53.1	106	3	70-125	30
Dibromochloromethane	ND	50.0	47.8	96	50.0	49.0	98	2	65-130	30
Ethylbenzene	ND	50.0	51.5	103	50.0	51.5	103	0	75-125	30
m/p-Xylenes	ND	100	104	104	100	106	106	2	80-125	30
Methylene Chloride	ND	50.0	46.6	93	50.0	47.6	95	2	55-140	30
MTBE	ND	50.0	50.8	102	50.0	54.4	109	7	60-150	20
o-Xylene	ND	50.0	50.4	101	50.0	50.9	102	1	75-125	30
Styrene	ND	50.0	51.0	102	50.0	52.7	105	3	75-125	30
Tetrachloroethylene	ND	50.0	50.6	101	50.0	50.3	101	0	65-140	30
Toluene	ND	50.0	50.7	101	50.0	51.5	103	2	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	54.8	110	50.0	55.0	110	0	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	54.3	109	50.0	56.0	112	3	65-125	30
Trichloroethene	ND	50.0	51.4	103	50.0	51.1	102	0	75-125	30
Vinyl Chloride	ND	50.0	39.6	79	50.0	41.0	82	4	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	47.5	95	50.0	49.1	98	70-140
Toluene-d8	50.0	50.7	101	50.0	50.6	101	85-115
4-Bromofluorobenzene	50.0	45.5	91	50.0	45.8	92	85-120
Dibromofluoromethane	50.0	50.1	100	50.0	49.7	99	70-130

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: 09L108	Date Extracted:	12/08/09 23:35
Sample ID:	MBLK2S	Date Analyzed:	12/08/09 23:35
Lab Samp ID:	V002L17B	Dilution Factor:	1
Lab File ID:	RLP205	Matrix :	SOIL
Ext Btch ID:	V002L17	% Moisture :	NA
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	94	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L108
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2S				
LAB SAMP ID:	V002L17B	V002L17L	V002L17C		
LAB FILE ID:	RLP205	RLP202	RLP203		
DATE EXTRACTED:	12/08/0923:35	12/08/0922:05	12/08/0922:34	DATE COLLECTED:	NA
DATE ANALYZED:	12/08/0923:35	12/08/0922:05	12/08/0922:34	DATE RECEIVED:	12/08/09
PREP. BATCH:	V002L17	V002L17	V002L17		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	51.1	102	50.0	50.0	100	2	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	47.7	95	50.0	47.3	95	1	55-130	30
1,1,2-Trichloroethane	ND	50.0	50.8	102	50.0	49.9	100	2	60-125	30
1,1-Dichloroethane	ND	50.0	52.8	106	50.0	51.3	103	3	75-125	30
1,1-Dichloroethene	ND	50.0	51.9	104	50.0	51.1	102	1	65-135	30
1,2-Dichloroethane	ND	50.0	53.6	107	50.0	53.2	106	1	70-135	30
1,2-Dichloropropane	ND	50.0	50.8	102	50.0	50.6	101	0	70-120	30
2-Butanone	ND	200	209	105	200	211	105	1	30-160	30
2-Hexanone	ND	200	208	104	200	216	108	4	45-145	30
4-Methyl-2-Pentanone	ND	200	211	106	200	206	103	2	45-145	30
Acetone	ND	200	208	104	200	194	97	7	20-160	30
Benzene	ND	50.0	49.5	99	50.0	48.7	97	2	75-125	30
Bromodichloromethane	ND	50.0	50.9	102	50.0	50.5	101	1	70-130	30
Bromoform	ND	50.0	46.2	92	50.0	47.9	96	4	55-135	30
Bromomethane	ND	50.0	39.3	79	50.0	37.8	76	4	30-160	30
Carbon Disulfide	ND	50.0	54.7	109	50.0	55.9	112	2	45-160	30
Carbon Tetrachloride	ND	50.0	50.3	101	50.0	50.7	101	1	65-135	30
Chlorobenzene	ND	50.0	48.7	97	50.0	48.8	98	0	75-125	30
Chloroethane	ND	50.0	42.1	84	50.0	39.8	80	6	40-155	30
Chloroform	ND	50.0	53.6	107	50.0	53.5	107	0	70-125	30
Chloromethane	ND	50.0	39.3	79	50.0	37.1	74	6	50-130	30
cis-1,2-Dichloroethene	ND	50.0	51.5	103	50.0	50.8	102	1	65-125	30
cis-1,3-Dichloropropene	ND	50.0	51.6	103	50.0	50.7	101	2	70-125	30
Dibromochloromethane	ND	50.0	48.6	97	50.0	47.5	95	2	65-130	30
Ethylbenzene	ND	50.0	48.3	97	50.0	48.9	98	1	75-125	30
m/p-Xylenes	ND	100	97.9	98	100	99.9	100	2	80-125	30
Methylene Chloride	ND	50.0	45.5	91	50.0	45.1	90	1	55-140	30
MTBE	ND	50.0	53.5	107	50.0	54.2	108	1	60-150	20
o-Xylene	ND	50.0	48.7	97	50.0	48.2	96	1	75-125	30
Styrene	ND	50.0	49.2	98	50.0	49.3	99	0	75-125	30
Tetrachloroethylene	ND	50.0	47.5	95	50.0	46.9	94	1	65-140	30
Toluene	ND	50.0	48.8	98	50.0	49.0	98	0	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	51.5	103	50.0	53.0	106	3	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	54.2	108	50.0	53.1	106	2	65-125	30
Trichloroethene	ND	50.0	50.7	101	50.0	50.7	101	0	75-125	30
Vinyl Chloride	ND	50.0	39.6	79	50.0	41.5	83	5	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	49.9	100	50.0	50.2	100	70-140
Toluene-d8	50.0	50.4	101	50.0	49.6	99	85-115
4-Bromofluorobenzene	50.0	47.3	95	50.0	47.0	94	85-120
Dibromofluoromethane	50.0	48.8	98	50.0	49.9	100	70-130

INITIAL CALIBRATIONS

2022

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RKP001
Instrument ID: TQ02
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L108
BFB Injection Date : 11/03/09
BFB Injection Time : 15:20
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.89
75	30.0 - 60.0% of mass 95	44.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.11
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.20
175	5.0 - 9.0% of mass 174	5.63(7.3)1
176	95.0 - 101.0% of mass 174	75.69(98.1)1
177	5.0 - 9.0% of mass 176	4.89(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD02	VO02K031	RKP002	11/03/09	15:53
2	VSTD04	VO02K032	RKP003	11/03/09	16:23
3	VSTD010	VO02K033	RKP004	11/03/09	16:54
4	VSTD020	VO02K034	RKP005	11/03/09	17:25
5	VSTD050	VO02K035	RKP006	11/03/09	17:55
6	VSTD080	VO02K036	RKP007	11/03/09	18:26
7	VSTD100	VO02K037	RKP008	11/03/09	18:57
8	VSTD200	VO02K038	RKP009	11/03/09	19:28
9	VSTD300	VO02K039	RKP010	11/03/09	19:59
10	VSTD050	IVO02K032	RKP014	11/03/09	22:02

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T002
Beginning DateTime :11/03/09 15:53
Spike Units :PPB
IC File :RKP006

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :11/03/09 19:59
HPChem Method :V002K03

M	IDX	Parameters	2 15:53 RKP002	4 16:23 RKP003	10 16:54 RKP004	20 17:25 RKP005	50 17:55 RKP006	80 18:26 RKP007	100 18:57 RKP008	200 19:28 RKP009	300 19:59 RKP010	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	0	9.2300
	2	Dichlorodifluoromethane	0.213	0.202	0.212	0.180	0.186	0.208	0.191	0.194	0.193	0.198	5.89	3.3896
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	0.444	0.401	0.403	0.349	0.363	0.385	0.358	0.352	0.362	0.380	8.30	3.7449
	5	Vinyl chloride	0.350	0.316	0.337	0.298	0.296	0.333	0.305	0.284	0.285	0.312	7.61	3.9019
	6	Bromomethane	0.305	0.297	0.258	0.218	0.209	0.236	0.224	0.223	0.234	0.245	14.12	4.4935
	7	Chloroethane	0.165	0.171	0.172	0.154	0.166	0.181	0.168	0.172	0.170	0.169	4.24	4.5762
	8	Dichlorofluoromethane	0.459	0.547	0.516	0.544	0.560	0.585	0.568	0.578	0.564	0.547	7.07	4.5877
	9	Trichlorofluoromethane	0.267	0.285	0.308	0.273	0.280	0.318	0.285	0.285	0.288	0.288	5.53	4.8637
4	10	Acrolein	0.029	0.040	0.044	0.054	0.058	0.052	0.055	0.051	0.055	0.049	18.98	5.3017
	11	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.156	0.166	0.165	0.168	0.177	0.167	0.170	0.171	0.168	3.55	5.3650
4	12	Acetone	0.079	0.099	0.078	0.090	0.092	0.086	0.091	0.080	0.089	0.087	7.98	5.3578
	13	1,1-Dichloroethene	0.376	0.423	0.434	0.415	0.435	0.459	0.449	0.452	0.448	0.432	5.92	5.6008
5	14	tert-Butyl alcohol	0.032	0.032	0.036	0.038	0.037	0.035	0.038	0.035	0.038	0.036	6.72	5.5793
	15	Methyl acetate	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	16	Iodomethane	0.368	0.406	0.472	0.459	0.483	0.539	0.530	0.529	0.522	0.479	12.53	6.0206
	17	Methylene chloride	0.701	0.621	0.568	0.529	0.520	0.533	0.531	0.523	0.491	0.557	11.67	6.1181
5	18	Acrylonitrile	0.071	0.094	0.105	0.119	0.124	0.117	0.124	0.112	0.116	0.109	15.67	6.2156
	19	tert-Butyl methyl ether (MTBE)	0.671	0.774	0.822	0.849	0.871	0.869	0.876	0.886	0.840	0.829	8.24	6.2437
	20	Carbon disulfide	0.908	0.993	1.019	0.998	1.053	1.069	1.050	1.091	1.045	1.025	5.28	6.2949
	21	trans-1,2-Dichloroethene	0.383	0.477	0.481	0.469	0.482	0.506	0.478	0.487	0.475	0.471	7.30	6.4717
	22	Isopropyl ether (DIPE)	1.073	1.200	1.230	1.239	1.261	1.350	1.303	1.311	1.298	1.252	6.52	6.7246
	23	Vinyl acetate	0.714	0.647	0.698	0.645	0.660	0.701	0.656	0.635	0.643	0.667	4.44	6.8651
	24	1,1-Dichloroethane	0.550	0.614	0.633	0.657	0.657	0.679	0.676	0.683	0.628	0.642	6.59	6.9659
	25	tert-Butyl ethyl ether (ETBE)	0.841	0.917	1.003	0.976	1.012	1.030	1.044	1.039	1.042	0.989	6.96	7.2138
4	26	2-Butanone	0.107	0.156	0.155	0.188	0.190	0.176	0.190	0.172	0.183	0.169	15.88	7.3955
	27	2,2-Dichloropropane	0.288	0.331	0.330	0.319	0.307	0.329	0.323	0.298	0.297	0.313	5.20	7.6418
	28	cis-1,2-Dichloroethene	0.477	0.544	0.559	0.570	0.557	0.577	0.572	0.571	0.556	0.554	5.54	7.7013
	29	tert-Butyl formate (TBF)	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Chloroform	0.520	0.597	0.598	0.602	0.617	0.644	0.606	0.618	0.619	0.602	5.67	7.8930
	31	Bromochloromethane	0.292	0.351	0.352	0.361	0.365	0.367	0.366	0.356	0.358	0.352	6.65	8.1293
	32	Tetrahydrofuran	0.105	0.116	0.112	0.119	0.117	0.107	0.112	0.101	0.112	0.111	5.30	8.1458
	33	Dibromofluoromethane	0.249	0.305	0.323	0.340	0.354	0.357	0.347	0.348	------	0.328	11.10	8.1700
	34	Cyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	35	1,1,1-Trichloroethane	0.317	0.353	0.376	0.376	0.365	0.391	0.383	0.370	0.362	0.366	5.94	8.4152
	36	tert-Amyl methyl ether (TAME)	0.878	0.982	1.015	1.064	1.054	1.085	1.097	1.077	1.090	1.038	6.82	8.6648
	37	1,2-Dichloroethane-d4	0.223	0.263	0.281	0.288	0.297	0.305	0.299	0.294	------	0.281	9.65	8.7872
	38	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	0	14.0903
	39	1,1-Dichloropropene	0.146	0.167	0.152	0.150	0.174	0.186	0.172	0.172	0.160	0.164	8.05	8.6053
	40	Carbon tetrachloride	0.273	0.324	0.313	0.290	0.346	0.371	0.357	0.353	0.333	0.329	9.87	8.7722
	41	1,2-Dichloroethane	0.321	0.368	0.365	0.356	0.410	0.429	0.403	0.403	0.392	0.383	8.71	8.9077
	42	Benzene	1.350	1.532	1.419	1.334	1.520	1.610	1.520	1.543	1.436	1.474	6.36	8.9788
	43	Methylcyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	44	Trichloroethene	0.350	0.395	0.387	0.365	0.425	0.451	0.419	0.418	0.404	0.402	7.84	9.7786
	45	1,2-Dichloropropane	0.331	0.394	0.382	0.383	0.429	0.463	0.430	0.438	0.409	0.407	9.64	10.0183
	46	Bromodichloromethane	0.387	0.434	0.429	0.442	0.513	0.537	0.522	0.517	0.507	0.476	11.25	10.3901
	47	Dibromomethane	0.193	0.220	0.223	0.228	0.254	0.270	0.255	0.251	0.248	0.238	10.06	10.5124

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	48	2-Chloroethyl vinyl ether	------	0.075	0.087	0.096	0.104	0.102	0.113	0.119	0.113	0.101	14.45	10.7028
4	49	4-Methyl-2-pentanone	0.232	0.349	0.338	0.409	0.464	0.432	0.446	0.417	0.414	0.389	18.49	10.7471
	50	cis-1,3-Dichloropropene	0.512	0.559	0.554	0.567	0.658	0.707	0.677	0.669	0.615	0.613	11.08	11.1982
	51	Toluene-d8	0.865	0.960	0.927	0.909	1.063	1.055	1.026	1.042	------	0.981	7.70	11.6560
	52	Toluene	1.189	1.353	1.253	1.223	1.370	1.468	1.367	1.375	1.327	1.325	6.63	11.7882
	53	Ethyl methacrylate	0.408	0.444	0.443	0.464	0.534	0.550	0.532	0.520	0.511	0.490	10.32	11.8510
	54	trans-1,3-Dichloropropene	0.361	0.444	0.455	0.450	0.538	0.556	0.544	0.555	0.519	0.491	13.68	11.9849
4	55	2-Hexanone	0.154	0.225	0.221	0.267	0.313	0.298	0.311	0.281	0.290	0.262	20.08	12.1733
	56	1,1,2-Trichloroethane	0.261	0.300	0.303	0.286	0.328	0.338	0.324	0.323	0.305	0.308	7.76	12.2824
	57	1,3-Dichloropropane	0.497	0.566	0.573	0.558	0.641	0.653	0.641	0.620	0.612	0.596	8.58	12.6774
	58	Tetrachloroethene	0.265	0.271	0.266	0.257	0.285	0.302	0.290	0.286	0.275	0.278	5.19	12.8608
	59	Dibromochloromethane	0.310	0.341	0.364	0.349	0.422	0.440	0.432	0.432	0.417	0.390	12.46	13.1913
	60	1,2-Dibromoethane	0.271	0.319	0.328	0.323	0.371	0.375	0.372	0.354	0.351	0.340	9.93	13.5218
	61	1-Chlorohexane	0.507	0.534	0.509	0.493	0.569	0.603	0.581	0.561	0.547	0.545	6.83	13.6044
	62	Chlorobenzene	0.923	1.004	0.962	0.936	1.049	1.093	1.023	1.026	0.950	0.996	5.72	14.1531
	63	Ethylbenzene	1.494	1.642	1.530	1.459	1.626	1.733	1.622	1.614	1.493	1.579	5.68	14.1730
	64	1,1,1,2-Tetrachloroethane	0.287	0.347	0.344	0.331	0.383	0.409	0.383	0.388	0.367	0.360	10.25	14.1845
2	65	m-Xylene & p-Xylene	1.116	1.225	1.192	1.139	1.249	1.311	1.203	1.198	0.985	1.180	7.85	14.2886
	66	o-Xylene	1.217	1.277	1.202	1.215	1.320	1.378	1.295	1.288	1.227	1.269	4.61	14.9761
	67	Styrene	0.899	1.021	0.980	0.996	1.122	1.171	1.100	1.120	1.036	1.049	8.19	15.0208
	68	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	0	18.1789
	69	Isopropylbenzene	3.540	3.762	3.564	3.856	3.828	3.905	3.877	3.728	3.472	3.726	4.34	15.4818
	70	Bromoform	------	0.466	0.504	0.565	0.616	0.606	0.631	0.619	0.621	0.579	10.65	15.6241
	71	1,1,2,2-Tetrachloroethane	1.078	1.205	1.222	1.274	1.293	1.248	1.293	1.218	1.240	1.230	5.32	15.7396
	72	4-Bromofluorobenzene	1.225	1.065	1.005	1.037	1.080	1.075	1.074	1.060	------	1.078	5.98	15.8950
	73	1,2,3-Trichloropropane	0.258	0.262	0.272	0.286	0.293	0.281	0.293	0.268	0.278	0.277	4.55	15.9661
	74	trans-1,4-Dichloro-2-butene	0.180	0.207	0.230	0.255	0.273	0.272	0.291	0.277	0.273	0.251	14.87	16.0140
	75	n-Propylbenzene	4.711	4.946	4.920	5.043	5.113	5.169	5.247	5.021	4.400	4.952	5.23	16.0768
	76	Bromobenzene	0.929	1.031	0.990	1.036	1.077	1.092	1.113	1.073	1.039	1.042	5.39	16.2387
	77	1,3,5-Trimethylbenzene	2.884	3.099	3.010	3.172	3.165	3.215	3.145	3.046	2.985	3.080	3.49	16.2933
	78	2-Chlorotoluene	2.769	3.151	3.262	2.765	3.461	2.889	3.459	2.984	3.105	3.094	8.61	16.3974
	79	4-Chlorotoluene	2.507	2.518	2.836	2.734	2.920	2.888	2.990	2.587	2.216	2.688	9.33	16.4470
	80	tert-Butylbenzene	3.019	3.138	3.188	3.299	3.167	3.291	3.251	3.095	3.069	3.169	3.11	16.8155
	81	1,2,4-Trimethylbenzene	2.862	3.221	3.053	3.178	3.116	3.156	3.147	3.120	3.000	3.095	3.53	16.8766
	82	sec-Butylbenzene	4.113	4.388	4.276	4.358	4.276	4.357	4.186	4.137	3.919	4.223	3.57	17.1130
	83	p-Isopropyltoluene	3.433	3.694	3.742	3.693	3.698	3.797	3.696	3.615	3.461	3.648	3.38	17.2849
	84	1,3-Dichlorobenzene	1.929	2.040	1.886	1.943	1.994	2.036	2.053	1.980	1.929	1.977	2.97	17.5146
	85	1,4-Dichlorobenzene	1.982	1.983	1.939	2.003	2.003	2.031	2.085	2.005	1.985	2.002	1.99	17.6600
	86	n-Butylbenzene	3.462	3.474	3.331	3.246	3.430	3.498	3.376	3.520	3.231	3.396	3.15	17.8666
	87	1,2-Dichlorobenzene	1.778	1.886	1.827	1.883	1.800	1.866	1.854	1.852	1.828	1.842	1.99	18.2186
	88	1,2-Dibromo-3-chloropropane	0.152	0.145	0.161	0.163	0.162	0.160	0.172	0.164	0.183	0.162	6.78	19.3506
	89	1,2,4-Trichlorobenzene	0.951	0.937	0.916	0.842	0.836	0.868	0.874	0.844	0.854	0.880	4.94	20.7306
	90	Hexachlorobutadiene	0.559	0.584	0.559	0.515	0.468	0.514	0.496	0.487	0.500	0.520	7.43	20.9091
	91	Naphthalene	2.303	2.243	2.296	2.119	2.009	2.018	2.181	1.969	2.118	2.139	5.86	21.2429
	92	1,2,3-Trichlorobenzene	0.802	0.861	0.841	0.745	0.678	0.701	0.716	0.633	0.634	0.734	11.50	21.6577

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.9 Max_%RSD : 20.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDN	Parameter	x0	x1	CCF
10	Acrolein	-0.00400	0.05387	0.9990
18	Acrylonitrile	-0.00781	0.11749	0.9993
28	2-Butanone	-0.00998	0.18177	0.9991
49	4-Methyl-2-pentanone	-0.02832	0.42645	0.9990
55	2-Hexanone	-0.02418	0.29428	0.9989

SG
11/4/09

SECOND SOURCE VERIFICATION

2026

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	104	-0.01
2	T	Dichlorodifluoromethane	50.000	47.827	4.3	105	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	41.672	16.7	90	-0.03
5	C,T	Vinyl chloride	50.000	39.153	21.7#	86	-0.01
6	T	Bromomethane	50.000	39.305	21.4#	96	0.00
7	T	Chloroethane	50.000	42.753	14.5	90	-0.01
8	T	Dichlorofluoromethane	50.000	52.474	-4.9	106	0.00
9	T	Trichlorofluoromethane	50.000	44.174	11.7	94	-0.01
10	T	Acrolein	200.000	165.236	17.4	78	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	52.076	-4.2	108	0.00
12	T	Acetone	200.000	181.874	9.1	90	-0.01
13	C,T,M	1,1-Dichloroethene	50.000	50.378	-0.8	104	0.00
14	T	tert-Butyl alcohol	250.000	265.125	-6.0	105	-0.01
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	55.863	-11.7	115	0.00
17	T	Methylene chloride	50.000	43.148	13.7	96	-0.01
18	T	Acrylonitrile	250.000	251.237	-0.5	98	0.00
19	T	tert-Butyl methyl ether (MT	50.000	53.151	-6.3	105	0.00
20	T	Carbon disulfide	50.000	57.750	-15.5	117	-0.01
21	T	trans-1,2-Dichloroethene	50.000	50.230	-0.5	102	-0.01
22	T	Isopropyl ether (DIPE)	50.000	51.410	-2.8	106	-0.01
23	T	Vinyl acetate	50.000	43.802	12.4	92	-0.01
24	P,T	1,1-Dichloroethane	50.000	50.471	-0.9	102	-0.01
25	T	tert-Butyl ethyl ether (ETB	50.000	51.982	-4.0	105	-0.01
26	T	2-Butanone	200.000	186.552	6.7	91	-0.01
27	T	2,2-Dichloropropane	50.000	49.291	1.4	104	-0.01
28	T	cis-1,2-Dichloroethene	50.000	48.705	2.6	100	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	51.183	-2.4	104	0.00
31	T	Bromochloromethane	50.000	50.005	-0.0	100	-0.01
32	T	Tetrahydrofuran	50.000	49.209	1.6	97	-0.01
33	S	Dibromofluoromethane	50.000	50.598	-1.2	97	-0.01
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	49.975	0.0	104	-0.01
36	T	tert-Amyl methyl ether (TAM	50.000	52.271	-4.5	107	-0.01
37	S	1,2-Dichloroethane-d4	50.000	50.570	-1.1	99	-0.01
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	103	-0.01
39	T	1,1-Dichloropropene	50.000	52.573	-5.1	102	-0.01
40	T	Carbon tetrachloride	50.000	51.134	-2.3	100	0.00

(#) = Out of Range

5a 11/4/09

2027

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	53.456	-6.9	103	-0.01
42	T,M	Benzene	50.000	52.713	-5.4	105	-0.01
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	52.169	-4.3	101	-0.01
45	C,T	1,2-Dichloropropane	50.000	51.545	-3.1	100	-0.01
46	T	Bromodichloromethane	50.000	50.092	-0.2	95	-0.01
47	T	Dibromomethane	50.000	52.283	-4.6	100	0.00
48	T	2-Chloroethyl vinyl ether	50.000	52.961	-5.9	105	-0.01
49	T	4-Methyl-2-pentanone	200.000	195.440	2.3	91	-0.01
50	T	cis-1,3-Dichloropropene	50.000	51.637	-3.3	99	0.00
51	S	Toluene-d8	50.000	51.859	-3.7	98	-0.01
52	C,T,M	Toluene	50.000	52.817	-5.6	105	-0.01
53	T	Ethyl methacrylate	50.000	52.174	-4.3	98	-0.01
54	T	trans-1,3-Dichloropropene	50.000	54.801	-9.6	103	0.00
55	T	2-Hexanone	200.000	190.093	5.0	90	-0.01
56	T	1,1,2-Trichloroethane	50.000	50.737	-1.5	98	0.00
57	T	1,3-Dichloropropane	50.000	50.666	-1.3	97	-0.01
58	T	Tetrachloroethene	50.000	50.848	-1.7	102	0.00
59	T	Dibromochloromethane	50.000	49.079	1.8	93	0.00
60	T	1,2-Dibromoethane	50.000	51.302	-2.6	97	0.00
61	T	1-Chlorohexane	50.000	52.942	-5.9	104	-0.01
62	P,M	Chlorobenzene	50.000	51.575	-3.2	101	-0.01
63	C,T	Ethylbenzene	50.000	51.728	-3.5	103	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	51.341	-2.7	99	-0.01
65	T	m-Xylene & p-Xylene	100.000	102.333	-2.3	99	-0.01
66	T	o-Xylene	50.000	50.111	-0.2	99	0.00
67	T	Styrene	50.000	50.832	-1.7	98	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	100	-0.01
69	T	Isopropylbenzene	50.000	52.287	-4.6	102	0.00
70	P,T	Bromoform	50.000	50.729	-1.5	95	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	50.000	49.745	0.5	94	-0.01
72	S	4-Bromofluorobenzene	50.000	48.434	3.1	96	0.00
73	T	1,2,3-Trichloropropane	50.000	48.600	2.8	92	-0.01
74	T	trans-1,4-Dichloro-2-butene	50.000	51.971	-3.9	95	-0.01
75	T	n-Propylbenzene	50.000	50.394	-0.8	97	0.00
76	T	Bromobenzene	50.000	51.619	-3.2	100	0.00
77	T	1,3,5-Trimethylbenzene	50.000	48.543	2.9	94	-0.01
78	T	2-Chlorotoluene	50.000	46.408	7.2	83	-0.01
79	T	4-Chlorotoluene	50.000	48.579	2.8	89	0.00
80	T	tert-Butylbenzene	50.000	50.317	-0.6	101	0.00

(#) = Out of Range

SR 11/4/09

2028

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81 T	1,2,4-Trimethylbenzene	50.000	48.467	3.1	96	0.00
82 T	sec-Butylbenzene	50.000	49.155	1.7	97	-0.01
83 T	p-Isopropyltoluene	50.000	48.051	3.9	95	0.00
84 T	1,3-Dichlorobenzene	50.000	47.836	4.3	95	-0.01
85 T	1,4-Dichlorobenzene	50.000	47.066	5.9	94	-0.01
86 T	n-Butylbenzene	50.000	43.030	13.9	85	-0.01
87 T	1,2-Dichlorobenzene	50.000	46.864	6.3	96	0.00
88 T	1,2-Dibromo-3-chloropropane	50.000	45.889	8.2	92	0.00
89 T	1,2,4-Trichlorobenzene	50.000	42.183	15.6	89	0.00
90 T	Hexachlorobutadiene	50.000	44.818	10.4	100	0.00
91 T	Naphthalene	50.000	43.623	12.8	93	-0.01
92 T	1,2,3-Trichlorobenzene	50.000	42.023	16.0	91	-0.01

Su 11/4/09

DAILY CALIBRATIONS

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP175
Instrument ID: TOO2
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L108
BFB Injection Date : 12/08/09
BFB Injection Time : 08:13
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.46
75	30.0 - 60.0% of mass 95	46.39
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.54
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	75.89
175	5.0 - 9.0% of mass 174	5.64(7.4)1
176	95.0 - 101.0% of mass 174	73.47(96.8)1
177	5.0 - 9.0% of mass 176	4.75(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0332	RLP176	12/08/09	08:44
2	MBLK1S	V002L15B	RLP184	12/08/09	12:50
3	LCS1S	V002L15L	RLP177	12/08/09	09:15
4	LCD1S	V002L15C	RLP178	12/08/09	09:45
5	SB24-20V	L108-01	RLP195	12/08/09	18:32
6	SB24-40V	L108-02	RLP196	12/08/09	19:02
7	SB25-20V	L108-03	RLP197	12/08/09	19:33
8	SB26-20V	L108-04	RLP198	12/08/09	20:03

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: T002
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L108
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2150150	9.23	2095085	14.08	886855	18.17
2	MBLK1S	2138030	9.23	2123931	14.08	882923	18.17
3	LCS1S	2130593	9.22	2165164	14.08	900473	18.17
4	LCD1S	2118614	9.22	2150407	14.08	913183	18.17
5	SB24-20V	2067865	9.22	2094364	14.07	889101	18.16
6	SB24-40V	2072412	9.22	2078140	14.08	884808	18.17
7	SB25-20V	2052743	9.21	2078475	14.08	864063	18.17
8	SB26-20V	2125097	9.22	2050430	14.07	857706	18.16

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	115	0.00
2	T	Dichlorodifluoromethane	50.000	44.391	11.2	109	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	41.564	16.9	100	-0.03
5	C,T	Vinyl chloride	50.000	42.180	15.6	103	-0.02
6	T	Bromomethane	50.000	44.362	11.3	120	0.00
7	T	Chloroethane	50.000	46.922	6.2	110	0.00
8	T	Dichlorofluoromethane	50.000	50.578	-1.2	114	0.00
9	T	Trichlorofluoromethane	50.000	55.284	-10.6	131	-0.02
10	T	Acrolein	200.000	184.420	7.8	98	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	51.459	-2.9	118	0.00
12	T	Acetone	200.000	197.054	1.5	108	-0.02
13	C,T,M	1,1-Dichloroethene	50.000	48.795	2.4	112	-0.03
14	T	tert-Butyl alcohol	250.000	241.793	3.3	107	-0.02
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	47.650	4.7	109	-0.03
17	T	Methylene chloride	50.000	46.549	6.9	115	-0.02
18	T	Acrylonitrile	250.000	239.205	4.3	104	0.00
19	T	tert-Butyl methyl ether (MT	50.000	47.203	5.6	104	0.00
20	T	Carbon disulfide	50.000	39.354	21.3#	88	-0.03
21	T	trans-1,2-Dichloroethene	50.000	48.261	3.5	109	-0.02
22	T	Isopropyl ether (DIPE)	50.000	49.227	1.5	113	-0.02
23	T	Vinyl acetate	50.000	54.267	-8.5	127	0.00
24	P,T	1,1-Dichloroethane	50.000	50.443	-0.9	114	-0.02
25	T	tert-Butyl ethyl ether (ETB	50.000	49.565	0.9	112	-0.02
26	T	2-Butanone	200.000	192.403	3.8	105	-0.02
27	T	2,2-Dichloropropane	50.000	54.120	-8.2	128	-0.02
28	T	cis-1,2-Dichloroethene	50.000	51.787	-3.6	119	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	51.432	-2.9	116	0.00
31	T	Bromochloromethane	50.000	50.627	-1.3	113	0.00
32	T	Tetrahydrofuran	50.000	50.535	-1.1	111	0.00
33	S	Dibromofluoromethane	50.000	49.313	1.4	105	0.00
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	51.617	-3.2	120	-0.02
36	T	tert-Amyl methyl ether (TAM	50.000	47.443	5.1	108	-0.02
37	S	1,2-Dichloroethane-d4	50.000	49.180	1.6	107	-0.02
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	118	-0.02
39	T	1,1-Dichloropropene	50.000	48.391	3.2	108	0.00
40	T	Carbon tetrachloride	50.000	51.050	-2.1	114	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	51.923	-3.8	114	-0.02
42	T,M	Benzene	50.000	47.813	4.4	109	0.00
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	49.772	0.5	111	0.00
45	C,T	1,2-Dichloropropane	50.000	51.566	-3.1	115	0.00
46	T	Bromodichloromethane	50.000	52.644	-5.3	115	0.00
47	T	Dibromomethane	50.000	51.868	-3.7	114	0.00
48	T	2-Chloroethyl vinyl ether	50.000	35.501	29.0#	81	0.00
49	T	4-Methyl-2-pentanone	200.000	197.424	1.3	105	0.00
50	T	cis-1,3-Dichloropropene	50.000	51.015	-2.0	112	0.00
51	S	Toluene-d8	50.000	51.397	-2.8	112	0.00
52	C,T,M	Toluene	50.000	49.753	0.5	113	0.00
53	T	Ethyl methacrylate	50.000	52.765	-5.5	114	0.00
54	T	trans-1,3-Dichloropropene	50.000	53.612	-7.2	115	0.00
55	T	2-Hexanone	200.000	199.740	0.1	109	0.00
56	T	1,1,2-Trichloroethane	50.000	51.867	-3.7	115	0.00
57	T	1,3-Dichloropropane	50.000	52.040	-4.1	114	-0.02
58	T	Tetrachloroethene	50.000	49.022	2.0	112	0.00
59	T	Dibromochloromethane	50.000	51.896	-3.8	113	0.00
60	T	1,2-Dibromoethane	50.000	52.980	-6.0	115	0.00
61	T	1-Chlorohexane	50.000	50.183	-0.4	113	0.00
62	P,M	Chlorobenzene	50.000	52.565	-5.1	118	0.00
63	C,T	Ethylbenzene	50.000	51.286	-2.6	117	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	53.428	-6.9	118	0.00
65	T	m-Xylene & p-Xylene	100.000	103.151	-3.2	115	0.00
66	T	o-Xylene	50.000	51.252	-2.5	116	0.00
67	T	Styrene	50.000	52.661	-5.3	116	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	123	-0.02
69	T	Isopropylbenzene	50.000	48.624	2.8	117	0.00
70	P,T	Bromoform	50.000	49.155	1.7	114	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	50.000	51.636	-3.3	121	-0.02
72	S	4-Bromofluorobenzene	50.000	47.759	4.5	118	0.00
73	T	1,2,3-Trichloropropane	50.000	50.419	-0.8	118	-0.02
74	T	trans-1,4-Dichloro-2-butene	50.000	53.974	-7.9	123	0.00
75	T	n-Propylbenzene	50.000	49.339	1.3	118	0.00
76	T	Bromobenzene	50.000	48.953	2.1	117	0.00
77	T	1,3,5-Trimethylbenzene	50.000	49.953	0.1	120	0.00
78	T	2-Chlorotoluene	50.000	44.468	11.1	98	0.00
79	T	4-Chlorotoluene	50.000	50.805	-1.6	115	0.00
80	T	tert-Butylbenzene	50.000	50.797	-1.6	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	51.070	-2.1	125	0.00
82	T	sec-Butylbenzene	50.000	50.807	-1.6	124	0.00
83	T	p-Isopropyltoluene	50.000	51.035	-2.1	124	0.00
84	T	1,3-Dichlorobenzene	50.000	49.893	0.2	122	0.00
85	T	1,4-Dichlorobenzene	50.000	50.431	-0.9	124	-0.02
86	T	n-Butylbenzene	50.000	49.569	0.9	121	-0.02
87	T	1,2-Dichlorobenzene	50.000	50.349	-0.7	127	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	49.365	1.3	122	0.00
89	T	1,2,4-Trichlorobenzene	50.000	52.684	-5.4	137	0.00
90	T	Hexachlorobutadiene	50.000	50.723	-1.4	139	0.00
91	T	Naphthalene	50.000	50.948	-1.9	134	-0.02
92	T	1,2,3-Trichlorobenzene	50.000	49.625	0.8	133	-0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	115	0.00
2	T	Dichlorodifluoromethane	0.198	0.176	11.1	109	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.316	16.8	100	-0.03
5	C,T	Vinyl chloride	0.312	0.263	15.7	103	-0.02
6	T	Bromomethane	0.245	0.217	11.4	120	0.00
7	T	Chloroethane	0.169	0.158	6.5	110	0.00
8	T	Dichlorofluoromethane	0.547	0.553	-1.1	114	0.00
9	T	Trichlorofluoromethane	0.288	0.318	-10.4	131	-0.02
10	T	Acrolein	0.049	0.049	0.0	98	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.172	-2.4	118	0.00
12	T	Acetone	0.087	0.086	1.1	108	-0.02
13	C,T,M	1,1-Dichloroethene	0.432	0.422	2.3	112	-0.03
14	T	tert-Butyl alcohol	0.036	0.035	2.8	107	-0.02
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.456	4.8	109	-0.03
17	T	Methylene chloride	0.557	0.519	6.8	115	-0.02
18	T	Acrylonitrile	0.109	0.111	-1.8	104	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.782	5.7	104	0.00
20	T	Carbon disulfide	1.025	0.807	21.3#	88	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.455	3.4	109	-0.02
22	T	Isopropyl ether (DIPE)	1.252	1.232	1.6	113	-0.02
23	T	Vinyl acetate	0.667	0.724	-8.5	127	0.00
24	P,T	1,1-Dichloroethane	0.642	0.648	-0.9	114	-0.02
25	T	tert-Butyl ethyl ether (ETB	0.989	0.981	0.8	112	-0.02
26	T	2-Butanone	0.169	0.172	-1.8	105	-0.02
27	T	2,2-Dichloropropane	0.313	0.339	-8.3	128	-0.02
28	T	cis-1,2-Dichloroethene	0.554	0.574	-3.6	119	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.620	-3.0	116	0.00
31	T	Bromochloromethane	0.352	0.356	-1.1	113	0.00
32	T	Tetrahydrofuran	0.111	0.112	-0.9	111	0.00
33	S	Dibromofluoromethane	0.328	0.323	1.5	105	0.00
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.378	-3.3	120	-0.02
36	T	tert-Amyl methyl ether (TAM	1.038	0.985	5.1	108	-0.02
37	S	1,2-Dichloroethane-d4	0.281	0.277	1.4	107	-0.02
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	118	-0.02
39	T	1,1-Dichloropropene	0.164	0.159	3.0	108	0.00
40	T	Carbon tetrachloride	0.329	0.336	-2.1	114	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.398	-3.9	114	-0.02
42	T,M	Benzene	1.474	1.409	4.4	109	0.00
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.400	0.5	111	0.00
45	C,T	1,2-Dichloropropane	0.407	0.419	-2.9	115	0.00
46	T	Bromodichloromethane	0.476	0.502	-5.5	115	0.00
47	T	Dibromomethane	0.238	0.247	-3.8	114	0.00
48	T	2-Chloroethyl vinyl ether	0.101	0.072	28.7#	81	0.00
49	T	4-Methyl-2-pentanone	0.389	0.414	-6.4	105	0.00
50	T	cis-1,3-Dichloropropene	0.613	0.626	-2.1	112	0.00
51	S	Toluene-d8	0.981	1.008	-2.8	112	0.00
52	C,T,M	Toluene	1.325	1.318	0.5	113	0.00
53	T	Ethyl methacrylate	0.490	0.517	-5.5	114	0.00
54	T	trans-1,3-Dichloropropene	0.491	0.527	-7.3	115	0.00
55	T	2-Hexanone	0.262	0.288	-9.9	109	0.00
56	T	1,1,2-Trichloroethane	0.308	0.319	-3.6	115	0.00
57	T	1,3-Dichloropropane	0.596	0.620	-4.0	114	-0.02
58	T	Tetrachloroethene	0.278	0.272	2.2	112	0.00
59	T	Dibromochloromethane	0.390	0.405	-3.8	113	0.00
60	T	1,2-Dibromoethane	0.340	0.361	-6.2	115	0.00
61	T	1-Chlorohexane	0.545	0.547	-0.4	113	0.00
62	P,M	Chlorobenzene	0.996	1.047	-5.1	118	0.00
63	C,T	Ethylbenzene	1.579	1.620	-2.6	117	0.00
64	T	1,1,1,2-Tetrachloroethane	0.360	0.385	-6.9	118	0.00
65	T	m-Xylene & p-Xylene	1.180	1.217	-3.1	115	0.00
66	T	o-Xylene	1.269	1.300	-2.4	116	0.00
67	T	Styrene	1.049	1.105	-5.3	116	0.00
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	123	-0.02
69	T	Isopropylbenzene	3.726	3.623	2.8	117	0.00
70	P,T	Bromoform	0.579	0.569	1.7	114	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.270	-3.3	121	-0.02
72	S	4-Bromofluorobenzene	1.078	1.029	4.5	118	0.00
73	T	1,2,3-Trichloropropane	0.277	0.279	-0.7	118	-0.02
74	T	trans-1,4-Dichloro-2-butene	0.251	0.271	-8.0	123	0.00
75	T	n-Propylbenzene	4.952	4.887	1.3	118	0.00
76	T	Bromobenzene	1.042	1.020	2.1	117	0.00
77	T	1,3,5-Trimethylbenzene	3.080	3.077	0.1	120	0.00
78	T	2-Chlorotoluene	3.094	2.752	11.1	98	0.00
79	T	4-Chlorotoluene	2.688	2.732	-1.6	115	0.00
80	T	tert-Butylbenzene	3.169	3.219	-1.6	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP176.D Vial: 2
Acq On : 8 Dec 2009 8:44 am Operator: CGM
Sample : CVO02K0332 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.161	-2.1	125	0.00
82	T	sec-Butylbenzene	4.223	4.291	-1.6	124	0.00
83	T	p-Isopropyltoluene	3.648	3.723	-2.1	124	0.00
84	T	1,3-Dichlorobenzene	1.977	1.972	0.3	122	0.00
85	T	1,4-Dichlorobenzene	2.002	2.019	-0.8	124	-0.02
86	T	n-Butylbenzene	3.396	3.367	0.9	121	-0.02
87	T	1,2-Dichlorobenzene	1.842	1.854	-0.7	127	0.00
88	T	1,2-Dibromo-3-chloropropane	0.162	0.160	1.2	122	0.00
89	T	1,2,4-Trichlorobenzene	0.880	0.927	-5.3	137	0.00
90	T	Hexachlorobutadiene	0.520	0.528	-1.5	139	0.00
91	T	Naphthalene	2.139	2.180	-1.9	134	-0.02
92	T	1,2,3-Trichlorobenzene	0.734	0.729	0.7	133	-0.02

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP201
Instrument ID: TQ02
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L108
BFB Injection Date : 12/08/09
BFB Injection Time : 21:34
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.16
75	30.0 - 60.0% of mass 95	46.17
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.13
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	78.43
175	5.0 - 9.0% of mass 174	5.77(7.4)1
176	95.0 - 101.0% of mass 174	75.26(95.9)1
177	5.0 - 9.0% of mass 176	4.89(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0333	RLP201	12/08/09	21:34
2	MBLK2S	V002L17B	RLP205	12/08/09	23:35
3	LCS2S	V002L17L	RLP202	12/08/09	22:05
4	LCD2S	V002L17C	RLP203	12/08/09	22:34
5	SB26-40V	L108-05	RLP206	12/09/09	00:05
6	SB28-20V	L108-06	RLP207	12/09/09	00:36
7	SB28-40V	L108-07	RLP208	12/09/09	01:06
8	SB27-20V	L108-08	RLP209	12/09/09	01:36
9	SB40-40V	L108-09	RLP210	12/09/09	02:07
10	SB32-20V	L108-10	RLP211	12/09/09	02:36
11	SB32-40V	L108-11	RLP212	12/09/09	03:06
12	SB33-20V	L108-12	RLP213	12/09/09	03:37
13	SB33-40V	L108-13	RLP214	12/09/09	04:07

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: TOO2
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L108
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

	IS1(DBF)		IS2(CBZ)		IS3(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
SAMPLE ID						
1 VSTD050	2070557	9.21	2133924	14.08	888259	18.17
2 MBLK2S	2053513	9.22	2117712	14.07	865117	18.16
3 LCS2S	2182078	9.21	2179670	14.08	928716	18.15
4 LCD2S	2151161	9.22	2160740	14.07	926913	18.16
5 SB26-40V	2138719	9.21	2156712	14.08	894290	18.15
6 SB28-20V	2125010	9.21	2139899	14.08	881623	18.17
7 SB28-40V	1928282	9.22	1955904	14.07	793532	18.16
8 SB27-20V	2078409	9.22	2148087	14.08	916323	18.16
9 SB40-40V	2119568	9.21	2081593	14.08	909285	18.17
10 SB32-20V	2093643	9.23	2118772	14.08	882746	18.17
11 SB32-40V	2035173	9.23	2110174	14.08	896436	18.17
12 SB33-20V	2119384	9.22	2071643	14.08	865477	18.17
13 SB33-40V	2061423	9.23	2082648	14.08	849092	18.17

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	111	-0.02
2	T	Dichlorodifluoromethane	50.000	47.273	5.5	112	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	46.440	7.1	108	-0.03
5	C,T	Vinyl chloride	50.000	45.583	8.8	107	-0.02
6	T	Bromomethane	50.000	45.818	8.4	119	-0.02
7	T	Chloroethane	50.000	51.091	-2.2	115	-0.02
8	T	Dichlorofluoromethane	50.000	52.048	-4.1	113	-0.02
9	T	Trichlorofluoromethane	50.000	58.711	-17.4	134	-0.03
10	T	Acrolein	200.000	191.107	4.4	97	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	51.051	-2.1	113	0.01
12	T	Acetone	200.000	223.565	-11.8	118	-0.02
13	C,T,M	1,1-Dichloroethene	50.000	49.877	0.2	110	-0.03
14	T	tert-Butyl alcohol	250.000	279.258	-11.7	119	-0.02
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	48.788	2.4	107	-0.03
17	T	Methylene chloride	50.000	47.827	4.3	114	-0.02
18	T	Acrylonitrile	250.000	285.294	-14.1	119	0.00
19	T	tert-Butyl methyl ether (MT	50.000	52.014	-4.0	110	-0.02
20	T	Carbon disulfide	50.000	39.850	20.3#	86	-0.02
21	T	trans-1,2-Dichloroethene	50.000	49.004	2.0	106	-0.02
22	T	Isopropyl ether (DIPE)	50.000	50.551	-1.1	112	-0.02
23	T	Vinyl acetate	50.000	50.572	-1.1	114	0.00
24	P,T	1,1-Dichloroethane	50.000	53.092	-6.2	115	-0.02
25	T	tert-Butyl ethyl ether (ETB	50.000	51.649	-3.3	112	-0.03
26	T	2-Butanone	200.000	223.201	-11.6	117	-0.02
27	T	2,2-Dichloropropane	50.000	52.768	-5.5	120	-0.02
28	T	cis-1,2-Dichloroethene	50.000	53.536	-7.1	118	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	54.763	-9.5	119	0.00
31	T	Bromochloromethane	50.000	55.162	-10.3	118	-0.02
32	T	Tetrahydrofuran	50.000	54.698	-9.4	116	-0.02
33	S	Dibromofluoromethane	50.000	50.661	-1.3	104	-0.02
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	52.951	-5.9	118	-0.03
36	T	tert-Amyl methyl ether (TAM	50.000	51.311	-2.6	112	-0.02
37	S	1,2-Dichloroethane-d4	50.000	49.380	1.2	104	-0.02
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	120	-0.02
39	T	1,1-Dichloropropene	50.000	46.443	7.1	105	-0.02
40	T	Carbon tetrachloride	50.000	49.980	0.0	114	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	53.774	-7.5	121	-0.02
42	T,M	Benzene	50.000	48.458	3.1	113	-0.02
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	49.109	1.8	111	-0.02
45	C,T	1,2-Dichloropropane	50.000	52.783	-5.6	120	-0.02
46	T	Bromodichloromethane	50.000	52.598	-5.2	117	-0.02
47	T	Dibromomethane	50.000	52.851	-5.7	119	-0.02
48	T	2-Chloroethyl vinyl ether	50.000	56.158	-12.3	131	-0.02
49	T	4-Methyl-2-pentanone	200.000	215.449	-7.7	117	-0.02
50	T	cis-1,3-Dichloropropene	50.000	51.254	-2.5	115	0.00
51	S	Toluene-d8	50.000	49.388	1.2	109	-0.02
52	C,T,M	Toluene	50.000	49.878	0.2	116	-0.02
53	T	Ethyl methacrylate	50.000	55.366	-10.7	122	-0.02
54	T	trans-1,3-Dichloropropene	50.000	54.053	-8.1	118	0.00
55	T	2-Hexanone	200.000	221.605	-10.8	123	-0.02
56	T	1,1,2-Trichloroethane	50.000	54.259	-8.5	122	-0.02
57	T	1,3-Dichloropropane	50.000	53.657	-7.3	120	-0.02
58	T	Tetrachloroethene	50.000	46.844	6.3	109	-0.02
59	T	Dibromochloromethane	50.000	52.257	-4.5	116	0.00
60	T	1,2-Dibromoethane	50.000	53.420	-6.8	118	0.00
61	T	1-Chlorohexane	50.000	46.799	6.4	108	-0.02
62	P,M	Chlorobenzene	50.000	50.784	-1.6	116	-0.02
63	C,T	Ethylbenzene	50.000	49.405	1.2	115	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	53.837	-7.7	121	-0.02
65	T	m-Xylene & p-Xylene	100.000	102.326	-2.3	116	-0.02
66	T	o-Xylene	50.000	50.151	-0.3	116	0.00
67	T	Styrene	50.000	51.778	-3.6	116	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	124	-0.02
69	T	Isopropylbenzene	50.000	48.822	2.4	118	0.00
70	P,T	Bromoform	50.000	51.885	-3.8	121	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	50.000	53.259	-6.5	125	-0.02
72	S	4-Bromofluorobenzene	50.000	47.548	4.9	117	-0.02
73	T	1,2,3-Trichloropropane	50.000	55.255	-10.5	129	-0.02
74	T	trans-1,4-Dichloro-2-butene	50.000	54.315	-8.6	124	-0.02
75	T	n-Propylbenzene	50.000	48.493	3.0	116	-0.02
76	T	Bromobenzene	50.000	50.133	-0.3	120	-0.02
77	T	1,3,5-Trimethylbenzene	50.000	49.670	0.7	120	-0.02
78	T	2-Chlorotoluene	50.000	51.352	-2.7	114	-0.02
79	T	4-Chlorotoluene	50.000	43.259	13.5	98	-0.02
80	T	tert-Butylbenzene	50.000	50.648	-1.3	125	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	51.175	-2.3	126	-0.02
82	T	sec-Butylbenzene	50.000	50.265	-0.5	123	-0.02
83	T	p-Isopropyltoluene	50.000	51.002	-2.0	124	0.00
84	T	1,3-Dichlorobenzene	50.000	50.881	-1.8	125	-0.02
85	T	1,4-Dichlorobenzene	50.000	49.880	0.2	123	-0.02
86	T	n-Butylbenzene	50.000	48.926	2.1	120	-0.02
87	T	1,2-Dichlorobenzene	50.000	50.587	-1.2	128	-0.02
88	T	1,2-Dibromo-3-chloropropane	50.000	54.186	-8.4	134	-0.02
89	T	1,2,4-Trichlorobenzene	50.000	51.341	-2.7	134	-0.02
90	T	Hexachlorobutadiene	50.000	47.829	4.3	132	-0.02
91	T	Naphthalene	50.000	51.848	-3.7	137	-0.03
92	T	1,2,3-Trichlorobenzene	50.000	49.433	1.1	133	-0.03

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	111	-0.02
2	T	Dichlorodifluoromethane	0.198	0.187	5.6	112	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.353	7.1	108	-0.03
5	C,T	Vinyl chloride	0.312	0.284	9.0	107	-0.02
6	T	Bromomethane	0.245	0.225	8.2	119	-0.02
7	T	Chloroethane	0.169	0.172	-1.8	115	-0.02
8	T	Dichlorofluoromethane	0.547	0.569	-4.0	113	-0.02
9	T	Trichlorofluoromethane	0.288	0.338	-17.4	134	-0.03
10	T	Acrolein	0.049	0.050	-2.0	97	-0.02
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.171	-1.8	113	0.01
12	T	Acetone	0.087	0.097	-11.5	118	-0.02
13	C,T,M	1,1-Dichloroethene	0.432	0.431	0.2	110	-0.03
14	T	tert-Butyl alcohol	0.036	0.040	-11.1	119	-0.02
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.467	2.5	107	-0.03
17	T	Methylene chloride	0.557	0.533	4.3	114	-0.02
18	T	Acrylonitrile	0.109	0.133	-22.0#	119	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.862	-4.0	110	-0.02
20	T	Carbon disulfide	1.025	0.817	20.3#	86	-0.02
21	T	trans-1,2-Dichloroethene	0.471	0.462	1.9	106	-0.02
22	T	Isopropyl ether (DIPE)	1.252	1.265	-1.0	112	-0.02
23	T	Vinyl acetate	0.667	0.674	-1.0	114	0.00
24	P,T	1,1-Dichloroethane	0.642	0.682	-6.2	115	-0.02
25	T	tert-Butyl ethyl ether (ETB	0.989	1.022	-3.3	112	-0.03
26	T	2-Butanone	0.169	0.200	-18.3	117	-0.02
27	T	2,2-Dichloropropane	0.313	0.331	-5.8	120	-0.02
28	T	cis-1,2-Dichloroethene	0.554	0.593	-7.0	118	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.660	-9.6	119	0.00
31	T	Bromochloromethane	0.352	0.388	-10.2	118	-0.02
32	T	Tetrahydrofuran	0.111	0.122	-9.9	116	-0.02
33	S	Dibromofluoromethane	0.328	0.332	-1.2	104	-0.02
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.388	-6.0	118	-0.03
36	T	tert-Amyl methyl ether (TAM	1.038	1.065	-2.6	112	-0.02
37	S	1,2-Dichloroethane-d4	0.281	0.278	1.1	104	-0.02
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	120	-0.02
39	T	1,1-Dichloropropene	0.164	0.153	6.7	105	-0.02
40	T	Carbon tetrachloride	0.329	0.329	0.0	114	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.412	-7.6	121	-0.02
42	T,M	Benzene	1.474	1.428	3.1	113	-0.02
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.394	2.0	111	-0.02
45	C,T	1,2-Dichloropropane	0.407	0.429	-5.4	120	-0.02
46	T	Bromodichloromethane	0.476	0.501	-5.3	117	-0.02
47	T	Dibromomethane	0.238	0.251	-5.5	119	-0.02
48	T	2-Chloroethyl vinyl ether	0.101	0.114	-12.9	131	-0.02
49	T	4-Methyl-2-pentanone	0.389	0.452	-16.2	117	-0.02
50	T	cis-1,3-Dichloropropene	0.613	0.628	-2.4	115	0.00
51	S	Toluene-d8	0.981	0.969	1.2	109	-0.02
52	C,T,M	Toluene	1.325	1.322	0.2	116	-0.02
53	T	Ethyl methacrylate	0.490	0.542	-10.6	122	-0.02
54	T	trans-1,3-Dichloropropene	0.491	0.531	-8.1	118	0.00
55	T	2-Hexanone	0.262	0.320	-22.1#	123	-0.02
56	T	1,1,2-Trichloroethane	0.308	0.334	-8.4	122	-0.02
57	T	1,3-Dichloropropane	0.596	0.639	-7.2	120	-0.02
58	T	Tetrachloroethene	0.278	0.260	6.5	109	-0.02
59	T	Dibromochloromethane	0.390	0.407	-4.4	116	0.00
60	T	1,2-Dibromoethane	0.340	0.364	-7.1	118	0.00
61	T	1-Chlorohexane	0.545	0.510	6.4	108	-0.02
62	P,M	Chlorobenzene	0.996	1.012	-1.6	116	-0.02
63	C,T	Ethylbenzene	1.579	1.560	1.2	115	0.00
64	T	1,1,1,2-Tetrachloroethane	0.360	0.387	-7.5	121	-0.02
65	T	m-Xylene & p-Xylene	1.180	1.207	-2.3	116	-0.02
66	T	o-Xylene	1.269	1.272	-0.2	116	0.00
67	T	Styrene	1.049	1.087	-3.6	116	0.00
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	124	-0.02
69	T	Isopropylbenzene	3.726	3.638	2.4	118	0.00
70	P,T	Bromoform	0.579	0.600	-3.6	121	-0.02
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.310	-6.5	125	-0.02
72	S	4-Bromofluorobenzene	1.078	1.025	4.9	117	-0.02
73	T	1,2,3-Trichloropropane	0.277	0.306	-10.5	129	-0.02
74	T	trans-1,4-Dichloro-2-butene	0.251	0.272	-8.4	124	-0.02
75	T	n-Propylbenzene	4.952	4.803	3.0	116	-0.02
76	T	Bromobenzene	1.042	1.045	-0.3	120	-0.02
77	T	1,3,5-Trimethylbenzene	3.080	3.060	0.6	120	-0.02
78	T	2-Chlorotoluene	3.094	3.178	-2.7	114	-0.02
79	T	4-Chlorotoluene	2.688	2.326	13.5	98	-0.02
80	T	tert-Butylbenzene	3.169	3.210	-1.3	125	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L08\RLP201.D Vial: 2
Acq On : 8 Dec 2009 9:34 pm Operator: CGM
Sample : CVO02K0333 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.168	-2.4	126	-0.02
82	T	sec-Butylbenzene	4.223	4.246	-0.5	123	-0.02
83	T	p-Isopropyltoluene	3.648	3.721	-2.0	124	0.00
84	T	1,3-Dichlorobenzene	1.977	2.011	-1.7	125	-0.02
85	T	1,4-Dichlorobenzene	2.002	1.997	0.2	123	-0.02
86	T	n-Butylbenzene	3.396	3.323	2.1	120	-0.02
87	T	1,2-Dichlorobenzene	1.842	1.863	-1.1	128	-0.02
88	T	1,2-Dibromo-3-chloropropane	0.162	0.176	-8.6	134	-0.02
89	T	1,2,4-Trichlorobenzene	0.880	0.904	-2.7	134	-0.02
90	T	Hexachlorobutadiene	0.520	0.498	4.2	132	-0.02
91	T	Naphthalene	2.139	2.219	-3.7	137	-0.03
92	T	1,2,3-Trichlorobenzene	0.734	0.726	1.1	133	-0.03

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 11/3/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K03S

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RKP001	BFB02K01	1µL	NA	NA	NA	15:20
02	002	V002K031	.04µL				8260 Ket/Ac TBA/Acn 2 8 10 ppb
03	003	2	.08µL				4 16 20
04	004	3	.2µL				10 40 50
05	005	4	.4µL				20 80 100
06	006	5	1µL				50 200 250
07	007	6	1.6µL				80 320 400
08	008	7	2µL				100 400 500
09	009	8	4µL				200 800 1000
10	010	9	6µL				300 1200 1500
11	011	15/55					
12	012	V002K01B					
13	013	1V002K031	4/5/1µL				80 200 250
14	014	2					50 200 250
15	015	Rinse					22:32
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							CGM 11/3/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC Ket/AA	SV1 - 15 - 17 - 2	1000
DCC 8260	SV1 - 15 - 17 - 3	250/1250
DCC Gases	SV1 - 15 - 16 - 2	250
BFB	SV1 - 15 - 17 - 1	250
IS/SURR.	SV1 - 15 - 17 - 1	250
LCS Ket/AA	SV1 - 15 - 15 - 1	250
LCS 8260	SV1 - 15 - 6 - 1	50/250
LCS Gases	SV1 - 15 - 5 - 2	250
SOLVENT IS	SV1 - 15 - 19 - 1 ID	250
METHANOL SS	SV1 - 15 - 19 - 2	250
DATA FILE	09K03	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO02	

Comments:

Analyzed By: CGM

Date Disposed: 11/4/09

Disposed By: CGM

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EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/8/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH V002K0332

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP175	BFB02L15	1µL				08:13
02	176	V002K0332	4.5µL				
03	177	V002L15L		1.0			
04	178	↓ C					
05	179	V002L16L					
06	180	↓ C					
07	181	09L102-03M	☆	☆			
08	182	↓ -03S					
09	183	Rinse					
10	184	V002L15B	5.0g	1.0			
11	185	V002L16B	5.0mL				
12	186	09L060-03					
13	187	-04T	100µL	50			
14	188	-05T					
15	189	09L102-03	☆	☆			
16	190	09L166-04					
17	191	09L075-11					
18	192	-12					
19	193	-13					
20	194	-14					
21	195	09L108-01					
22	196	-02					
23	197	-03					
24	198	-04					20:03
25	199	Rinse					

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03
STANDARDS	
NAME	ID / CONC. (ng/L)
DCC	SV1-15-26-3
DCC	-8-2
DCC	-25-1
BFB	-27-2 / 50
IS/SURR.	-27-2 / 250
LCS	-15-1
LCS	-6-1
LCS	-5-2
SOLVENT	ID
METHANOL	
DATA FILE	09L08
Electronic Data Archival	
Location	Date
HPCHEM_VOA/T002	

Comments:

☆ Please refer to sample wt. log.

Analyzed By: CGM

Date Disposed: 12/9/09

Disposed By: CGM

2049

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/8/09 ☑ 5-ml Purge ☐ 25-ml Purge **Book # A02 -023**

BATCH CV002K0333

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLP 200	BFB02L17	1 µL				
02	201	CV002K0333	4.5 µL				21:34
03	202	V002L17L		1.0			
04	203	C					
05	204	Rinse					
06	205	V002L17B	5.0	1.0			
07	206	09L108-05	☆	☆			
08	207	-06					
09	208	-07					
10	209	-08					
11	210	-09					
12	211	-10					
13	212	-11					
14	213	-12					
15	214	-13					
16	215	Rinse					04:37
17							
18							
19							
20							
21							
22							
23							
24							
25							CGM 12/8/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS		
NAME	ID	CONC. (mg/L)
DCC	SV1-15-26-3	
DCC	-8-2	
DCC	-25-10	50/250
BFB	-27-2	
IS/SURR.	-27-2	
LCS	-15-1	
LCS	-4-1	
LCS	-5-2	
SOLVENT	ID	
METHANOL		
DATA FILE	09L08	

Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO02	

Comments:

☆ Please refer to sample wt. log.

Analyzed By: CGM

Date Disposed: 12/9/09

Disposed By: CGM

2059

EXTRACTION LOGS

PRESERVATION LOG FOR VOLATILES

METHOD ☑ 5035 **Book #** E02-029

Matrix: SOIL Starting Date/Time: 12/8/2009 9:30 Ending Date/Time 12/8/2009 10:15

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.76	34.76	5	1.00
09L075-11	31.33	37.45	6.12	0.82
09L075-12	31.26	37.37	6.11	0.82
09L075-13	31.23	37.4	6.17	0.81
09L075-14	31.25	36.54	5.29	0.95
09L108-01	31.48	37.62	6.14	0.81
09L108-02	31.27	36.91	5.64	0.89
09L108-03	31.32	37.13	5.81	0.86
09L108-04	31.23	37.21	5.98	0.84
09L108-05	31.25	37.3	6.05	0.83
09L108-06	31.41	37.53	6.12	0.82
09L108-07	31.34	37.3	5.96	0.84
09L108-08	31.24	36.72	5.48	0.91
09L108-09	31.32	37	5.68	0.88
09L108-10	31.27	37.29	6.02	0.83
09L108-11	31.29	37.34	6.05	0.83
09L108-12	31.23	36.73	5.5	0.91
09L108-13	31.21	37.05	5.84	0.86
NOTHING FOLLOWS.				

Standards / Reagents	ID / Lot#	Amount Added
SURROGATE		
LCS/MS		
REAGENT WATER		5.0ML
$NaHS0_4$ H_20		
SAND	SW1A-03-711	5.0G

Comments

☑ Volumetric dispenser was checked with 5-ml volumetric flask.

FROZEN ENCORES.

Prepared By: **RT**

Standard Added By: **RT**

Witnessed By: **CGM**

Checked By: **CGM**

Extract Received By: **CGM**

Extract Location N/A

TABLE OF CONTENTS

CLIENT: **ALLWEST GEOSCIENCE, INC.**

PROJECT: **VA GLAHS**

SDG: **09L158**

SECTION		PAGE
Cover Letter, COC/Sample Receipt Form		1000 – 1003
GC/MS-VOA	METHOD 5035/8260B	2000 – 2032
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-28-2009
EMAX Batch No.: 09L158

Attn: John Gery

Allwest Geoscience, Inc.
1751 Jenks Dr.
Corona, CA 92880

Subject: Laboratory Report
Project: VA GLAHS

Enclosed is the Laboratory report for samples received on 12/08/09.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW1-20V	L158-01	12/07/09	SOIL	VOLATILE ORGANICS BY GC/MS
MW1-40V	L158-02	12/07/09	SOIL	VOLATILE ORGANICS BY GC/MS
MW2-40V	L158-03	12/08/09	SOIL	VOLATILE ORGANICS BY GC/MS
MW2-60V	L158-04	12/08/09	SOIL	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meet all NELAC requirements unless noted in the Case Narrative.

09L158

CHAIN OF CUSTODY FORM

P.O. NUMBER:

SITE/PROJECT NAME: U.S. Dept. Veterans Affairs

JOB NUMBER: 02-3454-EI

SITE/PROJECT LOCATION: VA GLAHS

SAMPLER(S) SIGNATURE: Jay A. Boughter

SUBMIT RESULTS TO:

Allwest Geoscience
1751 Jenks Dr.
~~4442 Avery Park Avenue~~ Corona, CA
~~Las Vegas, NV 89110~~ 92880

ATTN: ~~Jay A. Boughter~~ John Gery
PHONE NO. (949) 350-4682
FAX NO. (702) 463-7003

ANALYTICAL METHOD

	SAMPLE NUMBER (I.D.)	YEAR 2009 DATE MM/DD	TIME AM/PM	DEPTH BELOW GRADE (ft)	NO. OF CONTAINERS	TPHg 8015M	BTEX 8260B + MTBE ETBE TAME DIPE TBA	8260B Full Suite			REMARKS
1	MW1-20'	12/7	10:00am	20	3+1			X			<0.1 ppm
2	MW1-40'	12/7	11:00am	40	3+1			X			<400 mr/hr
3	MW2-40'	12/8	10:00am	40	3+1			X			
4	MW2-60'	12/8	11:55am	60	3+1			X			

SAMPLES INTACT: YES..... NO.....
SAMPLES PROPERLY COOLED: YES..... NO.....
TEMPERATURED STORED: 13.6°C
PRESERVATIVES ADDED: YES.... NO..... TYPE:
SAMPLES ACCEPTED: YES..... NO.....
IF NOT, WHY:

SAMPLES PLACED IN LAB REFRIGERATOR
YES..... NO..... REP. INITIALS.....

LABORATORY NAME: EMAX

RELINQUISHED	DATE/TIME	DATE/TIME	RECEIVED
RELINQUISHED BY (SIGNATURE)/COMPANY: Jay A. Boughter / Allwest	DATE/TIME 12/8/09 10:00	DATE/TIME 12/8/09 12:08	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME 12/8/09 12:45	DATE/TIME 12/8/09 12:45	RECEIVED BY (SIGNATURE)/COMPANY:
RELINQUISHED BY (SIGNATURE)/COMPANY:	DATE/TIME	DATE/TIME	RECEIVED BY (SIGNATURE)/COMPANY:

1001

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 091158
☑ EMAX Courier	Cou	Recepient J-LUND
☐ Client Delivery		Date 12-8-09
☐ Third Party		Time 1245

COC Inspection

☑ Client Name	☐ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 3.6 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Comments: ☐ **PM was informed on non-compliant coolers imediately.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code
01 - 04			A2, D2	R2

REVIEWS

Sample Labeling [signature] Date 12/8/09

SRF [signature] Date 12/8/09

PM Gaumglinb for K Date 12/9/09

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ALLWEST GEOSCIENCE, INC.

VA GLAHS

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 09L158

CASE NARRATIVE

Client : ALLWEST GEOSCIENCE, INC.

Project : VA GLAHS

SDG : 09L158

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

A total of four (4) soil samples were received on 12/08/09 for Volatile Organics by GC/MS analysis, Method SW 5035/8260B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 and USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VO02L20L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ALLWEST GEOSCIENCE, INC.
Project : VA GLAHS

SDG NO. : 09L158
Instrument ID : T-002

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	V002L20B	1	NA	12/09/0922:50	12/09/0922:50	RLP247	RKP006	V002L20	Method Blank
LCS1S	V002L20L	1	NA	12/09/0920:21	12/09/0920:21	RLP242	RKP006	V002L20	Lab Control Sample (LCS)
LCD1S	V002L20C	1	NA	12/09/0920:51	12/09/0920:51	RLP243	RKP006	V002L20	LCS Duplicate
MW1-20V	L158-01	0.96	17.6	12/10/0901:18	12/10/0901:18	RLP252	RKP006	V002L20	Field Sample
MW1-40V	L158-02	0.83	14.6	12/10/0901:48	12/10/0901:48	RLP253	RKP006	V002L20	Field Sample
MW2-40V	L158-03	0.93	14.0	12/10/0902:18	12/10/0902:18	RLP254	RKP006	V002L20	Field Sample
MW2-60V	L158-04	0.92	16.2	12/10/0902:47	12/10/0902:47	RLP255	RKP006	V002L20	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

2003

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/07/09
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: 09L158	Date Extracted:	12/10/09 01:18
Sample ID:	MW1-20V	Date Analyzed:	12/10/09 01:18
Lab Samp ID:	L158-01	Dilution Factor:	0.96
Lab File ID:	RLP252	Matrix :	SOIL
Ext Btch ID:	V002L20	% Moisture :	17.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.8	2.3
1,1,2,2-TETRACHLOROETHANE	ND	5.8	2.3
1,1,2-TRICHLOROETHANE	ND	5.8	2.3
1,1-DICHLOROETHANE	ND	5.8	2.3
1,1-DICHLOROETHENE	ND	5.8	2.3
1,2-DICHLOROETHANE	ND	5.8	2.3
1,2-DICHLOROPROPANE	ND	5.8	2.3
2-BUTANONE	ND	12	5.8
2-HEXANONE	ND	12	5.8
4-METHYL-2-PENTANONE	ND	12	5.8
ACETONE	7.1J	12	5.8
BENZENE	ND	5.8	2.3
BROMODICHLOROMETHANE	ND	5.8	2.3
BROMOFORM	ND	5.8	2.3
BROMOMETHANE	ND	12	2.3
CARBON DISULFIDE	ND	5.8	2.3
CARBON TETRACHLORIDE	ND	5.8	2.3
CHLOROBENZENE	ND	5.8	2.3
CHLOROETHANE	ND	5.8	2.3
CHLOROFORM	ND	5.8	2.3
CHLOROMETHANE	ND	12	2.3
CIS-1,2-DICHLOROETHENE	ND	5.8	2.3
CIS-1,3-DICHLOROPROPENE	ND	5.8	2.3
DIBROMOCHLOROMETHANE	ND	5.8	2.3
ETHYLBENZENE	ND	5.8	2.3
M/P-XYLENES	ND	12	2.3
METHYLENE CHLORIDE	ND	12	2.3
MTBE	ND	5.8	2.3
O-XYLENE	ND	5.8	2.3
STYRENE	ND	5.8	2.3
TETRACHLOROETHYLENE	ND	5.8	2.3
TOLUENE	ND	5.8	2.3
TRANS-1,2-DICHLOROETHENE	ND	5.8	2.3
TRANS-1,3-DICHLOROPROPENE	ND	5.8	2.3
TRICHLOROETHENE	ND	5.8	2.3
VINYL CHLORIDE	ND	5.8	2.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	90	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/07/09
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: 09L158	Date Extracted:	12/10/09 01:48
Sample ID:	MW1-40V	Date Analyzed:	12/10/09 01:48
Lab Samp ID:	L158-02	Dilution Factor:	0.83
Lab File ID:	RLP253	Matrix :	SOIL
Ext Btch ID:	V002L20	% Moisture :	14.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.9	1.9
1,1,2-TRICHLOROETHANE	ND	4.9	1.9
1,1-DICHLOROETHANE	ND	4.9	1.9
1,1-DICHLOROETHENE	ND	4.9	1.9
1,2-DICHLOROETHANE	ND	4.9	1.9
1,2-DICHLOROPROPANE	ND	4.9	1.9
2-BUTANONE	ND	9.7	4.9
2-HEXANONE	ND	9.7	4.9
4-METHYL-2-PENTANONE	ND	9.7	4.9
ACETONE	ND	9.7	4.9
BENZENE	ND	4.9	1.9
BROMODICHLOROMETHANE	ND	4.9	1.9
BROMOFORM	ND	4.9	1.9
BROMOMETHANE	ND	9.7	1.9
CARBON DISULFIDE	ND	4.9	1.9
CARBON TETRACHLORIDE	ND	4.9	1.9
CHLOROBENZENE	ND	4.9	1.9
CHLOROETHANE	ND	4.9	1.9
CHLOROFORM	ND	4.9	1.9
CHLOROMETHANE	ND	9.7	1.9
CIS-1,2-DICHLOROETHENE	ND	4.9	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.9	1.9
DIBROMOCHLOROMETHANE	ND	4.9	1.9
ETHYLBENZENE	ND	4.9	1.9
M/P-XYLENES	ND	9.7	1.9
METHYLENE CHLORIDE	ND	9.7	1.9
MTBE	ND	4.9	1.9
O-XYLENE	ND	4.9	1.9
STYRENE	ND	4.9	1.9
TETRACHLOROETHYLENE	ND	4.9	1.9
TOLUENE	ND	4.9	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.9	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.9	1.9
TRICHLOROETHENE	ND	4.9	1.9
VINYL CHLORIDE	ND	4.9	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	101	85-115
4-BROMOFLUOROBENZENE	89	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/08/09
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: 09L158	Date Extracted:	12/10/09 02:18
Sample ID:	MW2-40V	Date Analyzed:	12/10/09 02:18
Lab Samp ID:	L158-03	Dilution Factor:	0.93
Lab File ID:	RLP254	Matrix :	SOIL
Ext Btch ID:	V002L20	% Moisture :	14.0
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.4	2.2
1,1,2,2-TETRACHLOROETHANE	ND	5.4	2.2
1,1,2-TRICHLOROETHANE	ND	5.4	2.2
1,1-DICHLOROETHANE	ND	5.4	2.2
1,1-DICHLOROETHENE	ND	5.4	2.2
1,2-DICHLOROETHANE	ND	5.4	2.2
1,2-DICHLOROPROPANE	ND	5.4	2.2
2-BUTANONE	ND	11	5.4
2-HEXANONE	ND	11	5.4
4-METHYL-2-PENTANONE	ND	11	5.4
ACETONE	ND	11	5.4
BENZENE	ND	5.4	2.2
BROMODICHLOROMETHANE	ND	5.4	2.2
BROMOFORM	ND	5.4	2.2
BROMOMETHANE	ND	11	2.2
CARBON DISULFIDE	ND	5.4	2.2
CARBON TETRACHLORIDE	ND	5.4	2.2
CHLOROBENZENE	ND	5.4	2.2
CHLOROETHANE	ND	5.4	2.2
CHLOROFORM	ND	5.4	2.2
CHLOROMETHANE	ND	11	2.2
CIS-1,2-DICHLOROETHENE	ND	5.4	2.2
CIS-1,3-DICHLOROPROPENE	ND	5.4	2.2
DIBROMOCHLOROMETHANE	ND	5.4	2.2
ETHYLBENZENE	ND	5.4	2.2
M/P-XYLENES	ND	11	2.2
METHYLENE CHLORIDE	ND	11	2.2
MTBE	ND	5.4	2.2
O-XYLENE	ND	5.4	2.2
STYRENE	ND	5.4	2.2
TETRACHLOROETHYLENE	ND	5.4	2.2
TOLUENE	ND	5.4	2.2
TRANS-1,2-DICHLOROETHENE	ND	5.4	2.2
TRANS-1,3-DICHLOROPROPENE	ND	5.4	2.2
TRICHLOROETHENE	ND	5.4	2.2
VINYL CHLORIDE	ND	5.4	2.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	107	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/08/09
Project	: VA GLAHS	Date Received:	12/08/09
Batch No.	: 09L158	Date Extracted:	12/10/09 02:47
Sample ID:	MW2-60V	Date Analyzed:	12/10/09 02:47
Lab Samp ID:	L158-04	Dilution Factor:	0.92
Lab File ID:	RLP255	Matrix :	SOIL
Ext Btch ID:	VOO2L20	% Moisture :	16.2
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.5	2.2
1,1,2,2-TETRACHLOROETHANE	ND	5.5	2.2
1,1,2-TRICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHENE	ND	5.5	2.2
1,2-DICHLOROETHANE	ND	5.5	2.2
1,2-DICHLOROPROPANE	ND	5.5	2.2
2-BUTANONE	ND	11	5.5
2-HEXANONE	ND	11	5.5
4-METHYL-2-PENTANONE	ND	11	5.5
ACETONE	ND	11	5.5
BENZENE	ND	5.5	2.2
BROMODICHLOROMETHANE	ND	5.5	2.2
BROMOFORM	ND	5.5	2.2
BROMOMETHANE	ND	11	2.2
CARBON DISULFIDE	ND	5.5	2.2
CARBON TETRACHLORIDE	ND	5.5	2.2
CHLOROBENZENE	ND	5.5	2.2
CHLOROETHANE	ND	5.5	2.2
CHLOROFORM	ND	5.5	2.2
CHLOROMETHANE	ND	11	2.2
CIS-1,2-DICHLOROETHENE	ND	5.5	2.2
CIS-1,3-DICHLOROPROPENE	ND	5.5	2.2
DIBROMOCHLOROMETHANE	ND	5.5	2.2
ETHYLBENZENE	ND	5.5	2.2
M/P-XYLENES	ND	11	2.2
METHYLENE CHLORIDE	ND	11	2.2
MTBE	ND	5.5	2.2
O-XYLENE	ND	5.5	2.2
STYRENE	ND	5.5	2.2
TETRACHLOROETHYLENE	ND	5.5	2.2
TOLUENE	ND	5.5	2.2
TRANS-1,2-DICHLOROETHENE	ND	5.5	2.2
TRANS-1,3-DICHLOROPROPENE	ND	5.5	2.2
TRICHLOROETHENE	ND	5.5	2.2
VINYL CHLORIDE	ND	5.5	2.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	101	85-115
4-BROMOFLUOROBENZENE	92	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

QC SUMMARIES

2008

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	NA
Project	: VA GLAHS	Date Received:	12/09/09
Batch No.	: 09L158	Date Extracted:	12/09/09 22:50
Sample ID:	MBLK1S	Date Analyzed:	12/09/09 22:50
Lab Samp ID:	V002L20B	Dilution Factor:	1
Lab File ID:	RLP247	Matrix :	SOIL
Ext Btch ID:	V002L20	% Moisture :	NA
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	2.0
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0
1,1,2-TRICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHANE	ND	5.0	2.0
1,1-DICHLOROETHENE	ND	5.0	2.0
1,2-DICHLOROETHANE	ND	5.0	2.0
1,2-DICHLOROPROPANE	ND	5.0	2.0
2-BUTANONE	ND	10	5.0
2-HEXANONE	ND	10	5.0
4-METHYL-2-PENTANONE	ND	10	5.0
ACETONE	ND	10	5.0
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	5.0	2.0
BROMOFORM	ND	5.0	2.0
BROMOMETHANE	ND	10	2.0
CARBON DISULFIDE	ND	5.0	2.0
CARBON TETRACHLORIDE	ND	5.0	2.0
CHLOROBENZENE	ND	5.0	2.0
CHLOROETHANE	ND	5.0	2.0
CHLOROFORM	ND	5.0	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0
DIBROMOCHLOROMETHANE	ND	5.0	2.0
ETHYLBENZENE	ND	5.0	2.0
M/P-XYLENES	ND	10	2.0
METHYLENE CHLORIDE	ND	10	2.0
MTBE	ND	5.0	2.0
O-XYLENE	ND	5.0	2.0
STYRENE	ND	5.0	2.0
TETRACHLOROETHYLENE	ND	5.0	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0
TRICHLOROETHENE	ND	5.0	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	99	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

2009

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ALLWEST GEOSCIENCE, INC.
PROJECT: VA GLAHS
BATCH NO.: 09L158
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VO02L20B	VO02L20L	VO02L20C		
LAB FILE ID:	RLP247	RLP242	RLP243		
DATE EXTRACTED:	12/09/0922:50	12/09/0920:21	12/09/0920:51	DATE COLLECTED:	NA
DATE ANALYZED:	12/09/0922:50	12/09/0920:21	12/09/0920:51	DATE RECEIVED:	12/09/09
PREP. BATCH:	VO02L20	VO02L20	VO02L20		
CALIB. REF:	RKP006	RKP006	RKP006		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	51.0	102	50.0	52.4	105	3	70-135	30
1,1,2,2-Tetrachloroethane	ND	50.0	45.6	91	50.0	46.2	92	1	55-130	30
1,1,2-Trichloroethane	ND	50.0	47.2	94	50.0	49.7	99	5	60-125	30
1,1-Dichloroethane	ND	50.0	50.9	102	50.0	51.6	103	1	75-125	30
1,1-Dichloroethene	ND	50.0	51.5	103	50.0	53.2	106	3	65-135	30
1,2-Dichloroethane	ND	50.0	51.6	103	50.0	53.5	107	3	70-135	30
1,2-Dichloropropane	ND	50.0	46.8	94	50.0	50.7	101	8	70-120	30
2-Butanone	ND	200	205	103	200	202	101	2	30-160	30
2-Hexanone	ND	200	205	102	200	204	102	0	45-145	30
4-Methyl-2-Pentanone	ND	200	206	103	200	205	102	1	45-145	30
Acetone	ND	200	200	100	200	209	104	4	20-160	30
Benzene	ND	50.0	48.4	97	50.0	50.2	100	4	75-125	30
Bromodichloromethane	ND	50.0	47.8	96	50.0	48.7	97	2	70-130	30
Bromoform	ND	50.0	43.9	88	50.0	45.5	91	4	55-135	30
Bromomethane	ND	50.0	35.2	70	50.0	38.7	77	9	30-160	30
Carbon Disulfide	ND	50.0	54.3	109	50.0	55.8	112	3	45-160	30
Carbon Tetrachloride	ND	50.0	50.1	100	50.0	51.8	104	3	65-135	30
Chlorobenzene	ND	50.0	48.3	97	50.0	49.6	99	3	75-125	30
Chloroethane	ND	50.0	38.5	77	50.0	42.8	86	11	40-155	30
Chloroform	ND	50.0	51.8	104	50.0	54.2	108	5	70-125	30
Chloromethane	ND	50.0	35.8	72	50.0	40.1	80	11	50-130	30
cis-1,2-Dichloroethene	ND	50.0	50.2	100	50.0	51.6	103	3	65-125	30
cis-1,3-Dichloropropene	ND	50.0	49.0	98	50.0	50.9	102	4	70-125	30
Dibromochloromethane	ND	50.0	46.7	93	50.0	48.0	96	3	65-130	30
Ethylbenzene	ND	50.0	47.2	94	50.0	49.4	99	5	75-125	30
m/p-Xylenes	ND	100	95.2	95	100	97.8	98	3	80-125	30
Methylene Chloride	ND	50.0	45.6	91	50.0	48.1	96	5	55-140	30
MTBE	ND	50.0	51.4	103	50.0	54.3	109	6	60-150	20
o-Xylene	ND	50.0	47.2	94	50.0	47.9	96	1	75-125	30
Styrene	ND	50.0	48.9	98	50.0	49.2	98	1	75-125	30
Tetrachloroethylene	ND	50.0	46.9	94	50.0	49.2	98	5	65-140	30
Toluene	ND	50.0	46.4	93	50.0	46.9	94	1	70-125	30
Trans-1,2-Dichloroethene	ND	50.0	50.7	101	50.0	50.8	102	0	65-135	30
Trans-1,3-Dichloropropene	ND	50.0	52.3	105	50.0	52.5	105	0	65-125	30
Trichloroethene	ND	50.0	48.0	96	50.0	50.3	101	5	75-125	30
Vinyl Chloride	ND	50.0	35.7	71	50.0	40.1	80	12	60-125	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	49.8	100	50.0	49.9	100	70-140
Toluene-d8	50.0	48.5	97	50.0	50.4	101	85-115
4-Bromofluorobenzene	50.0	46.1	92	50.0	45.9	92	85-120
Dibromofluoromethane	50.0	49.9	100	50.0	50.3	101	70-130

INITIAL CALIBRATIONS

2011

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RKP001
Instrument ID: T002
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L158
BFB Injection Date : 11/03/09
BFB Injection Time : 15:20
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.89
75	30.0 - 60.0% of mass 95	44.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.11
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	77.20
175	5.0 - 9.0% of mass 174	5.63(7.3)1
176	95.0 - 101.0% of mass 174	75.69(98.1)1
177	5.0 - 9.0% of mass 176	4.89(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD02	V002K031	RKP002	11/03/09	15:53
2	VSTD04	V002K032	RKP003	11/03/09	16:23
3	VSTD010	V002K033	RKP004	11/03/09	16:54
4	VSTD020	V002K034	RKP005	11/03/09	17:25
5	VSTD050	V002K035	RKP006	11/03/09	17:55
6	VSTD080	V002K036	RKP007	11/03/09	18:26
7	VSTD100	V002K037	RKP008	11/03/09	18:57
8	VSTD200	V002K038	RKP009	11/03/09	19:28
9	VSTD300	V002K039	RKP010	11/03/09	19:59
10	VSTD050	IV002K032	RKP014	11/03/09	22:02

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T002
Beginning DateTime :11/03/09 15:53
Spike Units :PPB
IC File :RKP006

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :11/03/09 19:59
HPChem Method :V002K03

M	IDX	Parameters	2 15:53 RKP002	4 16:23 RKP003	10 16:54 RKP004	20 17:25 RKP005	50 17:55 RKP006	80 18:26 RKP007	100 18:57 RKP008	200 19:28 RKP009	300 19:59 RKP010	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	0	9.2300
	2	Dichlorodifluoromethane	0.213	0.202	0.212	0.180	0.186	0.208	0.191	0.194	0.193	0.198	5.89	3.3896
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	0.444	0.401	0.403	0.349	0.363	0.385	0.358	0.352	0.362	0.380	8.30	3.7449
	5	Vinyl chloride	0.350	0.316	0.337	0.298	0.296	0.333	0.305	0.284	0.285	0.312	7.61	3.9019
	6	Bromomethane	0.305	0.297	0.258	0.218	0.209	0.236	0.224	0.223	0.234	0.245	14.12	4.4935
	7	Chloroethane	0.165	0.171	0.172	0.154	0.166	0.181	0.168	0.172	0.170	0.169	4.24	4.5762
	8	Dichlorofluoromethane	0.459	0.547	0.516	0.544	0.560	0.585	0.568	0.578	0.564	0.547	7.07	4.5877
	9	Trichlorofluoromethane	0.267	0.285	0.308	0.273	0.280	0.318	0.285	0.285	0.288	0.288	5.53	4.8637
4	10	Acrolein	0.029	0.040	0.044	0.054	0.058	0.052	0.055	0.051	0.055	0.049	18.98	5.3017
	11	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.156	0.166	0.165	0.168	0.177	0.167	0.170	0.171	0.168	3.55	5.3650
4	12	Acetone	0.079	0.099	0.078	0.090	0.092	0.086	0.091	0.080	0.089	0.087	7.98	5.3578
	13	1,1-Dichloroethene	0.376	0.423	0.434	0.415	0.435	0.459	0.449	0.452	0.448	0.432	5.92	5.6008
5	14	tert-Butyl alcohol	0.032	0.032	0.036	0.038	0.037	0.035	0.038	0.035	0.038	0.036	6.72	5.5793
	15	Methyl acetate	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	16	Iodomethane	0.368	0.406	0.472	0.459	0.483	0.539	0.530	0.529	0.522	0.479	12.53	6.0206
	17	Methylene chloride	0.701	0.621	0.568	0.529	0.520	0.533	0.531	0.523	0.491	0.557	11.67	6.1181
5	18	Acrylonitrile	0.071	0.094	0.105	0.119	0.124	0.117	0.124	0.112	0.116	0.109	15.67	6.2156
	19	tert-Butyl methyl ether (MTBE)	0.671	0.774	0.822	0.849	0.871	0.869	0.876	0.886	0.840	0.829	8.24	6.2437
	20	Carbon disulfide	0.908	0.993	1.019	0.998	1.053	1.069	1.050	1.091	1.045	1.025	5.28	6.2949
	21	trans-1,2-Dichloroethene	0.383	0.477	0.481	0.469	0.482	0.506	0.478	0.487	0.475	0.471	7.30	6.4717
	22	Isopropyl ether (DIPE)	1.073	1.200	1.230	1.239	1.261	1.350	1.303	1.311	1.298	1.252	6.52	6.7246
	23	Vinyl acetate	0.714	0.647	0.698	0.645	0.660	0.701	0.656	0.635	0.643	0.667	4.44	6.8651
	24	1,1-Dichloroethane	0.550	0.614	0.633	0.657	0.657	0.679	0.676	0.683	0.628	0.642	6.59	6.9659
	25	tert-Butyl ethyl ether (ETBE)	0.841	0.917	1.003	0.976	1.012	1.030	1.044	1.039	1.042	0.989	6.96	7.2138
4	26	2-Butanone	0.107	0.156	0.155	0.188	0.190	0.176	0.190	0.172	0.183	0.169	15.88	7.3955
	27	2,2-Dichloropropane	0.288	0.331	0.330	0.319	0.307	0.329	0.323	0.298	0.297	0.313	5.20	7.6418
	28	cis-1,2-Dichloroethene	0.477	0.544	0.559	0.570	0.557	0.577	0.572	0.571	0.556	0.554	5.54	7.7013
	29	tert-Butyl formate (TBF)	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Chloroform	0.520	0.597	0.598	0.602	0.617	0.644	0.606	0.618	0.619	0.602	5.67	7.8930
	31	Bromochloromethane	0.292	0.351	0.352	0.361	0.365	0.367	0.366	0.356	0.358	0.352	6.65	8.1293
	32	Tetrahydrofuran	0.105	0.116	0.112	0.119	0.117	0.107	0.112	0.101	0.112	0.111	5.30	8.1458
	33	Dibromofluoromethane	0.249	0.305	0.323	0.340	0.354	0.357	0.347	0.348	------	0.328	11.10	8.1700
	34	Cyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	35	1,1,1-Trichloroethane	0.317	0.353	0.376	0.376	0.365	0.391	0.383	0.370	0.362	0.366	5.94	8.4152
	36	tert-Amyl methyl ether (TAME)	0.878	0.982	1.015	1.064	1.054	1.085	1.097	1.077	1.090	1.038	6.82	8.6648
	37	1,2-Dichloroethane-d4	0.223	0.263	0.281	0.288	0.297	0.305	0.299	0.294	------	0.281	9.65	8.7872
	38	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	0	14.0903
	39	1,1-Dichloropropene	0.146	0.167	0.152	0.150	0.174	0.186	0.172	0.172	0.160	0.164	8.05	8.6053
	40	Carbon tetrachloride	0.273	0.324	0.313	0.290	0.346	0.371	0.357	0.353	0.333	0.329	9.87	8.7722
2	41	1,2-Dichloroethane	0.321	0.368	0.365	0.356	0.410	0.429	0.403	0.403	0.392	0.383	8.71	8.9077
0	42	Benzene	1.350	1.532	1.419	1.334	1.520	1.610	1.520	1.543	1.436	1.474	6.36	8.9788
1	43	Methylcyclohexane	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
5	44	Trichloroethene	0.350	0.395	0.387	0.365	0.425	0.451	0.419	0.418	0.404	0.402	7.84	9.7786
	45	1,2-Dichloropropane	0.331	0.394	0.382	0.383	0.429	0.463	0.430	0.438	0.409	0.407	9.64	10.0183
	46	Bromodichloromethane	0.387	0.434	0.429	0.442	0.513	0.537	0.522	0.517	0.507	0.476	11.25	10.3901
	47	Dibromomethane	0.193	0.220	0.223	0.228	0.254	0.270	0.255	0.251	0.248	0.238	10.06	10.5124

SG
11/4/09

	48	2-Chloroethyl vinyl ether	------	0.075	0.087	0.096	0.104	0.102	0.113	0.119	0.113	0.101	14.45	10.7028
4	49	4-Methyl-2-pentanone	0.232	0.349	0.338	0.409	0.464	0.432	0.446	0.417	0.414	0.389	18.49	10.7471
	50	cis-1,3-Dichloropropene	0.512	0.559	0.554	0.567	0.658	0.707	0.677	0.669	0.615	0.613	11.08	11.1982
	51	Toluene-d8	0.865	0.960	0.927	0.909	1.063	1.055	1.026	1.042	------	0.981	7.70	11.6560
	52	Toluene	1.189	1.353	1.253	1.223	1.370	1.468	1.367	1.375	1.327	1.325	6.63	11.7882
	53	Ethyl methacrylate	0.408	0.444	0.443	0.464	0.534	0.550	0.532	0.520	0.511	0.490	10.32	11.8510
	54	trans-1,3-Dichloropropene	0.361	0.444	0.455	0.450	0.538	0.556	0.544	0.555	0.519	0.491	13.68	11.9849
4	55	2-Hexanone	0.154	0.225	0.221	0.267	0.313	0.298	0.311	0.281	0.290	0.262	20.08	12.1733
	56	1,1,2-Trichloroethane	0.261	0.300	0.303	0.286	0.328	0.338	0.324	0.323	0.305	0.308	7.76	12.2824
	57	1,3-Dichloropropane	0.497	0.566	0.573	0.558	0.641	0.653	0.641	0.620	0.612	0.596	8.58	12.6774
	58	Tetrachloroethene	0.265	0.271	0.266	0.257	0.285	0.302	0.290	0.286	0.275	0.278	5.19	12.8608
	59	Dibromochloromethane	0.310	0.341	0.364	0.349	0.422	0.440	0.432	0.432	0.417	0.390	12.46	13.1913
	60	1,2-Dibromoethane	0.271	0.319	0.328	0.323	0.371	0.375	0.372	0.354	0.351	0.340	9.93	13.5218
	61	1-Chlorohexane	0.507	0.534	0.509	0.493	0.569	0.603	0.581	0.561	0.547	0.545	6.83	13.6044
	62	Chlorobenzene	0.923	1.004	0.962	0.936	1.049	1.093	1.023	1.026	0.950	0.996	5.72	14.1531
	63	Ethylbenzene	1.494	1.642	1.530	1.459	1.626	1.733	1.622	1.614	1.493	1.579	5.68	14.1730
	64	1,1,1,2-Tetrachloroethane	0.287	0.347	0.344	0.331	0.383	0.409	0.383	0.388	0.367	0.360	10.25	14.1845
2	65	m-Xylene & p-Xylene	1.116	1.225	1.192	1.139	1.249	1.311	1.203	1.198	0.985	1.180	7.85	14.2886
	66	o-Xylene	1.217	1.277	1.202	1.215	1.320	1.378	1.295	1.288	1.227	1.269	4.61	14.9761
	67	Styrene	0.899	1.021	0.980	0.996	1.122	1.171	1.100	1.120	1.036	1.049	8.19	15.0208
	68	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	0	18.1789
	69	Isopropylbenzene	3.540	3.762	3.564	3.856	3.828	3.905	3.877	3.728	3.472	3.726	4.34	15.4818
	70	Bromoform	------	0.466	0.504	0.565	0.616	0.606	0.631	0.619	0.621	0.579	10.65	15.6241
	71	1,1,2,2-Tetrachloroethane	1.078	1.205	1.222	1.274	1.293	1.248	1.293	1.218	1.240	1.230	5.32	15.7396
	72	4-Bromofluorobenzene	1.225	1.065	1.005	1.037	1.080	1.075	1.074	1.060	------	1.078	5.98	15.8950
	73	1,2,3-Trichloropropane	0.258	0.262	0.272	0.286	0.293	0.281	0.293	0.268	0.278	0.277	4.55	15.9661
	74	trans-1,4-Dichloro-2-butene	0.180	0.207	0.230	0.255	0.273	0.272	0.291	0.277	0.273	0.251	14.87	16.0140
	75	n-Propylbenzene	4.711	4.946	4.920	5.043	5.113	5.169	5.247	5.021	4.400	4.952	5.23	16.0768
	76	Bromobenzene	0.929	1.031	0.990	1.036	1.077	1.092	1.113	1.073	1.039	1.042	5.39	16.2387
	77	1,3,5-Trimethylbenzene	2.884	3.099	3.010	3.172	3.165	3.215	3.145	3.046	2.985	3.080	3.49	16.2933
	78	2-Chlorotoluene	2.769	3.151	3.262	2.765	3.461	2.889	3.459	2.984	3.105	3.094	8.61	16.3974
	79	4-Chlorotoluene	2.507	2.518	2.836	2.734	2.920	2.888	2.990	2.587	2.216	2.688	9.33	16.4470
	80	tert-Butylbenzene	3.019	3.138	3.188	3.299	3.167	3.291	3.251	3.095	3.069	3.169	3.11	16.8155
	81	1,2,4-Trimethylbenzene	2.862	3.221	3.053	3.178	3.116	3.156	3.147	3.120	3.000	3.095	3.53	16.8766
	82	sec-Butylbenzene	4.113	4.388	4.276	4.358	4.276	4.357	4.186	4.137	3.919	4.223	3.57	17.1130
	83	p-Isopropyltoluene	3.433	3.694	3.742	3.693	3.698	3.797	3.696	3.615	3.461	3.648	3.38	17.2849
	84	1,3-Dichlorobenzene	1.929	2.040	1.886	1.943	1.994	2.036	2.053	1.980	1.929	1.977	2.97	17.5146
	85	1,4-Dichlorobenzene	1.982	1.983	1.939	2.003	2.003	2.031	2.085	2.005	1.985	2.002	1.99	17.6600
	86	n-Butylbenzene	3.462	3.474	3.331	3.246	3.430	3.498	3.376	3.520	3.231	3.396	3.15	17.8666
	87	1,2-Dichlorobenzene	1.778	1.886	1.827	1.883	1.800	1.866	1.854	1.852	1.828	1.842	1.99	18.2186
	88	1,2-Dibromo-3-chloropropane	0.152	0.145	0.161	0.163	0.162	0.160	0.172	0.164	0.183	0.162	6.78	19.3506
	89	1,2,4-Trichlorobenzene	0.951	0.937	0.916	0.842	0.836	0.868	0.874	0.844	0.854	0.880	4.94	20.7306
	90	Hexachlorobutadiene	0.559	0.584	0.559	0.515	0.468	0.514	0.496	0.487	0.500	0.520	7.43	20.9091
	91	Naphthalene	2.303	2.243	2.296	2.119	2.009	2.018	2.181	1.969	2.118	2.139	5.86	21.2429
	92	1,2,3-Trichlorobenzene	0.802	0.861	0.841	0.745	0.678	0.701	0.716	0.633	0.634	0.734	11.50	21.6577

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.9 Max_%RSD : 20.1

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

ID	Parameter	x0	x1	CCF
10	Acrolein	-0.00400	0.05387	0.9990
18	Acrylonitrile	-0.00781	0.11749	0.9993
26	2-Butanone	-0.00998	0.18177	0.9991
49	4-Methyl-2-pentanone	-0.02832	0.42645	0.9990
55	2-Hexanone	-0.02418	0.29428	0.9989

SG
11/4/09

SECOND SOURCE VERIFICATION

2015

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	104	-0.01
2	T	Dichlorodifluoromethane	50.000	47.827	4.3	105	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	41.672	16.7	90	-0.03
5	C,T	Vinyl chloride	50.000	39.153	21.7#	86	-0.01
6	T	Bromomethane	50.000	39.305	21.4#	96	0.00
7	T	Chloroethane	50.000	42.753	14.5	90	-0.01
8	T	Dichlorofluoromethane	50.000	52.474	-4.9	106	0.00
9	T	Trichlorofluoromethane	50.000	44.174	11.7	94	-0.01
10	T	Acrolein	200.000	165.236	17.4	78	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	52.076	-4.2	108	0.00
12	T	Acetone	200.000	181.874	9.1	90	-0.01
13	C,T,M	1,1-Dichloroethene	50.000	50.378	-0.8	104	0.00
14	T	tert-Butyl alcohol	250.000	265.125	-6.0	105	-0.01
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	55.863	-11.7	115	0.00
17	T	Methylene chloride	50.000	43.148	13.7	96	-0.01
18	T	Acrylonitrile	250.000	251.237	-0.5	98	0.00
19	T	tert-Butyl methyl ether (MT	50.000	53.151	-6.3	105	0.00
20	T	Carbon disulfide	50.000	57.750	-15.5	117	-0.01
21	T	trans-1,2-Dichloroethene	50.000	50.230	-0.5	102	-0.01
22	T	Isopropyl ether (DIPE)	50.000	51.410	-2.8	106	-0.01
23	T	Vinyl acetate	50.000	43.802	12.4	92	-0.01
24	P,T	1,1-Dichloroethane	50.000	50.471	-0.9	102	-0.01
25	T	tert-Butyl ethyl ether (ETB	50.000	51.982	-4.0	105	-0.01
26	T	2-Butanone	200.000	186.552	6.7	91	-0.01
27	T	2,2-Dichloropropane	50.000	49.291	1.4	104	-0.01
28	T	cis-1,2-Dichloroethene	50.000	48.705	2.6	100	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	51.183	-2.4	104	0.00
31	T	Bromochloromethane	50.000	50.005	-0.0	100	-0.01
32	T	Tetrahydrofuran	50.000	49.209	1.6	97	-0.01
33	S	Dibromofluoromethane	50.000	50.598	-1.2	97	-0.01
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	49.975	0.0	104	-0.01
36	T	tert-Amyl methyl ether (TAM	50.000	52.271	-4.5	107	-0.01
37	S	1,2-Dichloroethane-d4	50.000	50.570	-1.1	99	-0.01
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	103	-0.01
39	T	1,1-Dichloropropene	50.000	52.573	-5.1	102	-0.01
40	T	Carbon tetrachloride	50.000	51.134	-2.3	100	0.00

(#) = Out of Range

Sa 11/4/09a

2016

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	53.456	-6.9	103	-0.01
42	T,M	Benzene	50.000	52.713	-5.4	105	-0.01
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	52.169	-4.3	101	-0.01
45	C,T	1,2-Dichloropropane	50.000	51.545	-3.1	100	-0.01
46	T	Bromodichloromethane	50.000	50.092	-0.2	95	-0.01
47	T	Dibromomethane	50.000	52.283	-4.6	100	0.00
48	T	2-Chloroethyl vinyl ether	50.000	52.961	-5.9	105	-0.01
49	T	4-Methyl-2-pentanone	200.000	195.440	2.3	91	-0.01
50	T	cis-1,3-Dichloropropene	50.000	51.637	-3.3	99	0.00
51	S	Toluene-d8	50.000	51.859	-3.7	98	-0.01
52	C,T,M	Toluene	50.000	52.817	-5.6	105	-0.01
53	T	Ethyl methacrylate	50.000	52.174	-4.3	98	-0.01
54	T	trans-1,3-Dichloropropene	50.000	54.801	-9.6	103	0.00
55	T	2-Hexanone	200.000	190.093	5.0	90	-0.01
56	T	1,1,2-Trichloroethane	50.000	50.737	-1.5	98	0.00
57	T	1,3-Dichloropropane	50.000	50.666	-1.3	97	-0.01
58	T	Tetrachloroethene	50.000	50.848	-1.7	102	0.00
59	T	Dibromochloromethane	50.000	49.079	1.8	93	0.00
60	T	1,2-Dibromoethane	50.000	51.302	-2.6	97	0.00
61	T	1-Chlorohexane	50.000	52.942	-5.9	104	-0.01
62	P,M	Chlorobenzene	50.000	51.575	-3.2	101	-0.01
63	C,T	Ethylbenzene	50.000	51.728	-3.5	103	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	51.341	-2.7	99	-0.01
65	T	m-Xylene & p-Xylene	100.000	102.333	-2.3	99	-0.01
66	T	o-Xylene	50.000	50.111	-0.2	99	0.00
67	T	Styrene	50.000	50.832	-1.7	98	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	100	-0.01
69	T	Isopropylbenzene	50.000	52.287	-4.6	102	0.00
70	P,T	Bromoform	50.000	50.729	-1.5	95	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	50.000	49.745	0.5	94	-0.01
72	S	4-Bromofluorobenzene	50.000	48.434	3.1	96	0.00
73	T	1,2,3-Trichloropropane	50.000	48.600	2.8	92	-0.01
74	T	trans-1,4-Dichloro-2-butene	50.000	51.971	-3.9	95	-0.01
75	T	n-Propylbenzene	50.000	50.394	-0.8	97	0.00
76	T	Bromobenzene	50.000	51.619	-3.2	100	0.00
77	T	1,3,5-Trimethylbenzene	50.000	48.543	2.9	94	-0.01
78	T	2-Chlorotoluene	50.000	46.408	7.2	83	-0.01
79	T	4-Chlorotoluene	50.000	48.579	2.8	89	0.00
80	T	tert-Butylbenzene	50.000	50.317	-0.6	101	0.00

(#) = Out of Range

SM 11/4/09

2017

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09K03\RKP014.D Vial: 14
Acq On : 3 Nov 2009 10:02 pm Operator: CGM
Sample : IVO02K032 50ppb Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	48.467	3.1	96	0.00
82	T	sec-Butylbenzene	50.000	49.155	1.7	97	-0.01
83	T	p-Isopropyltoluene	50.000	48.051	3.9	95	0.00
84	T	1,3-Dichlorobenzene	50.000	47.836	4.3	95	-0.01
85	T	1,4-Dichlorobenzene	50.000	47.066	5.9	94	-0.01
86	T	n-Butylbenzene	50.000	43.030	13.9	85	-0.01
87	T	1,2-Dichlorobenzene	50.000	46.864	6.3	96	0.00
88	T	1,2-Dibromo-3-chloropropane	50.000	45.889	8.2	92	0.00
89	T	1,2,4-Trichlorobenzene	50.000	42.183	15.6	89	0.00
90	T	Hexachlorobutadiene	50.000	44.818	10.4	100	0.00
91	T	Naphthalene	50.000	43.623	12.8	93	-0.01
92	T	1,2,3-Trichlorobenzene	50.000	42.023	16.0	91	-0.01

Su 11/4/09

DAILY CALIBRATIONS

2019

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLP240
Instrument ID: TQ02
GC Column:RTX502.2ID:0.32mm (mm)

Contract: VA GLAHS
SAS No.: SDG No.: 09L158
BFB Injection Date : 12/09/09
BFB Injection Time : 19:22
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.97
75	30.0 - 60.0% of mass 95	46.53
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.40
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	82.18
175	5.0 - 9.0% of mass 174	5.84(7.1)1
176	95.0 - 101.0% of mass 174	78.89(96.0)1
177	5.0 - 9.0% of mass 176	4.94(6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CV002K0335	RLP241	12/09/09	19:52
2	MBLK1S	V002L20B	RLP247	12/09/09	22:50
3	LCS1S	V002L20L	RLP242	12/09/09	20:21
4	LCD1S	V002L20C	RLP243	12/09/09	20:51
5	MW1-20V	L158-01	RLP252	12/10/09	01:18
6	MW1-40V	L158-02	RLP253	12/10/09	01:48
7	MW2-40V	L158-03	RLP254	12/10/09	02:18
8	MW2-60V	L158-04	RLP255	12/10/09	02:47

FORM V VOA OLM02.0

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKP006
Instrument ID: T002
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: VA GLAHS
SDG No.: 09L158
Date Analyzed: 11/03/09
Time Analyzed: 17:55
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1862163	9.23	1778144	14.09	718395	18.18
	UPPER LIMIT	3724326	9.73	3556288	14.59	1436790	18.68
	LOWER LIMIT	931082	8.73	889072	13.59	359198	17.68
	SAMPLE ID						
1	VSTD050	2120721	9.23	2138065	14.08	916368	18.17
2	MBLK1S	2104684	9.21	2151025	14.08	909906	18.17
3	LCS1S	2162492	9.23	2206258	14.08	965317	18.17
4	LCD1S	2168566	9.21	2226510	14.08	969292	18.17
5	MW1-20V	2087710	9.22	2088371	14.08	892439	18.17
6	MW1-40V	2090253	9.23	2125060	14.08	916035	18.17
7	MW2-40V	2031500	9.23	2114403	14.08	877212	18.17
8	MW2-60V	2021088	9.22	2058266	14.07	857107	18.16

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CVO02K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	114	0.00
2	T	Dichlorodifluoromethane	50.000	43.726	12.5	106	0.00
3	T	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T	Chloromethane	50.000	40.856	18.3	97	-0.04
5	C,T	Vinyl chloride	50.000	42.558	14.9	102	-0.03
6	T	Bromomethane	50.000	41.415	17.2	111	-0.01
7	T	Chloroethane	50.000	46.172	7.7	107	-0.01
8	T	Dichlorofluoromethane	50.000	51.252	-2.5	114	-0.01
9	T	Trichlorofluoromethane	50.000	54.298	-8.6	127	-0.01
10	T	Acrolein	200.000	194.093	3.0	101	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	50.000	52.238	-4.5	119	-0.01
12	T	Acetone	200.000	214.984	-7.5	116	-0.01
13	C,T,M	1,1-Dichloroethene	50.000	52.096	-4.2	118	-0.03
14	T	tert-Butyl alcohol	250.000	273.495	-9.4	120	-0.01
15	T	Methyl acetate	-1.000	0.000	0.0	0	0.00
16	T	Iodomethane	50.000	57.872	-15.7	131	-0.03
17	T	Methylene chloride	50.000	50.576	-1.2	123	-0.01
18	T	Acrylonitrile	250.000	276.709	-10.7	118	0.00
19	T	tert-Butyl methyl ether (MT	50.000	50.619	-1.2	110	0.00
20	T	Carbon disulfide	50.000	50.399	-0.8	112	-0.03
21	T	trans-1,2-Dichloroethene	50.000	52.953	-5.9	118	-0.01
22	T	Isopropyl ether (DIPE)	50.000	50.475	-1.0	114	-0.01
23	T	Vinyl acetate	50.000	51.308	-2.6	118	0.00
24	P,T	1,1-Dichloroethane	50.000	53.911	-7.8	120	-0.01
25	T	tert-Butyl ethyl ether (ETB	50.000	49.505	1.0	110	-0.01
26	T	2-Butanone	200.000	217.976	-9.0	117	-0.01
27	T	2,2-Dichloropropane	50.000	51.818	-3.6	121	-0.01
28	T	cis-1,2-Dichloroethene	50.000	53.424	-6.8	121	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	0	0.00
30	C,T	Chloroform	50.000	54.351	-8.7	121	0.00
31	T	Bromochloromethane	50.000	54.552	-9.1	120	-0.01
32	T	Tetrahydrofuran	50.000	56.634	-13.3	123	0.00
33	S	Dibromofluoromethane	50.000	50.193	-0.4	106	-0.01
34	T	Cyclohexane	-1.000	0.000	0.0	0	0.00
35	T	1,1,1-Trichloroethane	50.000	53.145	-6.3	121	-0.01
36	T	tert-Amyl methyl ether (TAM	50.000	49.815	0.4	112	-0.01
37	S	1,2-Dichloroethane-d4	50.000	50.608	-1.2	109	-0.01
38	I	CHLOROBENZENE-D5	50.000	50.000	0.0	120	-0.01
39	T	1,1-Dichloropropene	50.000	49.496	1.0	112	-0.01
40	T	Carbon tetrachloride	50.000	52.604	-5.2	120	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CVO02K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	50.000	55.028	-10.1	124	-0.01
42	T,M	Benzene	50.000	50.037	-0.1	117	0.00
43	T	Methylcyclohexane	-1.000	0.000	0.0	0	0.00
44	T,M	Trichloroethene	50.000	50.223	-0.4	114	-0.01
45	C,T	1,2-Dichloropropane	50.000	53.104	-6.2	121	-0.01
46	T	Bromodichloromethane	50.000	54.192	-8.4	121	0.00
47	T	Dibromomethane	50.000	52.700	-5.4	119	0.00
48	T	2-Chloroethyl vinyl ether	50.000	58.291	-16.6	136	-0.01
49	T	4-Methyl-2-pentanone	200.000	215.264	-7.6	117	-0.01
50	T	cis-1,3-Dichloropropene	50.000	52.800	-5.6	118	0.00
51	S	Toluene-d8	50.000	48.449	3.1	107	-0.01
52	C,T,M	Toluene	50.000	49.706	0.6	116	-0.01
53	T	Ethyl methacrylate	50.000	55.847	-11.7	123	-0.01
54	T	trans-1,3-Dichloropropene	50.000	52.202	-4.4	115	0.00
55	T	2-Hexanone	200.000	220.431	-10.2	122	-0.01
56	T	1,1,2-Trichloroethane	50.000	53.959	-7.9	122	-0.01
57	T	1,3-Dichloropropane	50.000	54.306	-8.6	121	-0.01
58	T	Tetrachloroethene	50.000	49.560	0.9	116	-0.01
59	T	Dibromochloromethane	50.000	53.244	-6.5	118	0.00
60	T	1,2-Dibromoethane	50.000	55.121	-10.2	122	0.00
61	T	1-Chlorohexane	50.000	49.146	1.7	113	-0.01
62	P,M	Chlorobenzene	50.000	51.482	-3.0	118	-0.01
63	C,T	Ethylbenzene	50.000	50.697	-1.4	118	0.00
64	T	1,1,1,2-Tetrachloroethane	50.000	53.569	-7.1	121	-0.01
65	T	m-Xylene & p-Xylene	100.000	103.637	-3.6	118	-0.01
66	T	o-Xylene	50.000	50.433	-0.9	117	0.00
67	T	Styrene	50.000	52.684	-5.4	119	0.00
68	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	128	-0.01
69	T	Isopropylbenzene	50.000	47.483	5.0	118	-0.01
70	P,T	Bromoform	50.000	49.132	1.7	118	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	50.000	52.297	-4.6	127	-0.01
72	S	4-Bromofluorobenzene	50.000	47.051	5.9	120	-0.01
73	T	1,2,3-Trichloropropane	50.000	51.155	-2.3	123	-0.01
74	T	trans-1,4-Dichloro-2-butene	50.000	54.350	-8.7	127	-0.01
75	T	n-Propylbenzene	50.000	47.619	4.8	118	-0.01
76	T	Bromobenzene	50.000	48.200	3.6	119	-0.01
77	T	1,3,5-Trimethylbenzene	50.000	49.162	1.7	122	-0.01
78	T	2-Chlorotoluene	50.000	49.850	0.3	114	-0.01
79	T	4-Chlorotoluene	50.000	40.232	19.5	94	-0.01
80	T	tert-Butylbenzene	50.000	49.788	0.4	127	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CVO02K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	50.000	50.112	-0.2	127	-0.01
82	T	sec-Butylbenzene	50.000	48.802	2.4	123	-0.01
83	T	p-Isopropyltoluene	50.000	49.170	1.7	124	-0.01
84	T	1,3-Dichlorobenzene	50.000	47.772	4.5	121	-0.01
85	T	1,4-Dichlorobenzene	50.000	47.801	4.4	122	-0.01
86	T	n-Butylbenzene	50.000	48.145	3.7	122	-0.03
87	T	1,2-Dichlorobenzene	50.000	49.186	1.6	128	-0.01
88	T	1,2-Dibromo-3-chloropropane	50.000	51.055	-2.1	131	-0.01
89	T	1,2,4-Trichlorobenzene	50.000	48.138	3.7	129	-0.01
90	T	Hexachlorobutadiene	50.000	46.428	7.1	132	-0.01
91	T	Naphthalene	50.000	48.484	3.0	132	-0.03
92	T	1,2,3-Trichlorobenzene	50.000	45.466	9.1	126	-0.03

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CV002K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	114	0.00
2	T	Dichlorodifluoromethane	0.198	0.173	12.6	106	0.00
3	T	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T	Chloromethane	0.380	0.310	18.4	97	-0.04
5	C,T	Vinyl chloride	0.312	0.265	15.1	102	-0.03
6	T	Bromomethane	0.245	0.203	17.1	111	-0.01
7	T	Chloroethane	0.169	0.156	7.7	107	-0.01
8	T	Dichlorofluoromethane	0.547	0.560	-2.4	114	-0.01
9	T	Trichlorofluoromethane	0.288	0.312	-8.3	127	-0.01
10	T	Acrolein	0.049	0.051	-4.1	101	-0.01
11	T	1,1,2-Trichloro-1,2,2-trifl	0.168	0.175	-4.2	119	-0.01
12	T	Acetone	0.087	0.094	-8.0	116	-0.01
13	C,T,M	1,1-Dichloroethene	0.432	0.450	-4.2	118	-0.03
14	T	tert-Butyl alcohol	0.036	0.039	-8.3	120	-0.01
15	T	Methyl acetate	0.000	0.000	0.0	0#	0.00
16	T	Iodomethane	0.479	0.554	-15.7	131	-0.03
17	T	Methylene chloride	0.557	0.564	-1.3	123	-0.01
18	T	Acrylonitrile	0.109	0.128	-17.4	118	0.00
19	T	tert-Butyl methyl ether (MT	0.829	0.839	-1.2	110	0.00
20	T	Carbon disulfide	1.025	1.033	-0.8	112	-0.03
21	T	trans-1,2-Dichloroethene	0.471	0.499	-5.9	118	-0.01
22	T	Isopropyl ether (DIPE)	1.252	1.264	-1.0	114	-0.01
23	T	Vinyl acetate	0.667	0.684	-2.5	118	0.00
24	P,T	1,1-Dichloroethane	0.642	0.692	-7.8	120	-0.01
25	T	tert-Butyl ethyl ether (ETB	0.989	0.979	1.0	110	-0.01
26	T	2-Butanone	0.169	0.196	-16.0	117	-0.01
27	T	2,2-Dichloropropane	0.313	0.325	-3.8	121	-0.01
28	T	cis-1,2-Dichloroethene	0.554	0.592	-6.9	121	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	0#	0.00
30	C,T	Chloroform	0.602	0.655	-8.8	121	0.00
31	T	Bromochloromethane	0.352	0.384	-9.1	120	-0.01
32	T	Tetrahydrofuran	0.111	0.126	-13.5	123	0.00
33	S	Dibromofluoromethane	0.328	0.329	-0.3	106	-0.01
34	T	Cyclohexane	0.000	0.000	0.0	0#	0.00
35	T	1,1,1-Trichloroethane	0.366	0.389	-6.3	121	-0.01
36	T	tert-Amyl methyl ether (TAM	1.038	1.034	0.4	112	-0.01
37	S	1,2-Dichloroethane-d4	0.281	0.285	-1.4	109	-0.01
38	I	CHLOROBENZENE-D5	1.000	1.000	0.0	120	-0.01
39	T	1,1-Dichloropropene	0.164	0.163	0.6	112	-0.01
40	T	Carbon tetrachloride	0.329	0.346	-5.2	120	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CVO02K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T	1,2-Dichloroethane	0.383	0.421	-9.9	124	-0.01
42	T,M	Benzene	1.474	1.475	-0.1	117	0.00
43	T	Methylcyclohexane	0.000	0.000	0.0	0#	0.00
44	T,M	Trichloroethene	0.402	0.403	-0.2	114	-0.01
45	C,T	1,2-Dichloropropane	0.407	0.432	-6.1	121	-0.01
46	T	Bromodichloromethane	0.476	0.516	-8.4	121	0.00
47	T	Dibromomethane	0.238	0.251	-5.5	119	0.00
48	T	2-Chloroethyl vinyl ether	0.101	0.118	-16.8	136	-0.01
49	T	4-Methyl-2-pentanone	0.389	0.452	-16.2	117	-0.01
50	T	cis-1,3-Dichloropropene	0.613	0.647	-5.5	118	0.00
51	S	Toluene-d8	0.981	0.950	3.2	107	-0.01
52	C,T,M	Toluene	1.325	1.317	0.6	116	-0.01
53	T	Ethyl methacrylate	0.490	0.547	-11.6	123	-0.01
54	T	trans-1,3-Dichloropropene	0.491	0.513	-4.5	115	0.00
55	T	2-Hexanone	0.262	0.318	-21.4#	122	-0.01
56	T	1,1,2-Trichloroethane	0.308	0.332	-7.8	122	-0.01
57	T	1,3-Dichloropropane	0.596	0.647	-8.6	121	-0.01
58	T	Tetrachloroethene	0.278	0.275	1.1	116	-0.01
59	T	Dibromochloromethane	0.390	0.415	-6.4	118	0.00
60	T	1,2-Dibromoethane	0.340	0.375	-10.3	122	0.00
61	T	1-Chlorohexane	0.545	0.535	1.8	113	-0.01
62	P,M	Chlorobenzene	0.996	1.026	-3.0	118	-0.01
63	C,T	Ethylbenzene	1.579	1.601	-1.4	118	0.00
64	T	1,1,1,2-Tetrachloroethane	0.360	0.386	-7.2	121	-0.01
65	T	m-Xylene & p-Xylene	1.180	1.223	-3.6	118	-0.01
66	T	o-Xylene	1.269	1.280	-0.9	117	0.00
67	T	Styrene	1.049	1.106	-5.4	119	0.00
68	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	128	-0.01
69	T	Isopropylbenzene	3.726	3.538	5.0	118	-0.01
70	P,T	Bromoform	0.579	0.568	1.9	118	-0.01
71	P,T	1,1,2,2-Tetrachloroethane	1.230	1.287	-4.6	127	-0.01
72	S	4-Bromofluorobenzene	1.078	1.014	5.9	120	-0.01
73	T	1,2,3-Trichloropropane	0.277	0.283	-2.2	123	-0.01
74	T	trans-1,4-Dichloro-2-butene	0.251	0.273	-8.8	127	-0.01
75	T	n-Propylbenzene	4.952	4.716	4.8	118	-0.01
76	T	Bromobenzene	1.042	1.005	3.6	119	-0.01
77	T	1,3,5-Trimethylbenzene	3.080	3.029	1.7	122	-0.01
78	T	2-Chlorotoluene	3.094	3.085	0.3	114	-0.01
79	T	4-Chlorotoluene	2.688	2.163	19.5	94	-0.01
80	T	tert-Butylbenzene	3.169	3.155	0.4	127	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\09L09\RLP241.D Vial: 2
Acq On : 9 Dec 2009 7:52 pm Operator: CGM
Sample : CVO02K0335 Inst : TO02
Misc : 50ppb 8260/200ppb KET-ACL/250ppb TBA-ACN Multiplr: 1.00
MS Integration Params: 524TAIL.P

Method : D:\HPCHEM\1\METHODS\VO02K03.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Wed Nov 04 10:02:49 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T	1,2,4-Trimethylbenzene	3.095	3.102	-0.2	127	-0.01
82	T	sec-Butylbenzene	4.223	4.122	2.4	123	-0.01
83	T	p-Isopropyltoluene	3.648	3.587	1.7	124	-0.01
84	T	1,3-Dichlorobenzene	1.977	1.889	4.5	121	-0.01
85	T	1,4-Dichlorobenzene	2.002	1.914	4.4	122	-0.01
86	T	n-Butylbenzene	3.396	3.270	3.7	122	-0.03
87	T	1,2-Dichlorobenzene	1.842	1.812	1.6	128	-0.01
88	T	1,2-Dibromo-3-chloropropane	0.162	0.166	-2.5	131	-0.01
89	T	1,2,4-Trichlorobenzene	0.880	0.847	3.8	129	-0.01
90	T	Hexachlorobutadiene	0.520	0.483	7.1	132	-0.01
91	T	Naphthalene	2.139	2.075	3.0	132	-0.03
92	T	1,2,3-Trichlorobenzene	0.734	0.668	9.0	126	-0.03

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 11/3/09 ☑ 5-ml Purge ☐ 25-ml Purge **Book # A02 -023**

BATCH V002K035

Sample Prep. ID.	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RKP001	BFB02K01	1µL	NA	NA	NA	15:20
02	002	V002K031	.04µL				8260 Ket/Az TBA/Acn 2 8 10 ppb
03	003	2	.08µL				4 16 20
04	004	3	.2µL				10 40 50
05	005	4	.4µL				20 80 100
06	006	5	1µL				50 200 250
07	007	6	1.6µL				80 320 400
08	008	7	2µL				100 400 500
09	009	8	4µL				200 800 1000
10	010	9	6µL				300 1200 1500
11	011	15/55					
12	012	V002K015					
13	013	V002K031	4.5/1µL				80 200 250
14	014	2					50 200 250
15	015	Rinse					22:32
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							CGM 11/3/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC Ket/AA	SV1 - 15 - 17 - 2	1000
DCC 8260	SV1 - 15 - 17 - 3	250/1250
DCC Gases	SV1 - 15 - 16 - 2	250
BFB	SV1 - 15 - 17 - 1	250
IS/SURR.	SV1 - 15 - 17 - 1	250
LCS Ket/AA	SV1 - 15 - 15 - 1	250
LCS 8260	SV1 - 15 - 6 - 1	50/250
LCS Gases	SV1 - 15 - 5 - 2	250
SOLVENT 15	SV1 - 15 - 19 - 1 ID	250
METHANOL 55	SV1 - 15 - 19 - 2	250
DATA FILE	09K03	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO02	

Comments:

Analyzed By: CGM

Date Disposed: 11/4/09

Disposed By: CGM

2025

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 4 ☐ EMAX-524.2 Rev.No. 4 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 12/9/09 ☑ 5-ml Purge ☐ 25-ml Purge

Book # A02 -023

BATCH W002K0335

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RLD240	BFB02L20	1 µL				19:22
02	241	CW002K0335	4.5 µL				
03	242	V002L20L		1.0			
04	243	↓ C					
05	244	V002L21L					
06	245	↓ C					
07	246	Rinse					
08	247	V002L20B	5.0g	1.0			
09	248	V002L21B	5.0mL				
10	249	09L133-01			<2		
11	250	-02					
12	251	-03					
13	252	09L158-01	☆	☆		✓	
14	253	-02				✓	
15	254	-03				✓	
16	255	-04				✓	
17	256	Rinse					03:17
18							
19							
20							
21							
22							
23							
24							
25							CGM 12/9/09

Instrument No.	02
INITIAL CALIBRATION REFERENCE	
DATE	11/3/09
ICAL ID	V002K03

STANDARDS		
NAME	ID	CONC. (ng/L)
DCC	SV1-15-26-3	
DCC	-8-2	
DCC	-25-1	
BFB	-27-2	50
IS/SURR.	-27-2	250
LCS	-15-1	
LCS	-6-1	
LCS	-5-2	

SOLVENT	ID
METHANOL	
DATA FILE	09L09

Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO02	

Comments:

☆ Please refer to sample int. log.

Analyzed By: CGM

Date Disposed: 12/10/09

Disposed By: CGM

2030

EXTRACTION LOGS

PRESERVATION LOG FOR VOLATILES

METHOD ☑ 5035 **Book #** E02-029

Matrix: SOIL Starting Date/Time: 12/9/2009 9:25 Ending Date/Time 12/9/2009 9:40

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.82	34.82	5	1.00
09L158-01	31.39	36.61	5.22	0.96
09L158-02	31.31	37.33	6.02	0.83
09L158-03	31.3	36.69	5.39	0.93
09L158-04	31.28	36.71	5.43	0.92
NOTHING FOLLOWS.				

Standards / Reagents	ID / Lot#	Amount Added
SURROGATE		
LCS/MS		
REAGENT WATER		5.0ML
$NaHSO_4$ H_2O		
SAND	SW1A-03-711	5.0G

Comments

☑ Volumetric dispenser was checked with 5-ml volumetric flask.

FROZEN ENCORES.

Prepared By: RT

Standard Added By: RT

Witnessed By: CGM

Checked By: CGM

Extract Received By: CGM

Extract Location N/A

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 20:16
Sample ID:	SB18-20V	Date Analyzed:	12/04/09 20:16
Lab Samp ID:	L075-01	Dilution Factor:	0.80
Lab File ID:	RLP091	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	14.5
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
2-BUTANONE	6.0J	9.4	4.7
2-HEXANONE	ND	9.4	4.7
4-METHYL-2-PENTANONE	ND	9.4	4.7
ACETONE	20	9.4	4.7
BENZENE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.4	1.9
CARBON DISULFIDE	ND	4.7	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	9.4	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
M/P-XYLENES	ND	9.4	1.9
METHYLENE CHLORIDE	ND	9.4	1.9
MTBE	ND	4.7	1.9
O-XYLENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	94	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 20:47
Sample ID:	SB18-40V	Date Analyzed:	12/04/09 20:47
Lab Samp ID:	L075-02	Dilution Factor:	0.80
Lab File ID:	RLP092	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	11.0
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.5	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.5	1.8
1,1,2-TRICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHANE	ND	4.5	1.8
1,1-DICHLOROETHENE	ND	4.5	1.8
1,2-DICHLOROETHANE	ND	4.5	1.8
1,2-DICHLOROPROPANE	ND	4.5	1.8
2-BUTANONE	ND	9.0	4.5
2-HEXANONE	ND	9.0	4.5
4-METHYL-2-PENTANONE	ND	9.0	4.5
ACETONE	ND	9.0	4.5
BENZENE	ND	4.5	1.8
BROMODICHLOROMETHANE	ND	4.5	1.8
BROMOFORM	ND	4.5	1.8
BROMOMETHANE	ND	9.0	1.8
CARBON DISULFIDE	ND	4.5	1.8
CARBON TETRACHLORIDE	ND	4.5	1.8
CHLOROBENZENE	ND	4.5	1.8
CHLOROETHANE	ND	4.5	1.8
CHLOROFORM	ND	4.5	1.8
CHLOROMETHANE	ND	9.0	1.8
CIS-1,2-DICHLOROETHENE	ND	4.5	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.5	1.8
DIBROMOCHLOROMETHANE	ND	4.5	1.8
ETHYLBENZENE	ND	4.5	1.8
M/P-XYLENES	ND	9.0	1.8
METHYLENE CHLORIDE	ND	9.0	1.8
MTBE	ND	4.5	1.8
O-XYLENE	ND	4.5	1.8
STYRENE	ND	4.5	1.8
TETRACHLOROETHYLENE	ND	4.5	1.8
TOLUENE	ND	4.5	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.5	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.5	1.8
TRICHLOROETHENE	ND	4.5	1.8
VINYL CHLORIDE	ND	4.5	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	100	70-140
TOLUENE-D8	100	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 21:19
Sample ID:	SB19-20V	Date Analyzed:	12/04/09 21:19
Lab Samp ID:	L075-03	Dilution Factor:	0.83
Lab File ID:	RLP093	Matrix :	SOIL
Ext Btch ID:	V002L09	% Moisture :	12.7
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE	ND	9.5	4.8
2-HEXANONE	ND	9.5	4.8
4-METHYL-2-PENTANONE	ND	9.5	4.8
ACETONE	ND	9.5	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.5	1.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	9.5	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
M/P-XYLENES	ND	9.5	1.9
METHYLENE CHLORIDE	ND	9.5	1.9
MTBE	ND	4.8	1.9
O-XYLENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	102	70-140
TOLUENE-D8	103	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	100	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/02/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 21:50
Sample ID:	SB19-40V	Date Analyzed:	12/04/09 21:50
Lab Samp ID:	L075-04	Dilution Factor:	0.77
Lab File ID:	RLP094	Matrix :	SOIL
Ext Btch ID:	VOO2L09	% Moisture :	12.8
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.4	1.8
1,1,2,2-TETRACHLOROETHANE	ND	4.4	1.8
1,1,2-TRICHLOROETHANE	ND	4.4	1.8
1,1-DICHLOROETHANE	ND	4.4	1.8
1,1-DICHLOROETHENE	ND	4.4	1.8
1,2-DICHLOROETHANE	ND	4.4	1.8
1,2-DICHLOROPROPANE	ND	4.4	1.8
2-BUTANONE	ND	8.8	4.4
2-HEXANONE	ND	8.8	4.4
4-METHYL-2-PENTANONE	ND	8.8	4.4
ACETONE	ND	8.8	4.4
BENZENE	ND	4.4	1.8
BROMODICHLOROMETHANE	ND	4.4	1.8
BROMOFORM	ND	4.4	1.8
BROMOMETHANE	ND	8.8	1.8
CARBON DISULFIDE	ND	4.4	1.8
CARBON TETRACHLORIDE	ND	4.4	1.8
CHLOROBENZENE	ND	4.4	1.8
CHLOROETHANE	ND	4.4	1.8
CHLOROFORM	ND	4.4	1.8
CHLOROMETHANE	ND	8.8	1.8
CIS-1,2-DICHLOROETHENE	ND	4.4	1.8
CIS-1,3-DICHLOROPROPENE	ND	4.4	1.8
DIBROMOCHLOROMETHANE	ND	4.4	1.8
ETHYLBENZENE	ND	4.4	1.8
M/P-XYLENES	ND	8.8	1.8
METHYLENE CHLORIDE	ND	8.8	1.8
MTBE	ND	4.4	1.8
O-XYLENE	ND	4.4	1.8
STYRENE	ND	4.4	1.8
TETRACHLOROETHYLENE	ND	4.4	1.8
TOLUENE	ND	4.4	1.8
TRANS-1,2-DICHLOROETHENE	ND	4.4	1.8
TRANS-1,3-DICHLOROPROPENE	ND	4.4	1.8
TRICHLOROETHENE	ND	4.4	1.8
VINYL CHLORIDE	ND	4.4	1.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	102	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	102	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 22:22
Sample ID:	SB20-20V	Date Analyzed:	12/04/09 22:22
Lab Samp ID:	L075-05	Dilution Factor:	0.81
Lab File ID:	RLP095	Matrix :	SOIL
Ext Btch ID:	VOO2L09	% Moisture :	13.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
2-BUTANONE	5.7J	9.4	4.7
2-HEXANONE	ND	9.4	4.7
4-METHYL-2-PENTANONE	ND	9.4	4.7
ACETONE	18	9.4	4.7
BENZENE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.4	1.9
CARBON DISULFIDE	ND	4.7	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	9.4	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
M/P-XYLENES	ND	9.4	1.9
METHYLENE CHLORIDE	ND	9.4	1.9
MTBE	ND	4.7	1.9
O-XYLENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	101	85-115
4-BROMOFLUOROBENZENE	94	85-120
DIBROMOFLUOROMETHANE	101	70-130

RL: Reporting Limit

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ALLWEST GEOSCIENCE, INC.	Date Collected:	12/03/09
Project	: VA GLAHS	Date Received:	12/03/09
Batch No.	: 09L075	Date Extracted:	12/04/09 22:54
Sample ID:	SB20-40V	Date Analyzed:	12/04/09 22:54
Lab Samp ID:	L075-06	Dilution Factor:	0.83
Lab File ID:	RLP096	Matrix :	SOIL
Ext Btch ID:	VOO2L09	% Moisture :	15.6
Calib. Ref.:	RKP006	Instrument ID :	T-002

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	2.0
1,1,2,2-TETRACHLOROETHANE	ND	4.9	2.0
1,1,2-TRICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHANE	ND	4.9	2.0
1,1-DICHLOROETHENE	ND	4.9	2.0
1,2-DICHLOROETHANE	ND	4.9	2.0
1,2-DICHLOROPROPANE	ND	4.9	2.0
2-BUTANONE	ND	9.8	4.9
2-HEXANONE	ND	9.8	4.9
4-METHYL-2-PENTANONE	ND	9.8	4.9
ACETONE	ND	9.8	4.9
BENZENE	ND	4.9	2.0
BROMODICHLOROMETHANE	ND	4.9	2.0
BROMOFORM	ND	4.9	2.0
BROMOMETHANE	ND	9.8	2.0
CARBON DISULFIDE	ND	4.9	2.0
CARBON TETRACHLORIDE	ND	4.9	2.0
CHLOROBENZENE	ND	4.9	2.0
CHLOROETHANE	ND	4.9	2.0
CHLOROFORM	ND	4.9	2.0
CHLOROMETHANE	ND	9.8	2.0
CIS-1,2-DICHLOROETHENE	ND	4.9	2.0
CIS-1,3-DICHLOROPROPENE	ND	4.9	2.0
DIBROMOCHLOROMETHANE	ND	4.9	2.0
ETHYLBENZENE	ND	4.9	2.0
M/P-XYLENES	ND	9.8	2.0
METHYLENE CHLORIDE	ND	9.8	2.0
MTBE	ND	4.9	2.0
O-XYLENE	ND	4.9	2.0
STYRENE	ND	4.9	2.0
TETRACHLOROETHYLENE	ND	4.9	2.0
TOLUENE	ND	4.9	2.0
TRANS-1,2-DICHLOROETHENE	ND	4.9	2.0
TRANS-1,3-DICHLOROPROPENE	ND	4.9	2.0
TRICHLOROETHENE	ND	4.9	2.0
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	70-140
TOLUENE-D8	104	85-115
4-BROMOFLUOROBENZENE	91	85-120
DIBROMOFLUOROMETHANE	98	70-130

RL: Reporting Limit