APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

September 17, 2003

GEOFON, Inc.
Attention: Brad Shojaee
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Brad,

This package contains samples in our Service ID 03-4878 and your project : 04-4428.10 JPL
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Brad Shojaee
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-034878
Collected by:
Collected on: 08/27/03

Received: 08/27/03
Extracted: N/A
Tested: 08/27-09/03/03
Reported: 09/10/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 03-04878-2	Analysis Result TB-10-8-27-03 03-04878-4
Dilution Factor				1	1
PERCHLORATE	314.0	µg/L	4	2.9J	-
VOLATILE ORGANIC COMPOUNDS					
Dilution Factor				1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	0.3J	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	0.7	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 03-04878-2	Analysis Result TB-10-8-27-03 03-04878-4
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	2.3	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-6-3-Q03 03-04878-1	Analysis Result MW-6 03-04878-2	Analysis Result MW-15 03-04878-3
Dilution Factor				1	1	1
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 04-4428.10 JPL

APCL Service ID: 03-4878

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
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Case Narrative

Project: JPL/04-4428.10

For GEOFON, Inc.

APCL Service No: 03-4878

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-15	03-04878-3
DUPE-6-3-Q03	03-04878-1
MW-6	03-04878-2
TB-10-8-27-03	03-04878-4

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
314.0 (Perchlorate, low level),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

0057

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

SHALLOW WELLS

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW MONI-3Q03	**PROJECT LOCATION** ~~Pasadena, CA~~ MW-15 + MW-6 9.8.27.03	**PROJECT NUMBER** 64-4428.10	**LABORATORY PHONE** (909) 590-1828	**LABORATORY FAX** (909) 590-1455	**RECIPIENT NAME** Tony Ford
PROJECT CONTACT J. Robinson	**PROJECT PHONE NUMBER** ~~(949) 295-9886~~ 714 920 8729	**PROJECT FAX** (909) 396-1455	**LABORATORY ADDRESS** 13760 Magnolia Ave 91710		**ADDRESS** 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	**CITY, STATE AND ZIPCODE** Pasadena, CA.	**CLIENT** US NAVY EWDW	**CITY, STATE AND ZIPCODE** Chino, CA		**CITY, STATE AND ZIPCODE** Diamond Bar, CA. 91765
PROJECT MANAGER Asiar Faheem	**PROJECT MANAGER'S PHONE** (909) 396-7662	**PROJECT MANAGER'S FAX** (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorate)	7196 (Hex Chrome)	200.8 (Total Chromium)	Comments
1	MW-15	H_2O	8/27/03	0723	HNO3 HCl NaOH	8-21-03 2	III	NORMAL			X	X	
2	Dupe-6-3-003			0729		2	IV				X	X	
3	MW-6			0906		5	III		X	X	X	X	
4	TB-10-8-27-03			—	HCl	2	↓		X	X			
5													
6													
7													
8							8.27.03						
9													
10													

1878

SAMPLES COLLECTED BY ~~Leo W. Williamson~~ COURIER AND AIR BILL NUMBER. COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	Pham Wood	8/05/03	0942	
		8/27/03	11:22	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
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Sample Receiving Checklist

APCL ServiceID: 4878 Client Name/Project: Geofon Inc

1. Sample Arrival

Date/Time Received 8/27/03 1122 Date/Time Opened 8/27/03 1122 By (name): Adam Ward
Custody Transfer: ☑ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received _____
☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 2.8°C _____ _____ _____ _____ _____
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☑ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12
If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

7. Turn Around Time

☑ RUSH TAT: 5 day ☐ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____
Received/Checked by: Paul K Printed: 27 Aug 2003 7:30 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [ncal.texfiles]samprcl.tex.

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Sample Login: Check List

03-04878 (0470_ 170) (2202777_ 170)

08/27/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL*
		Project #:	*04-4428.10*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Adam Wood*
		Receiving Date/Time:	*08/27/03 1122*
		COC No.	*0057*
☐	Shipping Information	Shipping Company	*by Client*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*2.8 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-15	CR VI	03-04878-3	W	P		500	1	G	082703	N	0	7	☐
2	DUPE-6-3-Q03	CR VI	03-04878-1	W	P		500	1	G	082703	N	0	7	☐
3	MW-6	524.2	03-04878-2-α	W	V	C	40	3	G	082703	N	0	7	☐
	MW-6	CR VI	03-04878-2-β	W	P		500	1	G	082703	N	0	7	☐
4	TB-10-8-27-03	524.2	03-04878-4	W	V	C	40	2	G	082703	N	0	7	☐

Part 3: Analysis Information

Test Items:

☐ *524.2*	Volatile Organic Compounds
☐ *7196A*	Chromium (VI)
☐ *314.0/300.0*	Perchlorate, low level
☐ *300.0*	Chloride Cl^- by IC
☐ *300.0*	Sulfate (SO_4^{--}), by IC
☐ *300.0/SM4500NO3C*	Nitrate (NO_3^-) as N by IC
☐ *SM2320B*	Carbonate
☐ *SM2320B*	Bicarbonate
☐ *9040B/150.1*	pH
☐ *160.1*	Solids, Total Dissolved (TDS)
☐ *200.7/6010B*	Sodium, Na, by ICP
☐ *200.7/6010B*	Calcium, Ca, by ICP
☐ *200.7/6010B*	Potassium, K, by ICP
☐ *200.7/6010B*	Magnesium, Mg, by ICP
☐ *200.7/6010B*	Iron, Fe, by ICP
☐ *206.2/7060A*	Arsenic, As, by GFAA
☐ *8270-SIM*	1,4-Dioxane

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCH	CL	SO4	NO3	CARBON	BICARB	
1	MW-15	CR VI	03-04878-3	W		X							☐
2	DUPE-6-3-Q03	CR VI	03-04878-1	W		X							☐
3	MW-6	524.2	03-04878-2-α	W	X								☐
	MW-6	CR VI	03-04878-2-β	W		X	X						☐
4	TB-10-8-27-03	524.2	03-04878-4	W	X								☐

Seq. Client"s Sample ID Sample APCL

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	09/03/2003
Project ID:	JPL	Service ID:	34878	Collected by:	
		Lab Sample ID:	03G4023-MB-01	Received Date:	09/03/2003
Sample ID:	**03G4023-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	12:27
Data File Name:	G4023K01	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	< 0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	< 0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	<0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	<10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	112
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	103
4	TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	92
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	93
3	FLUOROBENZENE	462-06-6	50-200	88
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/27/2003
Project ID:	JPL	Service ID:	34878	Collected by:	
		Lab Sample ID:	03-4878-2	Received Date:	08/27/2003
Sample ID:	**MW-6**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	14:16
Data File Name:	4878-02	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	< 0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	0.3	J
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	0.7	
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	μg/L	0.5	< 0.5	U
41	METHYLENE CHLORIDE	75-09-2	μg/L	0.5	< 0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	μg/L	1	< 1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	μg/L	10	< 10	U
44	NAPHTHALENE	91-20-3	μg/L	0.5	< 0.5	U
45	N-PROPYLBENZENE	103-65-1	μg/L	0.5	< 0.5	U
46	STYRENE	100-42-5	μg/L	0.5	< 0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	μg/L	0.5	< 0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	μg/L	0.5	< 0.5	U
49	TETRACHLOROETHENE	127-18-4	μg/L	0.5	2.3	
50	TOLUENE	108-88-3	μg/L	0.5	< 0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	μg/L	0.5	< 0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	μg/L	0.5	< 0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	μg/L	0.5	< 0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	μg/L	0.5	< 0.5	U
55	TRICHLOROETHENE	79-01-6	μg/L	0.5	< 0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	μg/L	0.5	< 0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	μg/L	0.5	< 0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	μg/L	0.5	< 0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	μg/L	0.5	< 0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	μg/L	0.5	< 0.5	U
61	VINYL CHLORIDE	75-01-4	μg/L	0.5	< 0.5	U
62	O-XYLENE	95-47-6	μg/L	0.5	< 0.5	U
63	M/P-XYLENE	108-38-3	μg/L	0.5	< 0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	106
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	102
4	TOLUENE-D8	2037-26-5	73-129	93
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	90
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	90
3	FLUOROBENZENE	462-06-6	50-200	87
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/27/2003
Project ID:	JPL	Service ID:	34878	Collected by:	
		Lab Sample ID:	03-4878-4	Received Date:	08/27/2003
Sample ID:	**TB-10-8-27-03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	13:49
Data File Name:	4878-04	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	< 0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	< 0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	<0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	<10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	95
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	107
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	103
4	TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	90
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	91
3	FLUOROBENZENE	462-06-6	50-200	85
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	034878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	S3 %	#	S4 %	#	TOT OUT
1	03G4023-LCS-01	03G4023-LCS-01	96		98		99		97		0
2	MW-8MS	03-4842-2MS	98		96		97		96		0
3	MW-8MSD	03-4842-2MSD	94		98		98		95		0
4	03G4023-MB-01	03G4023-MB-01	96		112		103		94		0
5	TB-10-8-27-03	03-4878-4	95		107		103		94		0
6	MW-6	03-4878-2	97		106		102		93		0
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	70-129
S2 = 1,2-DICHLOROETHANE-D4	70-129
S3 = DIBROMOFLUOROMETHANE	70-122
S4 = TOLUENE-D8	73-129

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3A

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		
LCS Filename:	G4023L01	Date Analyzed:	090303	Time Analyzed:	09:46
LCSD Filename:	-	Date Analyzed:	-	Time Analyzed:	-

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	18.7	94	65-120
CHLOROBENZENE	µg/L	20	0	20.4	102	65-134
1,1-DICHLOROETHENE	µg/L	20	0	20.4	102	65-127
TOLUENE	µg/L	20	0	19.1	96	65-134
TRICHLOROETHENE	µg/L	20	0	19.9	100	67-122
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

FORM-3A

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		
MS Filename:	G4023M01	Date Analyzed:	090303	Time Analyzed:	10:12
MSD Filename:	G4023N01	Date Analyzed:	090303	Time Analyzed:	10:39
MS Sample No:	**MW-8**	Sample Lab ID:	03-4842-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	18.5	93	65-121
CHLOROBENZENE	µg/L	20	0	20.1	101	65-134
1,1-DICHLOROETHENE	µg/L	20	0	20.1	101	65-127
TOLUENE	µg/L	20	0	19.0	95	65-134
TRICHLOROETHENE	µg/L	20	0	19.7	99	65-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	µg/L	20	18.5	93	0	28	65-121
CHLOROBENZENE	µg/L	20	19.8	99	2	35	65-134
1,1-DICHLOROETHENE	µg/L	20	20.1	101	0	31	65-127
TOLUENE	µg/L	20	18.9	95	0	35	65-134
TRICHLOROETHENE	µg/L	20	19.8	99	0	30	65-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* - Values outside of contract required QC Limits D - Spiked components diluted out

Comments: _____

_____

FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Analysis Date:	09/03/03
		Sample Matrix:	Water	Analysis Time:	12:27
Sample ID:	**03G4023-MB-01**	Batch No:	03G4023	Instrument ID:	GC/MS: A
Lab Sample ID:	03G4023-MB-01	Data File Name:	G4023K01	GC Column:	HP-VOC
		Heated Purge: (Y/N)	N	Column ID:	0.20 mm

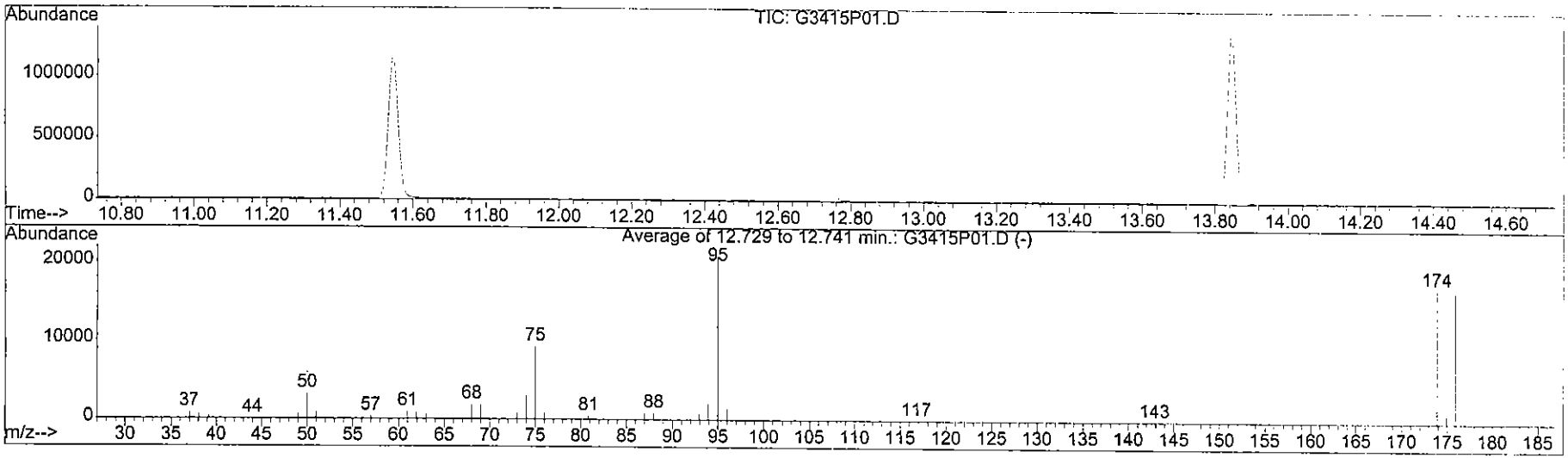
This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1	03G4023-LCS-01	03G4023-LCS-01	Lab Control Spike	G4023L01	09/03/03	09:46
2	MW-8MS	03-4842-2MS	Matrix Spike	G4023M01	09/03/03	10:12
3	MW-8MSD	03-4842-2MSD	Matrix Spike Duplicate	G4023N01	09/03/03	10:39
4	TB-10-8-27-03	03-4878-4	Field Sample	4878-04	09/03/03	13:49
5	MW-6	03-4878-2	Field Sample	4878-02	09/03/03	14:16
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

BFB

Data File : C:\MSDCHEM\1\DATA\03G3415\G3415P01.D
Acq On : 22 Jul 2003 5:08 pm
Sample : ##03g3415, w 50 ng
Misc :
MS Integration Params: Lscint.p
Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2

Vial: 2
Operator: zou
Inst : GCMS-A
Multiplr: 1.00



Spectrum Information: Average of 12.729 to 12.741 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	3208	PASS
75	95	30	60	44.1	9259	PASS
95	95	100	100	100.0	20984	PASS
96	95	5	9	7.0	1467	PASS
173	174	0.00	2	0.7	120	PASS
174	95	50	100	81.3	17069	PASS
175	174	5	9	7.1	1218	PASS
176	174	95	101	98.6	16830	PASS
177	176	5	9	7.6	1277	PASS

G3415P01.D E524A002.M Thu Jul 31 17:21:02 2003

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 034878

Lab File ID: G3415 P01 BFB Injection Date: 07/22/2003

Instrument ID: GCMS-A BFB Injection Time: 1708

GC Column: HP-VOC ID: 0.20 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.3
75	30.0 - 60.0% of mass 95	44.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.6 (0.7)1
174	50.0 - 100.0% of mass 95	81.3
175	5.0 - 9.0% of mass 174	5.8 (7.1)1
176	95.0 - 101.0% of mass 174	80.2 (98.6)1
177	5.0 - 9.0% of mass 176	6.1 (7.6)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
01	VSTD0003	20-0003	20-00003.D	07/22/2003	1925
02	VSTD002	20-0002	20-0002.D	07/22/2003	2111
03	VSTD010	20-0010	20-0010.D	07/22/2003	2137
04	VSTD020	20-0020	20-0020.D	07/22/2003	2256
05	VSTD040	20-0040	20-0040.D	07/23/2003	0043
06	VSTD060	20-0060	20-0060.D	07/23/2003	0245
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	r^2
1)	I	1	Fluorobenzene	ISTD								
2)		3	di-Cl-di-F-m	0.279	0.253	0.228	0.251	0.250	0.246	0.251	6.61	
3)	p	4	Chloromethan	0.300	0.265	0.208	0.221	0.218	0.200	0.235	16.51	0.996
4)		2	F114	0.116	0.138	0.126	0.136	0.137	0.133	0.131	6.45	
5)	C	5	vinyl chlori	0.268	0.267	0.219	0.239	0.240	0.223	0.242	8.61	
6)		6	bromomethane	0.143	0.128	0.105	0.113	0.104	0.106	0.116	13.63	
7)		7	chloroethane	0.162	0.171	0.136	0.131	0.138	0.129	0.144	12.08	
8)		8	tri-Cl-F-met	0.426	0.367	0.310	0.357	0.356	0.338	0.359	10.76	
9)		91	Acetonitrile		0.055	0.041	0.042	0.041	0.040	0.044	14.16	
10)		9	acrolein	0.034	0.034	0.026	0.025	0.024	0.022	0.028	18.73	0.997
11)		11	acetone X	0.106	0.053	0.028	0.024	0.024	0.021	0.043	77.29	0.994
12)		12	ethyl ether	0.162	0.157	0.117	0.117	0.110	0.098	0.127	20.67	0.992
13)	M, C13	11	dichloroe	0.345	0.312	0.258	0.277	0.275	0.253	0.287	12.31#	
14)		14	Iodomethane	0.266	0.286	0.244	0.262	0.258	0.205	0.253	10.75	
15)		15	F-113	0.313	0.246	0.193	0.211	0.205	0.185	0.225	21.21	0.994
16)		16	acrylonitril	0.053	0.052	0.042	0.041	0.040	0.040	0.045	13.61	
17)		17	carbon disul	0.838	0.780	0.654	0.729	0.722	0.649	0.729	10.00	
18)		94	Isopropyl Al	0.015	0.008	0.005	0.006	0.007	0.006	0.008	46.15	0.995
19)		18	methylene ch	1.323	0.482	0.257	0.251	0.242	0.244	0.467	92.15	1.00
20)		19	t-12-di-Cl-e	0.297	0.305	0.248	0.262	0.256	0.253	0.270	8.99	
21)		20	t-Bu-Me-ethe	0.474	0.509	0.419	0.427	0.427	0.442	0.450	7.81	
22)		95	Tert butyl a		0.014	0.010	0.010	0.012	0.013	0.012	16.51	0.990
23)		94	allyl chlori		0.549	0.412	0.417	0.307	0.282	0.393	26.97	
24)	p	21	11-dichloroe	0.518	0.484	0.380	0.407	0.403	0.409	0.433	12.52	
25)		97	propionitril		0.020	0.014	0.016	0.016	0.017	0.017	14.53	
26)		22	c-12-di-Cl-e	0.296	0.311	0.252	0.263	0.257	0.255	0.272	9.12	
27)		23	22-Dichlorop	0.392	0.360	0.280	0.290	0.277	0.262	0.310	16.98	0.998
28)		24	Br-Cl-methan	0.158	0.150	0.117	0.123	0.122	0.122	0.132	13.12	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	r²
29)	C	25	chloroform	0.724	0.528	0.396	0.413	0.403	0.406	0.478	27.21#	1.00
30)		26	tetrahydrofu	0.036	0.035	0.031	0.031	0.032	0.032	0.033	6.66	
31)		98	Diisopropyl	0.648	0.792	0.634	0.653	0.636	0.641	0.667	9.23	
32)	S	27	Di-Br-F-Me (		0.294	0.230	0.240	0.239	0.243	0.249	10.27	
33)		99	ETBE	0.437	0.534	0.485	0.524	0.532	0.549	0.510	8.20	
34)	S	29	1,2-Di-Cl-Et		0.248	0.186	0.191	0.191	0.192	0.202	12.96	
35)		30	12-dichloroe	0.094	0.093	0.070	0.070	0.070	0.070	0.078	15.50	1.00
36)		32	vinyl acetat	0.319	0.377	0.321	0.291	0.285	0.280	0.312	11.53	
37)		92	Nitro Methan		0.006	0.005	0.005	0.006	0.006	0.006	9.09	
38)		33	2-butanoneME	0.081	0.061	0.044	0.043	0.042	0.041	0.052	30.99	1.00
39)		93	Ethyl Acetat	0.175	0.135	0.110	0.107	0.107	0.110	0.124	22.07	0.999
40)		34	111-trichlor	0.479	0.436	0.353	0.387	0.385	0.378	0.403	11.36	
41)		35	11-Di-Cl-pro	0.271	0.306	0.284	0.325	0.324	0.316	0.304	7.40	
42)	M	36	benzene	1.117	1.160	0.923	0.983	0.960	0.948	1.015	9.69	
43)		37	CCl4	0.434	0.397	0.329	0.361	0.358	0.350	0.371	10.20	
44)		100	Isobutyl al	0.002	0.005	0.004	0.004	0.005	0.005	0.004	30.78	0.997
45)		38	thiophene	0.471	0.573	0.471	0.505	0.504	0.503	0.505	7.36	
46)	C	39	12-di-Cl-pro	0.247	0.251	0.204	0.220	0.221	0.220	0.227	7.93#	
47)	M	40	trichloroeth	0.354	0.335	0.274	0.312	0.315	0.309	0.316	8.59	
48)		41	dibromometha	0.177	0.159	0.126	0.133	0.134	0.135	0.144	13.68	
49)		101	TAME	0.352	0.451	0.420	0.462	0.472	0.498	0.442	11.61	
50)		42	Br-di-Cl-met	0.433	0.359	0.280	0.298	0.298	0.297	0.327	17.81	1.00
51)		43	Me-methacryl	0.065	0.098	0.100	0.112	0.117	0.121	0.102	20.03	0.999
52)		44	2-ClEt-Vi-et	0.010	0.016	0.019	0.025	0.029		0.020	37.07	0.992
53)		45	c-13-di-Cl-p	0.312	0.358	0.307	0.333	0.335	0.336	0.330	5.59	
54)		46	t-1,3-dichlo	0.227	0.272	0.247	0.270	0.278	0.281	0.262	8.00	
55)	I	47	Chlorobezene-d5	----------ISTD----------								
56)		48	112-tri-Cl-E	0.288	0.275	0.213	0.222	0.224	0.226	0.241	13.17	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	r^2
57)		49	13-di-Cl-pro	0.436	0.432	0.347	0.357	0.359	0.353	0.381	10.91	
58)		50	Et methacryl	0.189	0.269	0.272	0.287	0.301	0.321	0.273	16.74	0.997
59)		51	di-Br-Cl-met	0.422	0.341	0.275	0.296	0.304	0.309	0.325	16.16	0.999
60)	P	52	bromoform	0.222	0.192	0.159	0.171	0.181	0.187	0.185	11.70	
61)		53	1,4-dichloro	0.405	0.396	0.312	0.330	0.340	0.344	0.354	10.53	
62)		54	MIBK	0.132	0.144	0.134	0.144	0.155	0.166	0.146	8.89	
63)	s	55	toluene-d8	1.345	1.364	1.130	1.244	1.257	1.223	1.260	6.78	
64)	M,C	56	toluene	1.448	1.627	1.315	1.441	1.448	1.412	1.448	6.98	
65)		57	2-hexanone X	0.100	0.109	0.092	0.094	0.098	0.100	0.099	5.95	
66)		58	12-dibromoet	0.274	0.254	0.210	0.222	0.233	0.235	0.238	9.68	
67)		59	tetra-Cl-eth	0.496	0.464	0.378	0.427	0.424	0.408	0.433	9.68	
68)	M,P	60	chlorobenzen	1.297	1.156	0.893	0.967	0.959	0.919	1.032	15.48	0.999
69)		61	1112-tetra-C	0.447	0.412	0.317	0.340	0.348	0.348	0.369	13.47	
70)	I	62	1,4-Dichlorobenzen	----------	ISTD	----------						
71)		63	1-chlorohexa	0.269	0.309	0.291	0.356	0.374	0.358	0.326	12.94	
72)	C	64	Et-Bz	3.072	3.263	2.780	3.211	3.292	3.156	3.129	6.01#	
73)		65	m/p-Xylenes	2.292	2.598	2.175	2.438	2.422	2.268	2.365	6.37	
74)		66	styrene	1.472	1.978	1.707	1.902	1.915	1.818	1.798	10.32	
75)		67	o-xylene	1.955	2.508	2.249	2.527	2.563	2.438	2.373	9.83	
76)	p	68	1122-Tetra-C	0.659	0.575	0.456	0.475	0.501	0.503	0.528	14.34	
77)		69	123-tri-Cl-P	0.186	0.176	0.138	0.146	0.151	0.152	0.158	11.76	
78)	S	70	4-Br-1-F-Bz	0.953	0.876	0.706	0.798	0.823	0.806	0.827	10.01	
79)		71	isopropylben	2.262	3.010	2.857	3.361	3.462	3.290	3.040	14.58	
80)		72	bromobenzene	0.840	0.881	0.719	0.807	0.842	0.810	0.817	6.73	
81)		92	t-1,4-dichlo	0.038	0.078	0.075	0.082	0.094	0.095	0.077	27.12	0.997
82)		73	n-propylbenz	0.759	0.999	0.867	1.019	1.061	1.009	0.952	12.10	
83)		74	2-Cl-Toluene	0.756	0.887	0.758	0.870	0.905	0.873	0.841	7.90	
84)		75	4-Cl-Toluene	0.853	0.955	0.757	0.860	0.880	0.830	0.856	7.52	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

	Compound	.3	2	10	20	40	60	Avg	%RSD	
85)	76 135-tri-Me-B	2.031	2.864	2.465	2.815	2.851	2.678	2.617	12.38	
86)	77 4-iso-Pr-tol	2.280	3.155	2.726	3.159	3.220	2.998	2.923	12.39	
87)	78 124-tri-Me-B	2.267	3.012	2.517	2.854	2.932	2.773	2.726	10.34	
88)	79 tert-butylbe	2.041	2.391	2.526	2.636	2.748	2.655	2.499	10.24	
89)	80 13-DCB	1.989	1.888	1.484	1.667	1.680	1.592	1.717	10.95	
90)	81 sec-butylben	2.715	3.632	3.274	3.857	3.936	3.690	3.517	12.95	
91)	82 14-DCB	2.240	1.859	1.457	1.644	1.684	1.613	1.749	15.60	0.999
92)	83 Cl-benzyl	0.164	0.159	0.155	0.169	0.181	0.165	0.165	5.41	
93)	84 12-DCB	1.762	1.734	1.326	1.464	1.479	1.408	1.529	11.67	
94)	85 n-butylbenze	0.528	0.789	0.731	0.875	0.910	0.843	0.779	17.73	0.997
95)	86 12-diBr-2-Cl	0.110	0.104	0.091	0.102	0.118	0.120	0.108	10.09	
96)	87 124-tri-Cl-B	0.843	0.926	0.884	1.065	1.130	1.091	0.990	12.16	
97)	88 naphthalene	2.218	1.820	1.426	1.651	1.832	1.831	1.796	14.50	
98)	89 hx-Cl-butadi	0.644	0.621	0.514	0.599	0.629	0.588	0.599	7.74	
99)	90 123-Tri-Cl-B	0.849	0.875	0.777	0.914	0.969	0.944	0.888	7.86	

r^2

(#) = Out of Range

INITIAL CALIBRATION SUMMARY

Method File	E524A002		
Last Calibration Update	Thu Jul 24 12:40:35 2003		
Level 1 File Name	2-00003.D	**Level 1 ID**	.3
Level 2 File Name	2-0002A.D	**Level 2 ID**	2
Level 3 File Name	2-00010.D	**Level 3 ID**	10
Level 4 File Name	2-00020.D	**Level 4 ID**	20
Level 5 File Name	2-00040.D	**Level 5 ID**	40
Level 6 File Name	2-00060.D	**Level 6 ID**	60
Level 7 File Name	2-00020.D	**Level 7 ID**	cc

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene	919393	1006828	1003977	1015499	990930	980047	-1	------	------	------	------
3 di-Cl-di-F-methane	7698	51044	228452	508778	990705	1444214	-1	0.0000	0.2510	0.0000	0.0661
4 Chloromethane	8264	53373	208536	448729	864850	1174857	-1	0.0169	0.2027	0.0000	0.9966
2 F114	3209	27835	126949	275940	544934	783345	-1	0.0000	0.1313	0.0000	0.0645
5 vinyl chloride	7381	53695	219399	484855	949966	1312837	-1	0.0000	0.2424	0.0000	0.0861
6 bromomethane	3952	25743	105105	228520	411844	626111	-1	0.0000	0.1165	0.0000	0.1363
7 chloroethane	4460	34347	136103	266250	546077	758703	-1	0.0000	0.1443	0.0000	0.1208
8 tri-Cl-F-methane	11754	73985	311036	724847	1412342	1986417	-1	0.0000	0.3591	0.0000	0.1076
91 Acetonitrile X10	-1	110646	413272	845923	1639456	2365932	-1	0.0000	0.0439	0.0000	0.1416
9 acrolein X10	9511	67561	262941	513017	937791	1313901	-1	0.0306	0.0223	0.0000	0.9978
11 acetone X10	29124	106138	281400	497276	943071	1241915	-1	0.0622	0.0208	0.0000	0.9944
12 ethyl ether X5	22348	158277	587938	1189867	2188257	2883396	-1	0.0885	0.0991	0.0000	0.9929
13 11-dichloroethene	9522	62800	259067	562011	1088836	1490545	-1	0.0000	0.2867	0.0000	0.1231
14 Iodomethane	7324	57536	244664	532902	1022337	1206486	-1	0.0000	0.2534	0.0000	0.1075
15 F-113	8636	49466	193654	427782	814332	1086062	-1	0.0189	0.1881	0.0000	0.9947
16 acrylonitrile X10	14700	104060	420553	831510	1601521	2352958	-1	0.0000	0.0447	0.0000	0.1361
17 carbon disulfide	23125	156993	656825	1480814	2862257	3817157	-1	0.0000	0.7288	0.0000	0.1000
94 Isopropyl Alcoholx10	4021	15273	46223	124874	265806	369178	-1	-0.0027	0.0064	0.0000	0.9954
18 methylene chloride	36501	97000	257935	510536	960233	1435510	-1	0.0322	0.2370	0.0000	0.9996
19 t-12-di-Cl-ethene	8180	61414	249312	531623	1015155	1488348	-1	0.0000	0.2701	0.0000	0.0899
20 t-Bu-Me-ether	13066	102540	420692	866584	1693079	2598506	-1	0.0000	0.4496	0.0000	0.0781
95 Tert butyl alcoholx10	-1	28855	98345	205914	482970	785022	-1	-0.0326	0.0135	0.0000	0.9918

94 allyl chloride	-1	110646	413272	845923	1216384	1660968	-1	0.0000	0.3934	0.0000	0.2697
21 11-dichloroethane	14292	97373	381929	825889	1598207	2404444	-1	0.0000	0.4335	0.0000	0.1252
97 propionitrile	-1	4103	13637	33328	64498	101359	-1	0.0000	0.0168	0.0000	0.1453
22 c-12-di-Cl-ethene	8154	62676	253306	533706	1019103	1499328	-1	0.0000	0.2723	0.0000	0.0912
23 22-Dichloropropane	10809	72464	281116	589735	1098975	1539718	-1	0.0244	0.2629	0.0000	0.9982
24 Br-Cl-methane	4359	30212	117713	250220	483734	716534	-1	0.0000	0.1321	0.0000	0.1312
25 chloroform	19972	106303	398005	838697	1597118	2387736	-1	0.0108	0.4031	0.0000	0.9998
26 tetrahydrofuranX5	4965	35404	154519	318868	624422	946730	-1	0.0000	0.0328	0.0000	0.0666
98 Diisopropyl ether	17882	159533	636576	1326012	2521921	3767835	-1	0.0000	0.6674	0.0000	0.0923
27 Di-Br-F-Me (surr)	-1	59230	230740	486919	949109	1428311	-1	0.0000	0.2492	0.0000	0.1027
99 ETBE	12061	107588	486462	1064815	2106754	3231163	-1	0.0000	0.5102	0.0000	0.0820
29 1,2-Di-Cl-Et-d4 (S1)	-1	50036	187219	388784	757790	1126883	-1	0.0000	0.2018	0.0000	0.1296
30 12-dichloroethane	2582	18795	70404	142937	277276	411282	-1	0.0020	0.0695	0.0000	0.9999
32 vinyl acetate X5	43949	379164	1608933	2957025	5653569	8226056	-1	0.0000	0.3120	0.0000	0.1153
92 Nitro Methane(x10)	-1	12060	47784	111334	237578	325914	-1	0.0000	0.0056	0.0000	0.0909
33 2-butanoneMEK X10	22369	123309	444332	875377	1648493	2411259	-1	0.0340	0.0406	0.0000	0.9998
93 Ethyl Acetate x2	9671	54370	220002	434881	845931	1295021	-1	0.0014	0.1088	0.0000	0.9995
34 111-trichloroethane	13204	87716	354801	785718	1524561	2222673	-1	0.0000	0.4029	0.0000	0.1136
35 11-Di-Cl-propene	7463	61583	285223	660985	1285689	1859527	-1	0.0000	0.3044	0.0000	0.0740
36 benzene	30808	233485	926403	1995763	3805709	5575015	-1	0.0000	1.0150	0.0000	0.0969
37 CCl4	11983	79844	329846	732441	1420059	2060040	-1	0.0000	0.3715	0.0000	0.1020

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
100 Isobutyl alcoholx10	457	10371	40745	87337	182637	287972	-1	------	------	------	------
38 thiophene	12985	115327	473132	1025220	1999457	2960047	-1	0.0000	0.5046	0.0000	0.0736
39 12-di-Cl-propane	6808	50516	204989	446632	875952	1293157	-1	0.0000	0.2271	0.0000	0.0793
40 trichloroethene	9774	67466	274815	633192	1246934	1815606	-1	0.0000	0.3164	0.0000	0.0859
41 dibromomethane	4889	32002	126997	270225	530196	793122	-1	0.0000	0.1441	0.0000	0.1368
101 TAME	9699	90788	421379	938326	1872529	2927534	-1	0.0000	0.4424	0.0000	0.1161
42 Br-di-Cl-methane	11934	72312	281223	604352	1181950	1745648	-1	0.0014	0.2967	0.0000	0.9998
43 Me-methacrylate	1794	19729	100519	228095	464768	714088	-1	-0.0114	0.1219	0.0000	0.9990
44 2-ClEt-Vi-ether10	2834	31796	189485	514977	1130652	-1	-1	-0.0446	0.0290	0.0000	0.9927
45 c-13-di-Cl-propene	8596	71992	308098	676158	1328342	1977341	-1	0.0000	0.3301	0.0000	0.0559
46 t-1,3-dichloropropene	6273	54825	247619	547714	1100371	1653172	-1	0.0000	0.2625	0.0000	0.0800
47 Chlorobezene-d5	683445	775455	774184	772935	739886	736062	-1	0.0000	1.0000	0.0000	0.0000

48 112-tri-Cl-Et	5902	42713	164770	343401	662895	997315	-1	0.0000	0.2413	0.0000	0.1317
49 13-di-Cl-propane	8941	66977	268452	552557	1062190	1558760	-1	0.0000	0.3807	0.0000	0.1091
50 Et methacrylate	3865	41714	210769	443099	890456	1418605	-1	-0.0322	0.3197	0.0000	0.9978

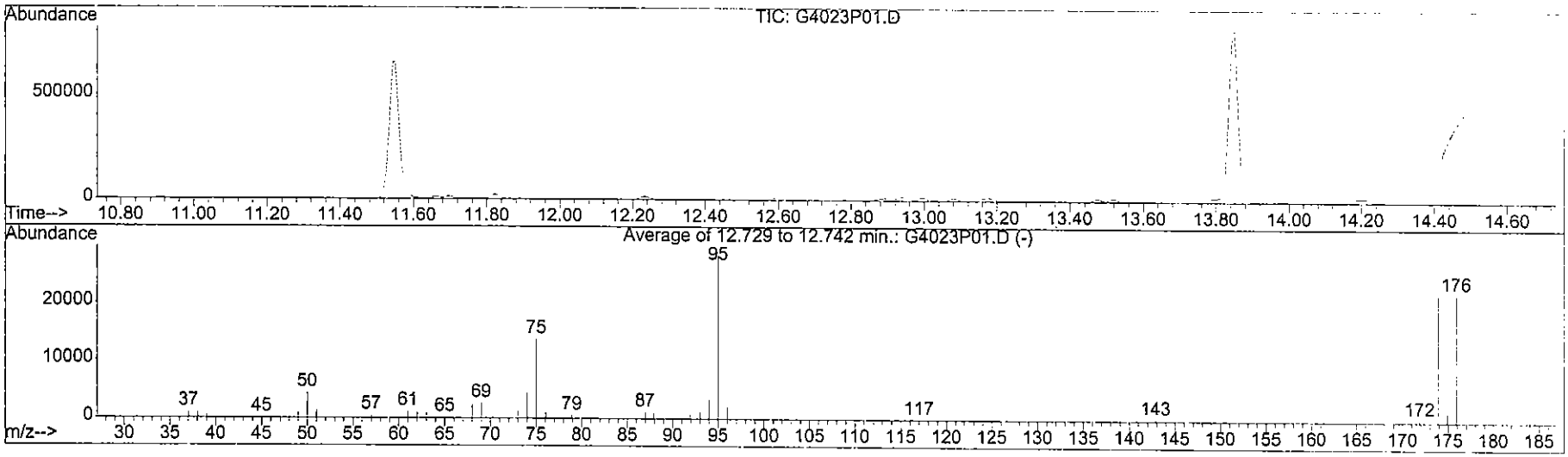
Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
51 di-Br-Cl-methane	8661	52843	213283	456818	899440	1365305	-1	-0.0111	0.3087	0.0000	0.9994
52 bromoform	4560	29809	123106	263988	534402	823804	-1	0.0000	0.1852	0.0000	0.1170
53 1,4-dichlorobutane-2	8296	61397	241554	510059	1005306	1519089	-1	0.0000	0.3544	0.0000	0.1053
54 MIBK	2701	22334	103475	222364	457366	733371	-1	0.0000	0.1456	0.0000	0.0889
55 toluene-d8	27570	211476	874470	1923324	3719816	5400714	-1	0.0000	1.2603	0.0000	0.0678
56 toluene	29681	252340	1018191	2227432	4284454	6235319	-1	0.0000	1.4484	0.0000	0.0698
57 2-hexanone X5	10224	84522	356146	728526	1453530	2205707	-1	0.0000	0.0989	0.0000	0.0595
58 12-dibromoethane	5621	39459	162435	343609	688415	1038913	-1	0.0000	0.2381	0.0000	0.0968
59 tetra-Cl-ethene	10167	72027	292262	659769	1256084	1800306	-1	0.0000	0.4328	0.0000	0.0968
60 chlorobenzene	26600	179300	691236	1494861	2837497	4059222	-1	0.0338	0.9255	0.0000	0.9991
61 1112-tetra-Cl-Et	9159	63898	245258	525072	1031299	1537036	-1	0.0000	0.3686	0.0000	0.1347
62 1,4-Dichlorobenzene-d4	358277	419640	407774	393961	367099	365124	-1	0.0000	1.0000	0.0000	0.0000
63 1-chlorohexane	2893	25946	118729	280119	548810	784184	-1	0.0000	0.3261	0.0000	0.1294
64 Et-Bz	33015	273886	1133719	2529977	4833949	6913463	-1	0.0000	3.1290	0.0000	0.0601
65 m/p-Xylenes X2	49281	436018	1773476	3842318	7112016	9936549	-1	0.0000	2.3654	0.0000	0.0637
66 styrene	15818	166023	695954	1498467	2811895	3981902	-1	0.0000	1.7985	0.0000	0.1032
67 o-xylene	21010	210456	917264	1990843	3763083	5341093	-1	0.0000	2.3732	0.0000	0.0983
68 1122-Tetra-Cl-Et	7086	48249	186045	374484	736112	1101133	-1	0.0000	0.5283	0.0000	0.1434
69 123-tri-Cl-Pr	1994	14801	56224	114784	222436	332760	-1	0.0000	0.1581	0.0000	0.1176
70 4-Br-1-F-Bz (S3)	10243	73535	287803	629095	1208574	1766234	-1	0.0000	0.8271	0.0000	0.1001
71 isopropylbenzene	24316	252585	1164869	2648278	5083237	7208570	-1	0.0000	3.0403	0.0000	0.1458
72 bromobenzene	9030	73980	293172	635461	1236729	1774887	-1	0.0000	0.8166	0.0000	0.0673
92 t-1,4-dichloro-2-butene	406	6524	30509	64587	137632	207953	-1	-0.0118	0.0961	0.0000	0.9978
73 n-propylbenzene	8157	83853	353478	802663	1558540	2210026	-1	0.0000	0.9523	0.0000	0.1210
74 2-Cl-Toluene	8123	74427	309252	685694	1328259	1912837	-1	0.0000	0.8415	0.0000	0.0790
75 4-Cl-Toluene	9172	80121	308786	677984	1291985	1819259	-1	0.0000	0.8560	0.0000	0.0752
76 135-tri-Me-Benzene	21830	240336	1005234	2217776	4186569	5867539	-1	0.0000	2.6173	0.0000	0.1238
77 4-iso-Pr-toluene	24508	264794	1111631	2489320	4727712	6567533	-1	0.0000	2.9230	0.0000	0.1239
78 124-tri-Me-Benzene	24365	252796	1026195	2248874	4305294	6074118	-1	0.0000	2.7257	0.0000	0.1034
79 tert-butylbenzene	21932	200692	1030129	2077031	4034706	5816456	-1	0.0000	2.4995	0.0000	0.1024

80 13-DCB	21374	158442	605258	1313556	2467081	3488098	-1	0.0000	1.7167	0.0000	0.1095
81 sec-butylbenzene	29181	304851	1334960	3039109	5779243	8084394	-1	0.0000	3.5174	0.0000	0.1295
82 14-DCB	24079	155998	594167	1295125	2472135	3533637	-1	-0.0003	1.6325	0.0000	0.9988
83 Cl-benzyl	1764	13306	63403	132793	265795	361085	-1	0.0000	0.1654	0.0000	0.0541
84 12-DCB	18942	145496	540526	1153351	2171646	3083911	-1	0.0000	1.5286	0.0000	0.1167
85 n-butylbenzene	5679	66251	298215	689097	1335543	1846727	-1	-0.0178	0.8660	0.0000	0.9968
86 12-diBr-2-Cl-Pra	1180	8757	37194	80335	173925	263112	-1	0.0000	0.1076	0.0000	0.1009
87 124-tri-Cl-Bz	9061	77700	360446	838928	1658990	2390948	-1	0.0000	0.9898	0.0000	0.1216
88 naphthalene	23839	152715	581293	1300980	2689379	4011635	-1	0.0000	1.7961	0.0000	0.1450
89 hx-Cl-butadiene	6922	52135	209577	472099	923440	1288580	-1	0.0000	0.5992	0.0000	0.0774
90 123-Tri-Cl-Bz	9124	73440	317007	719921	1423460	2068944	-1	0.0000	0.8881	0.0000	0.0786

BFB

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023P01.D
Acq On : 3 Sep 2003 8:53 am
Sample : ##03g4023,w 50ng
Misc :
MS Integration Params: Lscint.p
Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2

Vial: 1
Operator: zou
Inst : GCMS-A
Multiplr: 1.00



Spectrum Information: Average of 12.729 to 12.742 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	4387	PASS
75	95	30	60	48.3	13746	PASS
95	95	100	100	100.0	28476	PASS
96	95	5	9	7.6	2170	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	77.2	21993	PASS
175	174	5	9	8.5	1879	PASS
176	174	95	101	100.5	22096	PASS
177	176	5	9	7.1	1576	PASS

G4023P01.D E524A002.M Thu Sep 04 12:06:52 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 524.2

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	034878
Project ID:	JPL	BFB Inj. Date:	09/03/03	Batch No:	03G4023
		BFB Inj. Time:	08:53	Sequence No:	03G4023
Project No:	04-4428.10	Instrument ID:	A	GC Column:	HP-VOC
Data File Name:	G4023P01	Heated Purge: (Y/N)	N	Column ID:	0.20 mm

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

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1	03G4023-CCV-01	03G4023-CCV-01	G4023Q01	09/03/03	09:19
2	03G4023-LCS-01	03G4023-LCS-01	G4023L01	09/03/03	09:46
3	MW-8MS	03-4842-2MS	G4023M01	09/03/03	10:12
4	MW-8MSD	03-4842-2MSD	G4023N01	09/03/03	10:39
5	03G4023-MB-01	03G4023-MB-01	G4023K01	09/03/03	12:27
6	TB-10-8-27-03	03-4878-4	4878-04	09/03/03	13:49
7	MW-6	03-4878-2	4878-02	09/03/03	14:16
8					
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25					

Continuing Calibration Concentration Summary

Data File G4023Q01
Method File E524A002

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	10	10.00	ppb	0.00	692720
3 di-Cl-di-F-methane	20	22.59	ppb	12.96	392866
4 Chloromethane	20	17.82	ppb	10.89	261941
2 F114	20	19.29	ppb	3.56	175378
5 vinyl chloride	20	19.51	ppb	2.44	327638
6 bromomethane	20	17.02	ppb	14.91	137288
7 chloroethane	20	19.94	ppb	0.32	199257
8 tri-Cl-F-methane	20	21.45	ppb	7.24	533481
91 Acetonitrile X10	200	171.02	ppb	14.49	519753
9 acrolein X10	200	203.72	ppb	1.86	335652
11 acetone X10	200	401.76	ppb	100.88	622179
12 ethyl ether X5	100	106.95	ppb	6.95	795804
13 11-dichloroethene	20	19.81	ppb	0.96	393354
14 Iodomethane	20	10.22	ppb	48.88	179472
15 F-113	20	22.94	ppb	14.70	312078
16 acrylonitrile X10	200	164.83	ppb	17.58	510444
17 carbon disulfide	20	20.47	ppb	2.35	1033388
94 Isopropyl Alcoholx10	200	175.13	ppb	12.43	76039
18 methylene chloride	20	21.54	ppb	7.70	376011
19 t-12-di-Cl-ethene	20	18.91	ppb	5.45	353854
20 t-Bu-Me-ether	20	18.18	ppb	9.08	566384
95 Tert butyl alcoholx10	200	170.71	ppb	14.64	136952
94 allyl chloride	20	19.07	ppb	4.64	519753
21 11-dichloroethane	20	17.55	ppb	12.26	526952
97 propionitrile	20	19.04	ppb	4.79	22128
22 c-12-di-Cl-ethene	20	18.84	ppb	5.81	355392
23 22-Dichloropropane	20	25.78	ppb	28.90	486395
24 Br-Cl-methane	20	18.24	ppb	8.78	166908
25 chloroform	20	20.09	ppb	0.47	568551
26 tetrahydrofuranX5	100	81.19	ppb	18.81	184722
98 Diisopropyl ether	20	17.50	ppb	12.51	809012
27 Di-Br-F-Me (surr)	20	19.42	ppb	2.88	335336
99 ETBE	20	18.79	ppb	6.07	664011
29 1,2-Di-Cl-Et-d4 (S1)	20	19.34	ppb	3.31	270374
30 12-dichloroethane	20	20.36	ppb	1.78	99426
32 vinyl acetate X5	100	96.94	ppb	3.06	2095094
92 Nitro Methane(x10)	200	174.88	ppb	12.56	67276
33 2-butanoneMEK X10	200	242.12	ppb	21.06	704482
93 Ethyl Acetate x2	40	36.72	ppb	8.20	277696
34 111-trichloroethane	20	19.66	ppb	1.71	548596
35 11-Di-Cl-propene	20	20.47	ppb	2.35	431675
36 benzene	20	18.20	ppb	9.02	1279372
37 CCl4	20	20.69	ppb	3.45	532371

Compound Name	Amount	Actual	Units	%Dev	Target Response
100 Isobutyl alcoholx10	200	152.07	ppb	23.97	47971
38 thiophene	20	18.97	ppb	5.15	663020
39 12-di-Cl-propane	20	17.32	ppb	13.40	272490
40 trichloroethene	20	19.07	ppb	4.63	418033
41 dibromomethane	20	18.09	ppb	9.53	180567
101 TAME	20	19.05	ppb	4.75	583841
42 Br-di-Cl-methane	20	19.73	ppb	1.37	406413
43 Me-methacrylate	20	16.91	ppb	15.44	134869
44 2-ClEt-Vi-ether10	200	296.44	ppb	48.22	564039
45 c-13-di-Cl-propene	20	20.13	ppb	0.63	460170
46 t-1,3-dichloropropene	20	20.78	ppb	3.89	377751
47 Chlorobezene-d5	10	10.00	ppb	0.00	540075
48 112-tri-Cl-Et	20	17.41	ppb	12.97	226878
49 13-di-Cl-propane	20	17.67	ppb	11.65	363288
50 Et methacrylate	20	17.63	ppb	11.87	286875

Compound Name	Amount	Actual	Units	%Dev	Target Response
51 di-Br-Cl-methane	20	19.32	ppb	3.41	316099
52 bromoform	20	18.15	ppb	9.27	181553
53 1,4-dichlorobutane-2	20	16.95	ppb	15.25	324388
54 MIBK	20	16.32	ppb	18.40	128362
55 toluene-d8	20	18.83	ppb	5.84	1281795
56 toluene	20	18.69	ppb	6.56	1461903
57 2-hexanone X5	100	98.26	ppb	1.74	524559
58 12-dibromoethane	20	17.66	ppb	11.71	227054
59 tetra-Cl-ethene	20	19.50	ppb	2.51	455710
60 chlorobenzene	20	19.95	ppb	0.27	1015172
61 1112-tetra-Cl-Et	20	18.47	ppb	7.63	367788
62 1,4-Dichlorobenzene-d4	10	10.00	ppb	0.00	291184
63 1-chlorohexane	20	19.85	ppb	0.76	188472
64 Et-Bz	20	18.64	ppb	6.82	1697861
65 m/p-Xylenes X2	40	38.63	ppb	3.43	2660455
66 styrene	20	21.15	PPB	5.75	1107644
67 o-xylene	20	19.58	ppb	2.09	1353161
68 1122-Tetra-Cl-Et	20	15.90	ppb	20.49	244607
69 123-tri-Cl-Pr	20	16.84	ppb	15.79	77549
70 4-Br-1-F-Bz (S3)	20	18.11	ppb	9.47	436047
71 isopropylbenzene	20	20.26	ppb	1.32	1793892
72 bromobenzene	20	18.66	ppb	6.72	443595
92 t-1,4-dichloro-2-butene	20	18.19	ppb	9.05	47434
73 n-propylbenzene	20	20.17	ppb	0.85	559324
74 2-Cl-Toluene	20	19.57	ppb	2.14	479568
75 4-Cl-Toluene	20	19.27	ppb	3.63	480435
76 135-tri-Me-Benzene	20	20.54	ppb	2.71	1565613
77 4-iso-Pr-toluene	20	20.87	ppb	4.36	1776419
78 124-tri-Me-Benzene	20	20.02	ppb	0.11	1589191
79 tert-butylbenzene	20	19.97	ppb	0.14	1453549
80 13-DCB	20	18.47	ppb	7.64	923328
81 sec-butylbenzene	20	20.54	ppb	2.72	2104129

82 14-DCB	20	19.25	ppb	3.77	914732
83 Cl-benzyl	20	26.14	ppb	30.70	125907
84 12-DCB	20	18.24	ppb	8.82	811673
85 n-butylbenzene	20	19.93	ppb	0.35	497364
86 12-diBr-2-Cl-Pra	20	17.33	ppb	13.37	54302
87 124-tri-Cl-Bz	20	21.29	ppb	6.43	613490
88 naphthalene	20	17.67	ppb	11.67	923953
89 hx-Cl-butadiene	20	20.38	ppb	1.89	355552
90 123-Tri-Cl-Bz	20	20.25	ppb	1.24	523651

Average D % 9.130521

Evaluate Continuing Calibration Report

2631

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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	Fluorobenzene	1.000	1.000	0.0	68	0.02
2		3	di-Cl-di-F-methane	0.251	0.284	-13.1	77	0.04
3	p	4	Chloromethane	0.235	0.189	19.6	58	0.04
4		2	F114	0.131	0.127	3.1	64	0.04
5	C	5	vinyl chloride	0.242	0.236	2.5	68	0.03
6		6	bromomethane	0.116	0.099	14.7	60	0.04
7		7	chloroethane	0.144	0.144	0.0	75	0.03
8		8	tri-Cl-F-methane	0.359	0.385	-7.2	74	0.04
9		91	Acetonitrile X10	0.044	0.038	13.6	61	0.03
10		9	acrolein X10	0.028	0.024	14.3	65	0.04
11		11	acetone X10	0.043	0.045	-4.7	125	0.03
12		12	ethyl ether X5	0.127	0.115	9.4	67	0.04
13	M, C	13	11-dichloroethene	0.287	0.284	1.0	70	0.04
14		14	Iodomethane	0.253	0.130	48.6#	34#	0.04
15		15	F-113	0.225	0.225	0.0	73	0.04
16		16	acrylonitrile X10	0.045	0.037	17.8	61	0.03
17		17	carbon disulfide	0.729	0.746	-2.3	70	0.03
18		94	Isopropyl Alcoholx10	0.008	0.005	37.5#	61	0.06
19		18	methylene chloride	0.467	0.271	42.0#	74	0.04
20		19	t-12-di-Cl-ethene	0.270	0.255	5.6	67	0.03
21		20	t-Bu-Me-ether	0.450	0.409	9.1	65	0.03
22		95	Tert butyl alcoholx10	0.012	0.010	16.7	67	0.03
23		94	allyl chloride	0.393	0.375	4.6	61	0.03
24	p	21	11-dichloroethane	0.433	0.380	12.2	64	0.03
25		97	propionitrile	0.017	0.016	5.9	66	0.02
26		22	c-12-di-Cl-ethene	0.272	0.257	5.5	67	0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
27		23	22-Dichloropropane	0.310	0.351	-13.2	82	0.02
28		24	Br-Cl-methane	0.132	0.120	9.1	67	0.02
29	C	25	chloroform	0.478	0.410	14.2	68	0.02
30		26	tetrahydrofuranX5	0.033	0.027	18.2	58	0.02
31		98	Diisopropyl ether	0.667	0.584	12.4	61	0.02
32	S	27	Di-Br-F-Me (surr)	0.249	0.242	2.8	69	0.03
33		99	ETBE	0.510	0.479	6.1	62	0.02
34	S	29	1,2-Di-Cl-Et-d4 (S1)	0.202	0.195	3.5	70	0.03
35		30	12-dichloroethane	0.078	0.072	7.7	70	0.02
36		32	vinyl acetate X5	0.312	0.302	3.2	71	0.03
37		92	Nitro Methane(x10)	0.006	0.005	16.7	60	0.02
38		33	2-butanoneMEK X10	0.052	0.051	1.9	80	0.02
39		93	Ethyl Acetate x2	0.124	0.100	19.4	64	0.02
40		34	111-trichloroethane	0.403	0.396	1.7	70	0.02
41		35	11-Di-Cl-propene	0.304	0.312	-2.6	65	0.02
42	M	36	benzene	1.015	0.923	9.1	64	0.02
43		37	CCl4	0.371	0.384	-3.5	73	0.02
44		100	Isobutyl alcoholx10	0.004	0.003	25.0#	55	-0.23
45		38	thiophene	0.505	0.479	5.1	65	0.02
46	C	39	12-di-Cl-propane	0.227	0.197	13.2	61	0.02
47	M	40	trichloroethene	0.316	0.302	4.4	66	0.01
48		41	dibromomethane	0.144	0.130	9.7	67	0.01
49		101	TAME	0.442	0.421	4.8	62	0.02
50		42	Br-di-Cl-methane	0.327	0.293	10.4	67	0.01
51		43	Me-methacrylate	0.102	0.097	4.9	59	0.00
52		44	2-ClEt-Vi-ether10	0.020	0.041	-105.0#	110	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
53		45	c-13-di-Cl-propene	0.330	0.332	-0.6	68	0.01
54		46	t-1,3-dichloropropene	0.262	0.273	-4.2	69	0.00
55	I	47	Chlorobezene-d5	1.000	1.000	0.0	70	0.00
56		48	112-tri-Cl-Et	0.241	0.210	12.9	66	0.00
57		49	13-di-Cl-propane	0.381	0.336	11.8	66	0.00
58		50	Et methacrylate	0.273	0.266	2.6	65	0.00
59		51	di-Br-Cl-methane	0.325	0.293	9.8	69	0.00
60	P	52	bromoform	0.185	0.168	9.2	69	0.00
61		53	1,4-dichlorobutane-2	0.354	0.300	15.3	64	0.00
62		54	MIBK	0.146	0.119	18.5	58	0.00
63	s	55	toluene-d8	1.260	1.187	5.8	67	0.01
64	M,C	56	toluene	1.448	1.353	6.6	66	0.00
65		57	2-hexanone X5	0.099	0.097	2.0	72	0.00
66		58	12-dibromoethane	0.238	0.210	11.8	66	0.00
67		59	tetra-Cl-ethene	0.433	0.422	2.5	69	0.00
68	M,P	60	chlorobenzene	1.032	0.940	8.9	68	0.00
69		61	1112-tetra-Cl-Et	0.369	0.340	7.9	70	0.00
70	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	74	0.00
71		63	1-chlorohexane	0.326	0.324	0.6	67	0.00
72	C	64	Et-Bz	3.129	2.915	6.8	67	0.00
73		65	m/p-Xylenes X2	2.365	2.284	3.4	69	0.00
74		66	styrene	1.798	1.902	-5.8	74	0.00
75		67	o-xylene	2.373	2.324	2.1	68	0.00
76	p	68	1122-Tetra-Cl-Et	0.528	0.420	20.5#	65	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
77		69	123-tri-Cl-Pr	0.158	0.133	15.8	68	0.00
78	S	70	4-Br-1-F-Bz (S3)	0.827	0.749	9.4	69	0.00
79		71	isopropylbenzene	3.040	3.080	-1.3	68	0.00
80		72	bromobenzene	0.817	0.762	6.7	70	0.00
81		92	t-1,4-dichloro-2-butene	0.077	0.081	-5.2	73	0.00
82		73	n-propylbenzene	0.952	0.960	-0.8	70	0.00
83		74	2-Cl-Toluene	0.841	0.823	2.1	70	0.00
84		75	4-Cl-Toluene	0.856	0.825	3.6	71	0.00
85		76	135-tri-Me-Benzene	2.617	2.688	-2.7	71	0.00
86		77	4-iso-Pr-toluene	2.923	3.050	-4.3	71	0.00
87		78	124-tri-Me-Benzene	2.726	2.729	-0.1	71	0.00
88		79	tert-butylbenzene	2.499	2.496	0.1	70	0.00
89		80	13-DCB	1.717	1.585	7.7	70	0.00
90		81	sec-butylbenzene	3.517	3.613	-2.7	69	0.00
91		82	14-DCB	1.749	1.571	10.2	71	0.00
92		83	Cl-benzyl	0.165	0.216	-30.9#	95	0.00
93		84	12-DCB	1.529	1.394	8.8	70	0.00
94		85	n-butylbenzene	0.779	0.854	-9.6	72	0.00
95		86	12-diBr-2-Cl-Pra	0.108	0.093	13.9	68	0.00
96		87	124-tri-Cl-Bz	0.990	1.053	-6.4	73	0.00
97		88	naphthalene	1.796	1.587	11.6	71	0.00
98		89	hx-Cl-butadiene	0.599	0.611	-2.0	75	0.00
99		90	123-Tri-Cl-Bz	0.888	0.899	-1.2	73	0.00

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

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	034878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G4023Q01	Instrument ID:	A

Batch No: 03G4023

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			09/03/03 09:19	692720	7.65	540075	11.55	291184	13.85
CCV Upper Limit				1385440	8.15	1080150	12.05	582368	14.35
CCV Lower Limit				346360	7.15	270037	11.05	145592	13.35
1	03G4023-LCS-01	03G4023-LCS-01	09/03/03 09:46	710195	7.65	554073	11.54	286475	13.85
2	MW-8MS	03-4842-2MS	09/03/03 10:12	719520	7.65	555249	11.55	280397	13.85
3	MW-8MSD	03-4842-2MSD	09/03/03 10:39	733071	7.65	575956	11.54	300170	13.85
4	03G4023-MB-01	03G4023-MB-01	09/03/03 12:27	608454	7.65	495232	11.55	271466	13.84
5	TB-10-8-27-03	03-4878-4	09/03/03 13:49	590217	7.65	484328	11.55	264315	13.84
6	MW-6	03-4878-2	09/03/03 14:16	604826	7.65	486581	11.54	263037	13.85
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22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

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

lled P & Ch Laboratory
Magnolia Ave. Chino CA 91710
09) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Lot # 03g4023 Batch # 03g4023 Matrix: W Date: 09/03/03 Analyst: Zou

IS/Surrogate: GC-15114/15115 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Type	Sample ID	Method	$V/X=J_1$	$V_f/V_i=J_2$	$V_{spg}/V_{inj}=J_3$	F	A-#	Datafile	Note	pH
SP	G4023P01	E524A 002	25/25 = 1	/ =	/ =	1		G4023P01	09/03/03	8:53AM
CCV	Q01	↓	/ =	/ =	/ =	↓		Q01	gc15586	
LCS	L01		/ =	/ =	/ =			L01		
MS	M01		/ =	/ =	/ =			M01	4842-02	<2
MSD	N01		/ =	/ =	/ =			N01	↓	↓
MB	K01		/ =	/ =	/ =			K01		
Sample	4854-04		/ =	/ =	/ =			4854-04	tb	<2
	4842-04		/ =	/ =	/ =			4842-04	↓	
	4878-04		/ =	/ =	/ =			4878-04		
	↓ 02		/ =	/ =	/ =			↓ 02		
	4842-01		/ =	/ =	/ =			4842-01		
	02		/ =	/ =	/ =			02		
	↓ 03		/ =	/ =	/ =			↓ 03		
	4854-01		/ =	/ =	/ =			4854-01		
	02		/ =	/ =	/ =			02		
↓	↓ 03	↓	/ =	/ =	/ =	↓		↓ 03		↓
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09/05/03

ype	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$
LCSD	2987	GC-15587	200 × 2.5 /X = 20 ppb		GC-	× /X = ppb
MSD	2988/2989		× /X = ppb		GC-	× /X = ppb

note/Anomaly:

A

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Sequence # 03g3452 Batch # 03g3452 Matrix: W Date: 07/24/03 Analyst: Zou

Lot #: IS/Surrogate: GC-15114/15115 Methanol(mark-M): _____ PEG (mark-PEG): _____ Defoaming(mark-DF): _____

☐ Calib. + Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
2313	SP	G3452P01	E524A 002	25/25 = 1	/ =	/ =	1		G3452P01	07/24/03	10:07am
2314	CCV	Q01		/ =	/ =	/ =			Q01	gc15447	
2315	LCS	L01		/ =	/ =	/ =			L01		
2316	LCSD	J01		/ =	/ =	/ =			J01		
2317	MB	K01		/ =	/ =	/ =			K01		
2318	Sample	4176-08		/ =	/ =	/ =			4176-08	internal PE	
2319		4182-05		/ =	/ =	/ =			4182-05	PE	
2320		18		/ =	/ =	/ =			18		
2321		03		/5 = 5	/ =	/ =	5		03		
2322		03A		/25 = 1	/ =	/ =	1		03A		
2323		04		/5 = 5	/ =	/ =	5		04		
2324		04A		/5 = 5	/ =	/ =	5		04A		
2325		04B		/25 = 1	/ =	/ =	1		04B		
2326		4175-03B		/5 = 5	/ =	/ =	5		4175-03B		
2327		03C		/25 = 1	/ =	/ =	1		03C		
2328				/ =	/ =	/ =					
2329				/ =	/ =	/ =					
2330				/ =	/ =	/ =					
2331				/ =	/ =	/ =					
2332				/ =	/ =	/ =					
2333				/ =	/ =	/ =					
2334				/ =	/ =	/ =					
2335				/ =	/ =	/ =					
2336				/ =	/ =	/ =					
2337				/ =	/ =	/ =					
2338				/ =	/ =	/ =					
2339				/ =	07/25/03	/ =					
2340				/ =	/ =	/ =					
2341				/ =	/ =	/ =					
2342				/ =	/ =	/ =					
2343				/ =	/ =	/ =					
2344				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$
LCS/LCSD	2315/2316	GC-15448	200 × 2.5 /X = 20 ppb		GC-	× /X = ppb
MS/MSD		GC-	× /X = ppb		GC-	× /X = ppb

Footnote/Anomaly:

FILE: [CUST.DOC.GC]VOC_LOG .TEX Root-File: VOC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]VOC_LOG1.TEX; pH for field water sample only.
APCL form 7-201, April 03, 1996; Ver 4.1 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial [illegible]

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VOC Analysis General Logbook

Sequence # 0393415 Batch # 0393415 Matrix: W Date: 07/22/03 Analyst: Bau

Lot #: IS/Surrogate: GC-1514/1515 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

☐ Calib. + Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
2217	SP	G3415 P01	E524A.02	25/25 = 1	/ =	/ =	1		G3415P01	07/22/03	17:08
2218	Calib.	02-0003		/ =	/ =	/ =			02-0003	0.3ppb	
2219		0002A		/ =	/ =	/ =			0002A	2ppb	
2220		00010		/ =	/ =	/ =			00010	10ppb	
2221		00020		/ =	/ =	/ =			00020	20ppb	
2222		00040		/ =	/ =	/ =			00040	40ppb	
2223		00060		/ =	/ =	/ =			00060	60ppb	
2224				/ =	/ =	/ =					
2225				/ =	/ =	/ =					
2226				/ =	/ =	/ =					
2227				/ =	/ =	/ =					
2228				/ =	/ =	/ =					
2229				/ =	/ =	/ =					
2230				/ =	/ =	/ =					
2231				/ =	/ =	/ =					
2232				/ =	/ =	/ =					
2233				/ =	/ =	/ =					
2234				/ =	/ =	/ =					
2235				/ =	/ =	/ =					
2236				/ =	/ =	/ =					
2237				/ =	/ =	/ =					
2238				/ =	/ =	/ =					
2239				/ =	/ =	/ =					
2240				/ =	/ =	/ =					
2241				/ =	/ =	/ =					
2242				/ =	/ =	/ =					
2243				/ =	/ =	/ =					
2244				/ =	/ =	/ =					
2245				/ =	/ =	/ =					
2246				/ =	/ =	/ =					
2247				/ =	/ =	/ =					
2248				/ =	/ =	/ =					

07/23/03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$
LCS/LCSD		GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD		GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Wet Analysis Results for Method 314.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	314.0
Project ID:	JPL	Service ID:	34878	Collected by:	

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-4878-2	MW-6	Water	08/27/03	08/27/03	08/28/03	03W4284	µg/L	4	2.9	B
03W4284-MB-01	03W4284-MB-01	Water	08/28/03	08/28/03	08/28/03	03W4284	µg/L	4	<4	U

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

Applied P & Ch Laboratory

Wet Analysis Results for Method 7196

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 7196
Project ID: JPL Service ID: 34878 Collected by:

Component Name: Chromium (VI)
CAS No: 1333-82-0

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-4878-1	DUPE-6-3-Q03	Water	08/27/03	08/27/03	08/27/03	03W4264	mg/L	0.01	<0.01	U
03-4878-2	MW-6	Water	08/27/03	08/27/03	08/27/03	03W4264	mg/L	0.01	<0.01	U
03-4878-3	MW-15	Water	08/27/03	08/27/03	08/27/03	03W4264	mg/L	0.01	<0.01	U
03W4264-MB-01	03W4264-MB-01	Water	08/27/03	08/27/03	08/27/03	03W4264	mg/L	0.01	<0.01	U

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W4264		
LCS Filename:	-	Date Analyzed:	082703	Time Analyzed:	11:31
LCSD Filename:	-	Date Analyzed:	082703	Time Analyzed:	11:31

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.257	103	80-115
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0.261	104	1	19	80-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W4264		
MS Filename:	-	Date Analyzed:	082703	Time Analyzed:	11:31
MSD Filename:	-	Date Analyzed:	082703	Time Analyzed:	11:31
MS Sample No:	**DUPE-6-3-Q03**	Sample Lab ID:	03-4878-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.234	94	78-115
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0.228	91	3	19	78-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W4284		
LCS Filename:	-	Date Analyzed:	082803	Time Analyzed:	
LCSD Filename:	-	Date Analyzed:	082803	Time Analyzed:	

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	25	0	25.3	101	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PERCHLORATE	µg/L	25	26.9	108	7	20	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34878
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W4284		
MS Filename:	-	Date Analyzed:	082803	Time Analyzed:	
MSD Filename:	-	Date Analyzed:	082803	Time Analyzed:	
MS Sample No:	**4**	Sample Lab ID:	03-4857-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	25	0	28.2	113	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PERCHLORATE	µg/L	25	27.4	110	3	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: 34878

Analysis: Chromium (VI) Calibration Date: 07/28/2003

Concentration (mg/L)	0.000	0.0125	0.050	0.125	0.250	0.50
Absorbance	0.000	0.007	0.017	0.107	0.212	0.420

A=-0.001+ 0.846C

A=Absorbance

C=Concentration (mg/L)

r= 0.9999

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL

Case No: SAS No.: Service ID: 34878

Project ID: JPL Project No.: 04-4428.10

#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	Chromium (VI)	7196	03W4264	mg/L	0.25	0.236	94	-6	√	90-110	08/27/2003
	Chromium (VI)	7196	03W4264	mg/L	0.25	0.241	96	-4	√	90-110	08/27/2003
2	Perchlorate	314.0	03W4284	µg/L	50.0	57.5	115	15	√	85-115	08/28/2003
	Perchlorate	314.0	03W4284	µg/L	50.0	57.4	115	15	√	85-115	08/28/2003
	Perchlorate	314.0	03W4284	µg/L	50.0	57.5	115	15	√	85-115	08/28/2003
	Perchlorate	314.0	03W4284	µg/L	50.0	56.7	113	13	√	85-115	08/28/2003

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

Batch # PZ Matrix: WATER [Holding Time: 24 hours!!] Test Date: 7/28/03 Analyst: BC

Lot #: Reagent Water _____ Diphenylcazide solution pl 7/28/03 Test Time: _____ SOP: _____

Calibration	STD Lot #	$C_{std} \times V_{std} / V_f = C_i$	A_i	$RF_i = A_i / C_i$
STD-1	W-7257	× / =0.00 mg/L	0.000	
STD-2	W-	× / =0.01 mg/L	0.007	
STD-3	W-	× / 0.025 =0.05 mg/L	0.017	
STD-4	W-	× / =0.25 mg/L	0.107	
STD-5	W-	× / =0.50 mg/L	0.212	
STD-6	W-	× / =0.50 mg/L	0.420	

Calibration results	Note
Least Square [RF]=	Cal. Code:
Average $\bar{RF}$=	
C.C.= 0.999 (≥ 0.995)	
RSD= % (≤ 15%)	
Ref. page	

A = -0.001 + 0.846C

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0 = f_1$	Treat. Ratio $V/X = f_2$	540 nm A	Concentration $C' = A/\bar{RF}$	C (Sample) $C = f_1 f_2 C'$	Anom
CCV	Lot: W-7853	Expected Conc.:	× /	=0.15 mg/L	0.218	0.259 mg/L	REC. %	90-11
Method Blank	Bl. Lot:		/X_0 =	95.0/ =	0.000	0.000 mg/L	ppm	
LCS1	Bl. Lot:		/X_0 =	95.0/ =	0.210	0.250 mg/L	ppm	
Sample-1	4177-37	1ml→100ml	/X_0 = 1	95.0/ = 2	0.290	0.681 mg/L	ppm	
MS on S-1	37	0.5ml→100ml	/X_0 =	95.0/ = 2	0.287	0.682 mg/L	ppm	repeat
MSD on S-1	4175-15	10.0g	50.0ml/X_0 = 5	95.0/ = 10	0.050	3.04 mg/L	ppm	
Sample 2	15	4	/X_0 =	95.0/ = 2	0.247	2.94 mg/L	ppm	repeat
Sample 3			/X_0 =	95.0/ =		mg/L	ppm	
Sample 4			/X_0 =	95.0/ =		mg/L	ppm	
Sample 5			/X_0 =	95.0/ =		mg/L	ppm	
Sample 6			/X_0 =	95.0/ =		mg/L	ppm	
Sample 7			/X_0 =	95.0/ =		mg/L	ppm	
Sample 8			/X_0 =	95.0/ =		mg/L	ppm	
Sample 9			/X_0 =	95.0/ =		mg/L	ppm	
Sample 10			/X_0 =	95.0/ =		mg/L	ppm	
Blank	Lot:		/X_0 =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot:		/X_0 =	95.0/ =		mg/L	ppm	
Sample 11			/X_0 =	95.0/ =		mg/L	ppm	
Sample 12			/X_0 =	95.0/ =		mg/L	ppm	
Sample 13			/X_0 =	95.0/ =		mg/L	ppm	
Sample 14			/X_0 =	95.0/ =		mg/L	ppm	
Sample 15			/X_0 =	95.0/ =		mg/L	ppm	
Sample 16			/X_0 =	95.0/ =		mg/L	ppm	
Sample 17			/X_0 =	95.0/ =		mg/L	ppm	
Sample 18			/X_0 =	95.0/ =		mg/L	ppm	
Sample 19			/X_0 =	95.0/ =		mg/L	ppm	
Sample 20			/X_0 =	95.0/ =		mg/L	ppm	
MTX Dup.	dbl. spike		/X_0 =	95.0/ =	0.248	0.259 mg/L	ppm	

Type	STD Lot #	$C_{STD(\mu g/mL)} \times V_{STD(mL)} / X_{(g \text{ or } mL)} = T$	Spike Rec.	Ctl Limit (W/S)
MS	W-	× / = ppm	%	80-120 %/80-120 %
MSD	W-	× / = ppm	%	.. ..
LCS	W-	× / = ppm	%	80-120 %/80-120 %
LCSD	W-	× / = ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	0.01
PQL(s)	0.05
MDL(w)	0.005
MDL(s)	0.025

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Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Workshee

Batch # 03W4264 Matrix: W

[Holding Time: 24 hours!!]

Test Date: 8/27/03 Analyst: [illegible]

Lot #: Reagent Water _____ Diphenylcazide solution _____

Test Time: 11:31 SOP

Calibration	STD Lot #	$C_{std} \times V_{std}/V_f = C_i$	A_i	$RF_i = A_i/C_i$	Calibration results	Note
STD-1	W-	× / = mg/L			Least Square [RF]=	Cal. Code:
STD-2	W-	× / = mg/L			Average $\bar{RF}$=	
STD-3	W-	× / = mg/L			C.C.= 0.9999 (≥ 0.995)	
STD-4	W-	× / = mg/L			RSD= % (≤ 15%)	
STD-5	W-	× / = mg/L			Ref. page	
STD-6	W-	× / = mg/L			A = -0.001 + 0.846c	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0 = f_1$	Treat. Ratio $V/X = f_2$	540 nm A	Concentration $C' = A/\bar{RF}$	C (Sample) $C = f_1 f_2 C'$	Ano No
CCV	Lot: W- 7757	Expected Conc.:	× /	= 0.25 mg/L	0.199	0.236 mg/L	REC. %	90-1
Method Blank	Bl. Lot: T1117		$/X_0$ = 1	95.0/ =	0.000	mg/L	0.001 ppm	
LCS1	Bl. Lot: "		$/X_0$ = 1	95.0/ =	0.216	mg/L	0.257 ppm	
Sample-1	4878-1		$/X_0$ =	95.0/ =	0.001	mg/L	0.003 ppm	
MS on S-1	1		$/X_0$ =	95.0/ =	0.197	mg/L	0.234 ppm	
MSD on S-1	1	1	$/X_0$ =	95.0/ =	0.192	mg/L	0.228 ppm	
Sample 2	2		$/X_0$ =	95.0/ =	0.000	mg/L	0.001 ppm	
Sample 3	3		$/X_0$ =	95.0/ =	0.001	mg/L	0.003 ppm	
Sample 4			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 5			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 6			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 7			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 8			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 9			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 10			$/X_0$ =	95.0/ =		mg/L	ppm	
Blank	Lot:		$/X_0$ =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot: T1117		$/X_0$ = 1	95.0/ =	0.220	mg/L	0.261 ppm	
Sample 11			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 12			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 13			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 14			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 15			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 16			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 17			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 18			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 19			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 20			$/X_0$ =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		$/X_0$ =	95.0/ =	0.203	0.241 mg/L	ppm	

[illegible] 8/27/03

[illegible] 8/27/03

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL)/X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W- 7757	× / = 0.25 ppm	%	80-120 %/80-120 %
MSD	W- "	× / = ppm	%	.. ..
LCS	W- 7853	× / = ppm	%	80-120 %/80-120 %
LCSD	W- "	× / = ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	0.01
PQL(s)	0.05
MDL(w)	0.005
MDL(s)	0.025

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APCL form 5-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]CR6.TEX Root-file: CR6_ROOT.TEX 1-Page-File: CR61.TEX
Control limits are subjected to change. The updated values are given in the latest version of APCL Technical Handb[illegible]

ne	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w4284k\w4284 q01	1	1	1
	##03w4284k ipc 25ppb w8032	Sample		e314-011.met	c:\data\03w4284k\w4284 ipc25ppb	1	1	1
	lcs 25ppb w8087	Sample		e314-011.met	c:\data\03w4284k\w4284 l01	1	1	1
	Lcsd 25PPB W8033a	Sample		e314-011.met	c:\data\03w4284k\w4284 j01	1	1	1
	ICCS 4ppb w8088	Sample		e314-011.met	c:\data\03w4284k\w4284 iccs4ppb	1	1	1
	mb	Sample		e314-011.met	c:\data\03w4284k\w4284 k01	1	1	1
	4854-03 f=1	Sample		e314-011.met	c:\data\03w4284k\4854-03	1	1	1
	4857-01 f=1	Sample		e314-011.met	c:\data\03w4284k\4857-01	1	1	1
	4878-02 f=1	Sample		e314-011.met	c:\data\03w4284k\4878-02	1	1	1
)	4854-03 md f=25	Sample		e314-011.met	c:\data\03w4284k\w4284 d01	1	25	1
	4873-01 f=1	Sample		e314-011.met	c:\data\03w4284k\4873-01	1	1	1
2	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w4284k\w4284 q02	1	1	1
3	ccb	Sample		e314-011.met	c:\data\03w4284k\w4284 ccb	1	1	1
	4857-01 ms 25ppb f=1 w8033b	Sample		e314-011.met	c:\data\03w4284k\w4284 m01	1	1	1
5	4857-01 msd 25ppb f=1 w8033b	Sample		e314-011.met	c:\data\03w4284k\w4284 n01	1	1	1
3	4854-01 f=1	Sample		e314-011.met	c:\data\03w4284k\4854-01	1	1	1
	4854-02 f=1	Sample		e314-011.met	c:\data\03w4284k\4854-02	1	1	1
	4842-01 f=1	Sample		e314-011.met	c:\data\03w4284k\4842-01	1	1	1
	4842-02 f=1	Sample		e314-011.met	c:\data\03w4284k\4842-02	1	1	1
	4842-03 f=1	Sample		e314-011.met	c:\data\03w4284k\4842-03	1	1	1
	4857-02 f=1	Sample		e314-011.met	c:\data\03w4284k\4857-02	1	1	1
	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w4284k\w4284 q03	1	1	1
	ccb	Sample		e314-011.met	c:\data\03w4284k\w4284 ccb	1	1	1
	4857-03 f=1	Sample		e314-011.met	c:\data\03w4284k\4857-03	1	1	1
	4873-01 f=10	Sample		e314-011.met	c:\data\03w4284k\4873-01	1	10	1
	4854-01 f=50	Sample		e314-011.met	c:\data\03w4284k\4854-01	1	50	1
	4854-02 f=4	Sample		e314-011.met	c:\data\03w4284k\4854-02	1	4	1
	4854-03 ms 25ppb f=25 w8033b	Sample		e314-011.met	c:\data\03w4284k\w4284 m02	1	25	1
	4854-03 msd 25ppb f=25 w8033b	Sample		e314-011.met	c:\data\03w4284k\w4284 n02	1	25	1
	4878-02 f=1 spike 3ppb	Sample		e314-011.met	c:\data\03w4284k\spike 3ppb	1	1	1
	4857-02 f=1 spike 4ppb	Sample		e314-011.met	c:\data\03w4284k\spike 4ppb	1	1	1
	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w4284k\w4284 q04	1	1	1
		Sample		aastopcl.met		1	1	1

Analyst W. W

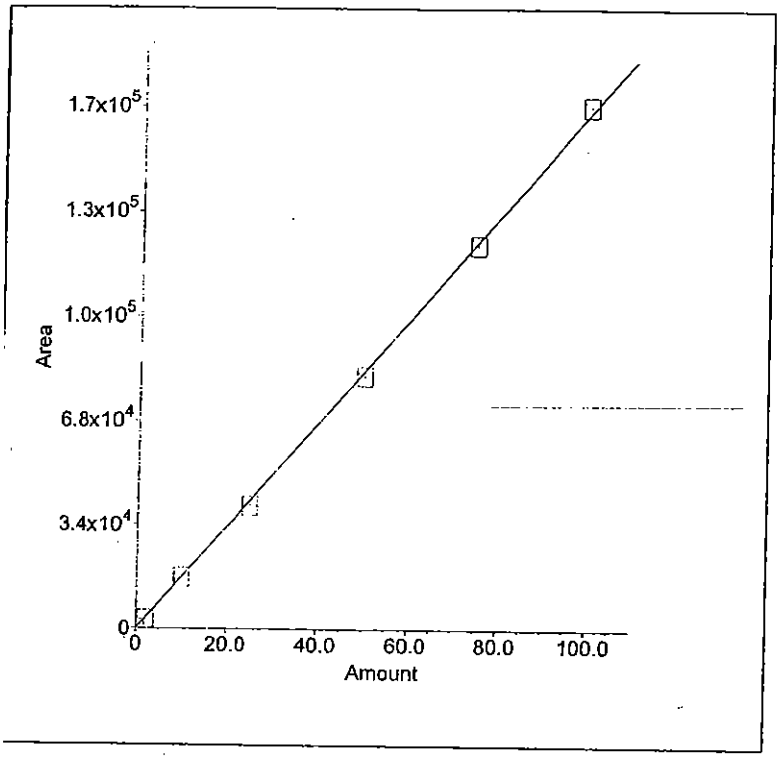
Date 8/28/03

Instrument IC-K

2650

Method:C:\PEAKNET\METHOD\E314-011.MET Updated:03/13/2003 10:39:48 AM Total:1

1, Component:perchlorate
Standard:External Fit Type:Linear
Origin:Force Calibration:Area
r^2=0.999492
Amt=0.0005893*Resp+0



Calibration : 7 points, 0, 2, 10, 25, 50, 75, 100 ppb

Analyst C. W
Date 03/12/03
Instrument IC-1c

.ine	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	Cal blank	Sample		e314-011.met	c:\data\e314-011\mb_001.dxd	1	1
2	cal standard 2ppb W7827a	Sample		e314-011.met	c:\data\e314-011\std-2pb_002.dxd	1	1
3	cal standard 4ppb W7827b	Sample		e314-011.met	c:\data\e314-011\std-4pb_003.dxd	1	1
4	cal standard 10ppb W7827c	Sample		e314-011.met	c:\data\e314-011\std-10pb_004.dxd	1	1
5	cal standard 25ppb W7827d	Sample		e314-011.met	c:\data\e314-011\std-25pb_005.dxd	1	1
6	cal standard 50ppb W7827e	Sample		e314-011.met	c:\data\e314-011\std-50pb_006.dxd	1	1
7	cal standard 75ppb W7827f	Sample		e314-011.met	c:\data\e314-011\std-75pb_007.dxd	1	1
8	cal standard 100ppb W7827g	Sample		e314-011.met	c:\data\e314-011\std-100pb_008.dxd	1	1
9	ICV 50 ppb w7828a	Sample		e314-011.met	c:\data\e314-011\icv-50pb_009.dxd	1	1
10	icb	Sample		e314-011.met	c:\data\e314-011\icb_010.dxd	1	1
11	anion 100pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-100_011.dxd	1	1
12	anion 200pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-200_012.dxd	1	1
13	anion 300pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-300_013.dxd	1	1
14	anion 400pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-400_014.dxd	1	1
15	anion 500pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-500_015.dxd	1	1
16	anion 600pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-600_016.dxd	1	1
17	anion 800pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-800_017.dxd	1	1
18	anion 1000pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-1000_018.dxd	1	1
19	anion 400pm each 2pb	Sample		e314-011.met	c:\data\e314-011\ipc-2pb_019.dxd	1	1
20	anion 400pm each 4pb	Sample		e314-011.met	c:\data\e314-011\ipc-4pb_020.dxd	1	1
21	anion 400pm each 25pb	Sample		e314-011.met	c:\data\e314-011\ipc-25pb_021.dxd	1	1
22	ICV 50 ppb	Sample		e314-011.met	c:\data\e314-011\ccv-50pb	1	1
23	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-02_023.dxd	1	1
24	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-03_024.dxd	1	1
25	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-04	1	1
26	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-05	1	1
27	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-06	1	1
28	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-07	1	1
29	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-08	1	1
30	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
31	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
32	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
33	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
34	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
35	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
36	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
37	MCT anion 800pm each, 25pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-25pb	1	1
38	MCT anion 800pm each, 25pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-25pb	1	1
39	MCT anion 800pm each, 4pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-4pb	1	1
40	MCT anion 800pm each, 4pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-4pb	1	1
41	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s01	1	5
42	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s02	1	5
43	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s03	1	5
44	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s04	1	5
45	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s05	1	5
46	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s06	1	5
47	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s07	1	5
48	standard 25ppb W7827d	Sample		e314-011.met	c:\data\e314-011\std-25pb	1	1
49	anion 100pm each,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-100-4pb	1	1
50	anion 200pm each ,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-200-4pb	1	1
51	anion 300pm each ,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-300-4pb	1	1
52	anion 100pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-100-2pb	1	1
53	anion 200pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-200-2pb	1	1
54	anion 300pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-300-2pb	1	1
55	1982-01 B S.C 4450us/cm	Sample		e314-011.met	c:\data\e314-011\1982-01	1	1
56	1982-01 B S.C 4450us/cm	Sample		e314-011.met	c:\data\e314-011\1982-01	1	2
57	1982-02 f=10	Sample		e314-011.met	c:\data\e314-011\1982-02_057.dxd	1	10
58		Sample		aastopcl.met		1	1

Line	Weight	Int. Std.	Comment
1	1	1	
2	1	1	
3	1	1	
4	1	1	
5	1	1	
6	1	1	
7	1	1	
8	1	1	
9	1	1	
10	1	1	
11	1	1	
12	1	1	
13	1	1	
14	1	1	
15	1	1	
16	1	1	
17	1	1	
18	1	1	
19	1	1	
20	1	1	
21	1	1	
22	1	1	
23	1	1	
24	1	1	
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29	1	1	
30	1	1	
31	1	1	
32	1	1	
33	1	1	
34	1	1	
35	1	1	
36	1	1	
37	1	1	
38	1	1	
39	1	1	
40	1	1	
41	1	1	
42	1	1	
43	1	1	
44	1	1	
45	1	1	
46	1	1	
47	1	1	
48	1	1	
49	1	1	
50	1	1	
51	1	1	
52	1	1	
53	1	1	
54	1	1	
55	1	1	
56	1	1	

)efault Method Path: C:\PEAKNETMETHOD
)efault Data Path: C:\DATA\03W1286K
:omment:
:emark:

Condition information:

. Column

Separator column: AS16 4mm

Guard column: AS16 4mm

. Eluent : NaOH 38mM

. Flow rate: 1.2mL/min

. Suppressor: ASRS-ULTRA 4mm

.Detector: CD20

.Analyst: Charles Wu and Wei Wang

.Date: 03 / 12 / 2003

.Instrument: IC-K DX-500 Dionex

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

September 17, 2003

GEOFON, Inc.
Attention: Brad Shojaee
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Brad,

This package contains samples in our Service ID 03-4854 and your project : 04-4428.10 JPL
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Brad Shojaee
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-034854
Collected by:
Collected on: 08/26/03

Received: 08/26/03
Extracted: N/A
Tested: 08/26-09/03/03
Reported: 09/10/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-7 03-04854-1	MW-13 03-04854-2	MW-16 03-04854-3	TB-9-8-26-03 03-04854-4
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				50	4	25	1
PERCHLORATE	314.0	µg/L	4	1,920	159	1,520	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	0.4J	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	40.4	1.0	1.9	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	0.8	0.4J	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	6.8	3.3	3.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	2.2	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-7 03-04854-1	MW-13 03-04854-2	MW-16 03-04854-3	TB-9-8-26-03 03-04854-4
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	4.9	0.8	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	4.5	20.0	3.7	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	2.2	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 04-4428.10 JPL

APCL Service ID: 03-4854

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL/04-4428.10

For GEOFON, Inc.

APCL Service No: 03-4854

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-13	03-04854-2
MW-16	03-04854-3
MW-7	03-04854-1
TB-9-8-26-03	03-04854-4

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
314.0 (Perchlorate, low level),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) SW8260B - MS/MSD:

Sample MW-16 was requested to be used for MS/MSD. However, due to a mistake, MS/MSD was not performed on this sample, but was performed on the sample MW-8 from the same project.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

0056

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

SHALLOW WELLS

GEOFON'S LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW MON. 3Q03	**PROJECT LOCATION** MW-13, MW-16, MW-7 Pasadena, CA 8.26.03	**PROJECT NUMBER** 04-4428.10	**LABORATORY PHONE** (909) 590-1828	**LABORATORY FAX** (909) 590-1498	**RECIPIENT NAME** Tony Ford
PROJECT CONTACT J. Robinson	**PROJECT PHONE NUMBER** 714 9208729 (949) 8.11 295-7886 8.26.03	**PROJECT FAX** (909) 396-1455	**LABORATORY ADDRESS** 13760 Magnolia Ave		**ADDRESS** 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	**CITY, STATE AND ZIPCODE** Pasadena, CA.	**CLIENT** US NAVY SWDIV	**CITY, STATE AND ZIPCODE** Chino, CA. 91710		**CITY, STATE AND ZIPCODE** Diamond Bar, CA. 91765
PROJECT MANAGER Asrar Faheem	**PROJECT MANAGER'S PHONE** (909) 396-7662	**PROJECT MANAGER'S FAX** (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 524.2 (VOCs)	8141 (Pesticides)	2196 (Hex Chrome)	200.8 (Total Cr)	Comments
1	MW-13	H_2O	8/26/03	0740	None / HCl / HNO_3	5	III	NORMAL	X	X	X	X	
2	MW-16	↓	↓	0921	↓	↓	↓	↓	X	X	X	X	MS/MSD
3	MW-7	↓	↓	1147	↓	↓	↓	↓	X	X	X	X	
4	~~MW~~												VOID Entry
5	TB-9-8-26-03	H_2O		—	HCl	2			X				
6													1854
7													
8													
9													
10													

SAMPLES COLLECTED BY: Lew Williamson 8.12.03

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Lew Williamson	Richard Stinson	8/5/03	0942	
Richard Stinson		8/26/03	1247	
		8/26/03	1552	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 4854 **Client Name/Project:** Geofon / JPL

1. Sample Arrival

Date/Time Received 8/26/03 1332 Date/Time Opened 8/26/03 1332 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Richard Stinson

2. Chain-of-Custody (CoC)

☑ With Samples? ☑ Faxed? ☐ Client has Copy? ☐ Signed, dated? By: _____

☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 4

☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: __ ☑ #Samples OK? _____

☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.7 _____ _____ _____ _____ _____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr

☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP

☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag

☑ Quantity OK? ☐ Leaking? ☐ Anomaly?

☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____

☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: Kenny Chan Printed: 26 Aug 2003 7:23 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [acal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-04854 (0470_ 169) (2202777_ 169)

08/26/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	
		Project #:	*04-4428.10*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*08/26/03 1332*
		COC No.	*0056*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.7 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-13	524.2	03-04854-2-α	W	V	C	40	3	G	082603	N	0	7	☐
	MW-13	CRVI/Perch	03-04854-2-β	W	P		500	1	G	082603	N	0	7	☐
2	MW-16	524.2	03-04854-3-α	W	V	C	40	6	G	082603	N	0	7	☐
	MW-16	CRVI/Perch	03-04854-3-β	W	P		500	2	G	082603	N	0	7	☐
3	MW-7	524.2	03-04854-1-α	W	V	C	40	3	G	082603	N	0	7	☐
	MW-7	CRVI/Perch	03-04854-1-β	W	P		500	1	G	082603	N	0	7	☐
4	TB-9-8-26-03	524.2	03-04854-4	W	V	C	40	2	G	082603	N	0	7	☐

Part 3: Analysis Information

Test Items:

☐	*524.2*	Volatile Organic Compounds
☐	*7196A*	Chromium (VI)
☐	*314.0/300.0*	Perchlorate, low level
☐	*300.0*	Chloride Cl^- by IC
☐	*300.0*	Sulfate (SO_4^{--}), by IC
☐	*300.0/SM4500NO3C*	Nitrate (NO_3^-) as N by IC
☐	*SM2320B*	Carbonate
☐	*SM2320B*	Bicarbonate
☐	*9040B/150.1*	pH
☐	*160.1*	Solids, Total Dissolved (TDS)
☐	*200.7/6010B*	Sodium, Na, by ICP
☐	*200.7/6010B*	Calcium, Ca, by ICP
☐	*200.7/6010B*	Potassium, K, by ICP
☐	*200.7/6010B*	Magnesium, Mg, by ICP
☐	*200.7/6010B*	Iron, Fe, by ICP
☐	*206.2/7060A*	Arsenic, As, by GFAA
☐	*8270-SIM*	1,4-Dioxane

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCH	CL	SO4	NO3	CARBON	BICARB	
1	MW-13	524.2	03-04854-2-α	W	X								☐
	MW-13	CRVI/Perch	03-04854-2-β	W		X	X						☐
2	MW-16	524.2	03-04854-3-α	W	X								☐
	MW-16	CRVI/Perch	03-04854-3-β	W		X	X						☐
3	MW-7	524.2	03-04854-1-α	W	X								☐

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	09/03/2003
Project ID:		Service ID:	34854	Collected by:	
		Lab Sample ID:	03G4023-MB-01	Received Date:	09/03/2003
Sample ID:	**03G4023-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	12:27
Data File Name:	G4023K01	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	< 0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	< 0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	< 0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	< 0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	< 1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	< 10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	< 0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	< 0.5	U
46	STYRENE	100-42-5	µg/L	0.5	< 0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	< 0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	< 0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	< 0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	< 0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	< 0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	< 0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	< 0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	< 0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	< 0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	< 0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	< 0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	< 0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	< 0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	< 0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	< 0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	< 0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	< 0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	112
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	103
4	TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	92
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	93
3	FLUOROBENZENE	462-06-6	50-200	88
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/26/2003
Project ID:		Service ID:	34854	Collected by:	
		Lab Sample ID:	03-4854-1	Received Date:	08/26/2003
Sample ID:	**MW-7**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	16:07
Data File Name:	4854-01	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	40.4	
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	6.8	
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	2.2	
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	<0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	<10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	4.9	
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	4.5	
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	2.2	
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	97
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	106
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	104
4 TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	91
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	90
3 FLUOROBENZENE	462-06-6	50-200	86
# of out-of-control			0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/26/2003
Project ID:		Service ID:	34854	Collected by:	
		Lab Sample ID:	03-4854-2	Received Date:	08/26/2003
Sample ID:	**MW-13**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	16:34
Data File Name:	4854-02	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	0.4	J
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	1.0	
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	0.8	
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	3.3	
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	μg/L	0.5	< 0.5	U
41	METHYLENE CHLORIDE	75-09-2	μg/L	0.5	< 0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	μg/L	1	< 1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	μg/L	10	< 10	U
44	NAPHTHALENE	91-20-3	μg/L	0.5	< 0.5	U
45	N-PROPYLBENZENE	103-65-1	μg/L	0.5	< 0.5	U
46	STYRENE	100-42-5	μg/L	0.5	< 0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	μg/L	0.5	< 0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	μg/L	0.5	< 0.5	U
49	TETRACHLOROETHENE	127-18-4	μg/L	0.5	0.8	
50	TOLUENE	108-88-3	μg/L	0.5	< 0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	μg/L	0.5	< 0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	μg/L	0.5	< 0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	μg/L	0.5	< 0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	μg/L	0.5	< 0.5	U
55	TRICHLOROETHENE	79-01-6	μg/L	0.5	20.0	
56	TRICHLOROFLUOROMETHANE	75-69-4	μg/L	0.5	< 0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	μg/L	0.5	< 0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	μg/L	0.5	< 0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	μg/L	0.5	< 0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	μg/L	0.5	< 0.5	U
61	VINYL CHLORIDE	75-01-4	μg/L	0.5	< 0.5	U
62	O-XYLENE	95-47-6	μg/L	0.5	< 0.5	U
63	M/P-XYLENE	108-38-3	μg/L	0.5	< 0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	95
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	107
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	103
4	TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	89
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	90
3	FLUOROBENZENE	462-06-6	50-200	86
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/26/2003
Project ID:		Service ID:	34854	Collected by:	
		Lab Sample ID:	03-4854-3	Received Date:	08/26/2003
Sample ID:	**MW-16**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	17:02
Data File Name:	4854-03	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	1.9	
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	0.4	J
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	3.5	
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	<0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	<10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	3.7	
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	108
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	103
4	TOLUENE-D8	2037-26-5	73-129	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	90
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	90
3	FLUOROBENZENE	462-06-6	50-200	87
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/26/2003
Project ID:		Service ID:	34854	Collected by:	
		Lab Sample ID:	03-4854-4	Received Date:	08/26/2003
Sample ID:	**TB-9-8-26-03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	09/03/03	Anal. Date:	09/03/03
Batch No:	03G4023	Prep. No:	–	Anal. Time:	12:54
Data File Name:	4854-04	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	< 0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	< 0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	< 0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	< 0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	< 0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	< 0.5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	0.5	< 0.5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	< 0.5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	< 0.5	U
10	2-BUTANONE	78-93-3	µg/L	10	< 10	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	< 0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	< 0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	< 0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	< 0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	< 0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	< 0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	< 0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	< 0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	0.5	< 0.5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	< 0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	< 0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	< 0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	< 0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	< 0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	< 0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	< 0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	< 0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	< 0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	< 0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	< 0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	< 0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	< 0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	< 0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	< 0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	< 0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	< 0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	< 0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	< 0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	< 0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	< 0.5	U
41	METHYLENE CHLORIDE	75-09-2	µg/L	0.5	< 0.5	U
42	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	< 1	U
43	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	< 10	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	< 0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	< 0.5	U
46	STYRENE	100-42-5	µg/L	0.5	< 0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	< 0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	< 0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	< 0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	< 0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	< 0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	< 0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	< 0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	< 0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	< 0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	< 0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	< 0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	< 0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	< 0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	< 0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	< 0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	< 0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	< 0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	96
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	101
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	100
4 TOLUENE-D8	2037-26-5	73-129	95
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	90
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	90
3 FLUOROBENZENE	462-06-6	50-200	88
# of out-of-control			0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	034854
Project ID:		Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	S3 %	#	S4 %	#	TOT OUT
1	03G4023-LCS-01	03G4023-LCS-01	96		98		99		97		0
2	MW-8MS	03-4842-2MS	98		96		97		96		0
3	MW-8MSD	03-4842-2MSD	94		98		98		95		0
4	03G4023-MB-01	03G4023-MB-01	96		112		103		94		0
5	TB-9-8-26-03	03-4854-4	96		101		100		95		0
6	MW-7	03-4854-1	97		106		104		94		0
7	MW-13	03-4854-2	95		107		103		94		0
8	MW-16	03-4854-3	97		108		103		94		0
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	70-129
S2 = 1,2-DICHLOROETHANE-D4	70-129
S3 = DIBROMOFLUOROMETHANE	70-122
S4 = TOLUENE-D8	73-129

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3A

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34854
Project ID:		Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		
LCS Filename:	G4023L01	Date Analyzed:	090303	Time Analyzed:	09:46
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	18.7	94	65-120
CHLOROBENZENE	µg/L	20	0	20.4	102	65-134
1,1-DICHLOROETHENE	µg/L	20	0	20.4	102	65-127
TOLUENE	µg/L	20	0	19.1	96	65-134
TRICHLOROETHENE	µg/L	20	0	19.9	100	67-122
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

_____

FORM-3A

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34854
Project ID:		Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G4023		
MS Filename:	G4023M01	Date Analyzed:	090303	Time Analyzed:	10:12
MSD Filename:	G4023N01	Date Analyzed:	090303	Time Analyzed:	10:39
MS Sample No:	**MW-8**	Sample Lab ID:	03-4842-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	μg/L	20	0	18.5	93	65-121
CHLOROBENZENE	μg/L	20	0	20.1	101	65-134
1,1-DICHLOROETHENE	μg/L	20	0	20.1	101	65-127
TOLUENE	μg/L	20	0	19.0	95	65-134
TRICHLOROETHENE	μg/L	20	0	19.7	99	65-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	μg/L	20	18.5	93	0	28	65-121
CHLOROBENZENE	μg/L	20	19.8	99	2	35	65-134
1,1-DICHLOROETHENE	μg/L	20	20.1	101	0	31	65-127
TOLUENE	μg/L	20	18.9	95	0	35	65-134
TRICHLOROETHENE	μg/L	20	19.8	99	0	30	65-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34854
Project ID:		Project No:	04-4428.10	Analysis Date:	09/03/03
		Sample Matrix:	Water	Analysis Time:	12:27
Sample ID:	**03G4023-MB-01**	Batch No:	03G4023	Instrument ID:	GC/MS: A
Lab Sample ID:	03G4023-MB-01	Data File Name:	G4023K01	GC Column:	HP-VOC
		Heated Purge: (Y/N)	N	Column ID:	0.20 mm

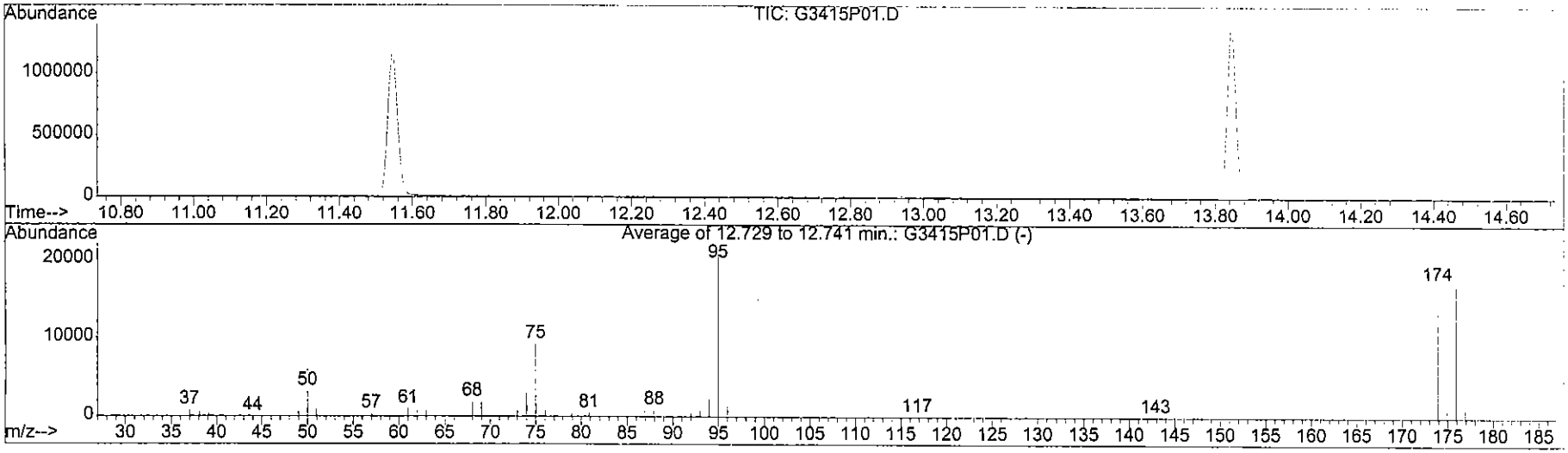
This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1	03G4023-LCS-01	03G4023-LCS-01	Lab Control Spike	G4023L01	09/03/03	09:46
2	MW-8MS	03-4842-2MS	Matrix Spike	G4023M01	09/03/03	10:12
3	MW-8MSD	03-4842-2MSD	Matrix Spike Duplicate	G4023N01	09/03/03	10:39
4	TB-9-8-26-03	03-4854-4	Field Sample	4854-04	09/03/03	12:54
5	MW-7	03-4854-1	Field Sample	4854-01	09/03/03	16:07
6	MW-13	03-4854-2	Field Sample	4854-02	09/03/03	16:34
7	MW-16	03-4854-3	Field Sample	4854-03	09/03/03	17:02
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

BFB

Data File : C:\MSDCHEM\1\DATA\03G3415\G3415P01.D
Acq On : 22 Jul 2003 5:08 pm
Sample : ##03g3415, w 50 ng
Misc :
MS Integration Params: Lscint.p
Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2

Vial: 2
Operator: zou
Inst : GCMS-A
Multiplr: 1.00



Spectrum Information: Average of 12.729 to 12.741 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	3208	PASS
75	95	30	60	44.1	9259	PASS
95	95	100	100	100.0	20984	PASS
96	95	5	9	7.0	1467	PASS
173	174	0.00	2	0.7	120	PASS
174	95	50	100	81.3	17069	PASS
175	174	5	9	7.1	1218	PASS
176	174	95	101	98.6	16830	PASS
177	176	5	9	7.6	1277	PASS

G3415P01.D E524A002.M Thu Jul 31 17:21:02 2003

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 034854

Lab File ID: G 3415 P01 BFB Injection Date: 7/22/03

Instrument ID: GCMS-A BFB Injection Time: 1708

GC Column: HP-VOC ID: 0.20 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.3
75	30.0 - 60.0% of mass 95	44.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.6 (0.7)1
174	50.0 - 100.0% of mass 95	81.3
175	5.0 - 9.0% of mass 174	5.8 (7.1)1
176	95.0 - 101.0% of mass 174	80.2 (98.6)1
177	5.0 - 9.0% of mass 176	6.1 (7.6)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
01	VSTD0003	20-0003	20-00003.D	7/22/03	1925
02	VSTD002	20-0002	20-0002.D	7/22/03	2111
03	VSTD010	20-0010	20-0010.D	7/22/03	2137
04	VSTD020	20-0020	20-0020.D	7/22/03	2256
05	VSTD040	20-0040	20-0040.D	7/23/03	0043
06	VSTD060	20-0060	20-0060.D	7/23/03	0245
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Response Factor Report GCMS-A

2722

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	r^2
1)	I	1	Fluorobenzene	----------ISTD----------								
2)		3	di-Cl-di-F-m	0.279	0.253	0.228	0.251	0.250	0.246	0.251	6.61	
3)	p	4	Chloromethan	0.300	0.265	0.208	0.221	0.218	0.200	0.235	16.51	0.996
4)		2	F114	0.116	0.138	0.126	0.136	0.137	0.133	0.131	6.45	
5)	C	5	vinyl chlori	0.268	0.267	0.219	0.239	0.240	0.223	0.242	8.61	
6)		6	bromomethane	0.143	0.128	0.105	0.113	0.104	0.106	0.116	13.63	
7)		7	chloroethane	0.162	0.171	0.136	0.131	0.138	0.129	0.144	12.08	
8)		8	tri-Cl-F-met	0.426	0.367	0.310	0.357	0.356	0.338	0.359	10.76	
9)		91	Acetonitrile		0.055	0.041	0.042	0.041	0.040	0.044	14.16	
10)		9	acrolein	0.034	0.034	0.026	0.025	0.024	0.022	0.028	18.73	0.997
11)		11	acetone X	0.106	0.053	0.028	0.024	0.024	0.021	0.043	77.29	0.994
12)		12	ethyl ether	0.162	0.157	0.117	0.117	0.110	0.098	0.127	20.67	0.992
13)	M, C	13	11-dichloroe	0.345	0.312	0.258	0.277	0.275	0.253	0.287	12.31#	
14)		14	Iodomethane	0.266	0.286	0.244	0.262	0.258	0.205	0.253	10.75	
15)		15	F-113	0.313	0.246	0.193	0.211	0.205	0.185	0.225	21.21	0.994
16)		16	acrylonitril	0.053	0.052	0.042	0.041	0.040	0.040	0.045	13.61	
17)		17	carbon disul	0.838	0.780	0.654	0.729	0.722	0.649	0.729	10.00	
18)		94	Isopropyl Al	0.015	0.008	0.005	0.006	0.007	0.006	0.008	46.15	0.995
19)		18	methylene ch	1.323	0.482	0.257	0.251	0.242	0.244	0.467	92.15	1.00
20)		19	t-12-di-Cl-e	0.297	0.305	0.248	0.262	0.256	0.253	0.270	8.99	
21)		20	t-Bu-Me-ethe	0.474	0.509	0.419	0.427	0.427	0.442	0.450	7.81	
22)		95	Tert butyl a		0.014	0.010	0.010	0.012	0.013	0.012	16.51	0.990
23)		94	allyl chlori		0.549	0.412	0.417	0.307	0.282	0.393	26.97	
24)	p	21	11-dichloroe	0.518	0.484	0.380	0.407	0.403	0.409	0.433	12.52	
25)		97	propionitril		0.020	0.014	0.016	0.016	0.017	0.017	14.53	
26)		22	c-12-di-Cl-e	0.296	0.311	0.252	0.263	0.257	0.255	0.272	9.12	
27)		23	22-Dichlorop	0.392	0.360	0.280	0.290	0.277	0.262	0.310	16.98	0.998
28)		24	Br-Cl-methan	0.158	0.150	0.117	0.123	0.122	0.122	0.132	13.12	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	r²
29)	C	25	chloroform	0.724	0.528	0.396	0.413	0.403	0.406	0.478	27.21#	1.00
30)		26	tetrahydrofu	0.036	0.035	0.031	0.031	0.032	0.032	0.033	6.66	
31)		98	Diisopropyl	0.648	0.792	0.634	0.653	0.636	0.641	0.667	9.23	
32)	S	27	Di-Br-F-Me (		0.294	0.230	0.240	0.239	0.243	0.249	10.27	
33)		99	ETBE	0.437	0.534	0.485	0.524	0.532	0.549	0.510	8.20	
34)	S	29	1,2-Di-Cl-Et		0.248	0.186	0.191	0.191	0.192	0.202	12.96	
35)		30	12-dichloroe	0.094	0.093	0.070	0.070	0.070	0.070	0.078	15.50	1.00
36)		32	vinyl acetat	0.319	0.377	0.321	0.291	0.285	0.280	0.312	11.53	
37)		92	Nitro Methan		0.006	0.005	0.005	0.006	0.006	0.006	9.09	
38)		33	2-butanoneME	0.081	0.061	0.044	0.043	0.042	0.041	0.052	30.99	1.00
39)		93	Ethyl Acetat	0.175	0.135	0.110	0.107	0.107	0.110	0.124	22.07	0.999
40)		34	111-trichlor	0.479	0.436	0.353	0.387	0.385	0.378	0.403	11.36	
41)		35	11-Di-Cl-pro	0.271	0.306	0.284	0.325	0.324	0.316	0.304	7.40	
42)	M	36	benzene	1.117	1.160	0.923	0.983	0.960	0.948	1.015	9.69	
43)		37	CCl4	0.434	0.397	0.329	0.361	0.358	0.350	0.371	10.20	
44)		100	Isobutyl al	0.002	0.005	0.004	0.004	0.005	0.005	0.004	30.78	0.997
45)		38	thiophene	0.471	0.573	0.471	0.505	0.504	0.503	0.505	7.36	
46)	C	39	12-di-Cl-pro	0.247	0.251	0.204	0.220	0.221	0.220	0.227	7.93#	
47)	M	40	trichloroeth	0.354	0.335	0.274	0.312	0.315	0.309	0.316	8.59	
48)		41	dibromometha	0.177	0.159	0.126	0.133	0.134	0.135	0.144	13.68	
49)		101	TAME	0.352	0.451	0.420	0.462	0.472	0.498	0.442	11.61	
50)		42	Br-di-Cl-met	0.433	0.359	0.280	0.298	0.298	0.297	0.327	17.81	1.00
51)		43	Me-methacryl	0.065	0.098	0.100	0.112	0.117	0.121	0.102	20.03	0.999
52)		44	2-ClEt-Vi-et	0.010	0.016	0.019	0.025	0.029		0.020	37.07	0.992
53)		45	c-13-di-Cl-p	0.312	0.358	0.307	0.333	0.335	0.336	0.330	5.59	
54)		46	t-1,3-dichlo	0.227	0.272	0.247	0.270	0.278	0.281	0.262	8.00	
55)	I	47	Chlorobezene-d5	----------ISTD----------								
56)		48	112-tri-Cl-E	0.288	0.275	0.213	0.222	0.224	0.226	0.241	13.17	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

			Compound	.3	2	10	20	40	60	Avg	%RSD	
57)		49	13-di-Cl-pro	0.436	0.432	0.347	0.357	0.359	0.353	0.381	10.91	
58)		50	Et methacryl	0.189	0.269	0.272	0.287	0.301	0.321	0.273	16.74	0.997
59)		51	di-Br-Cl-met	0.422	0.341	0.275	0.296	0.304	0.309	0.325	16.16	0.999
60)	P	52	bromoform	0.222	0.192	0.159	0.171	0.181	0.187	0.185	11.70	
61)		53	1,4-dichloro	0.405	0.396	0.312	0.330	0.340	0.344	0.354	10.53	
62)		54	MIBK	0.132	0.144	0.134	0.144	0.155	0.166	0.146	8.89	
63)	s	55	toluene-d8	1.345	1.364	1.130	1.244	1.257	1.223	1.260	6.78	
64)	M,C	56	toluene	1.448	1.627	1.315	1.441	1.448	1.412	1.448	6.98	
65)		57	2-hexanone X	0.100	0.109	0.092	0.094	0.098	0.100	0.099	5.95	
66)		58	12-dibromoet	0.274	0.254	0.210	0.222	0.233	0.235	0.238	9.68	
67)		59	tetra-Cl-eth	0.496	0.464	0.378	0.427	0.424	0.408	0.433	9.68	
68)	M,P	60	chlorobenzen	1.297	1.156	0.893	0.967	0.959	0.919	1.032	15.48	0.999
69)		61	1112-tetra-C	0.447	0.412	0.317	0.340	0.348	0.348	0.369	13.47	
70)	I	62	1,4-Dichlorobenzen	----------	----------	----------	ISTD	----------	----------	----------	----------	
71)		63	1-chlorohexa	0.269	0.309	0.291	0.356	0.374	0.358	0.326	12.94	
72)	C	64	Et-Bz	3.072	3.263	2.780	3.211	3.292	3.156	3.129	6.01#	
73)		65	m/p-Xylenes	2.292	2.598	2.175	2.438	2.422	2.268	2.365	6.37	
74)		66	styrene	1.472	1.978	1.707	1.902	1.915	1.818	1.798	10.32	
75)		67	o-xylene	1.955	2.508	2.249	2.527	2.563	2.438	2.373	9.83	
76)	p	68	1122-Tetra-C	0.659	0.575	0.456	0.475	0.501	0.503	0.528	14.34	
77)		69	123-tri-Cl-P	0.186	0.176	0.138	0.146	0.151	0.152	0.158	11.76	
78)	S	70	4-Br-1-F-Bz	0.953	0.876	0.706	0.798	0.823	0.806	0.827	10.01	
79)		71	isopropylben	2.262	3.010	2.857	3.361	3.462	3.290	3.040	14.58	
80)		72	bromobenzene	0.840	0.881	0.719	0.807	0.842	0.810	0.817	6.73	
81)		92	t-1,4-dichlo	0.038	0.078	0.075	0.082	0.094	0.095	0.077	27.12	0.997
82)		73	n-propylbenz	0.759	0.999	0.867	1.019	1.061	1.009	0.952	12.10	
83)		74	2-Cl-Toluene	0.756	0.887	0.758	0.870	0.905	0.873	0.841	7.90	
84)		75	4-Cl-Toluene	0.853	0.955	0.757	0.860	0.880	0.830	0.856	7.52	

(#) = Out of Range

Response Factor Report GCMS-A

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
Response via : Initial Calibration

Calibration Files
.3 =2-00003.D 2 =2-0002A.D 10 =2-00010.D
20 =2-00020.D 40 =2-00040.D 60 =2-00060.D

	Compound	.3	2	10	20	40	60	Avg	%RSD	
85)	76 135-tri-Me-B	2.031	2.864	2.465	2.815	2.851	2.678	2.617	12.38	
86)	77 4-iso-Pr-tol	2.280	3.155	2.726	3.159	3.220	2.998	2.923	12.39	
87)	78 124-tri-Me-B	2.267	3.012	2.517	2.854	2.932	2.773	2.726	10.34	
88)	79 tert-butylbe	2.041	2.391	2.526	2.636	2.748	2.655	2.499	10.24	
89)	80 13-DCB	1.989	1.888	1.484	1.667	1.680	1.592	1.717	10.95	
90)	81 sec-butylben	2.715	3.632	3.274	3.857	3.936	3.690	3.517	12.95	
91)	82 14-DCB	2.240	1.859	1.457	1.644	1.684	1.613	1.749	15.60	0.999
92)	83 Cl-benzyl	0.164	0.159	0.155	0.169	0.181	0.165	0.165	5.41	
93)	84 12-DCB	1.762	1.734	1.326	1.464	1.479	1.408	1.529	11.67	
94)	85 n-butylbenze	0.528	0.789	0.731	0.875	0.910	0.843	0.779	17.73	0.997
95)	86 12-diBr-2-Cl	0.110	0.104	0.091	0.102	0.118	0.120	0.108	10.09	
96)	87 124-tri-Cl-B	0.843	0.926	0.884	1.065	1.130	1.091	0.990	12.16	
97)	88 naphthalene	2.218	1.820	1.426	1.651	1.832	1.831	1.796	14.50	
98)	89 hx-Cl-butadi	0.644	0.621	0.514	0.599	0.629	0.588	0.599	7.74	
99)	90 123-Tri-Cl-B	0.849	0.875	0.777	0.914	0.969	0.944	0.888	7.86	

r^2

(#) = Out of Range

INITIAL CALIBRATION SUMMARY

Method File	E524A002		
Last Calibration Update	Thu Jul 24 12:40:35 2003		
Level 1 File Name	2-00003.D	**Level 1 ID**	.3
Level 2 File Name	2-0002A.D	**Level 2 ID**	2
Level 3 File Name	2-00010.D	**Level 3 ID**	10
Level 4 File Name	2-00020.D	**Level 4 ID**	20
Level 5 File Name	2-00040.D	**Level 5 ID**	40
Level 6 File Name	2-00060.D	**Level 6 ID**	60
Level 7 File Name	2-00020.D	**Level 7 ID**	cc

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene	919393	1006828	1003977	1015499	990930	980047	-1	------	------	------	------
3 di-Cl-di-F-methane	7698	51044	228452	508778	990705	1444214	-1	0.0000	0.2510	0.0000	0.0661
4 Chloromethane	8264	53373	208536	448729	864850	1174857	-1	0.0169	0.2027	0.0000	0.9966
2 F114	3209	27835	126949	275940	544934	783345	-1	0.0000	0.1313	0.0000	0.0645
5 vinyl chloride	7381	53695	219399	484855	949966	1312837	-1	0.0000	0.2424	0.0000	0.0861
6 bromomethane	3952	25743	105105	228520	411844	626111	-1	0.0000	0.1165	0.0000	0.1363
7 chloroethane	4460	34347	136103	266250	546077	758703	-1	0.0000	0.1443	0.0000	0.1208
8 tri-Cl-F-methane	11754	73985	311036	724847	1412342	1986417	-1	0.0000	0.3591	0.0000	0.1076
91 Acetonitrile X10	-1	110646	413272	845923	1639456	2365932	-1	0.0000	0.0439	0.0000	0.1416
9 acrolein X10	9511	67561	262941	513017	937791	1313901	-1	0.0306	0.0223	0.0000	0.9978
11 acetone X10	29124	106138	281400	497276	943071	1241915	-1	0.0622	0.0208	0.0000	0.9944
12 ethyl ether X5	22348	158277	587938	1189867	2188257	2883396	-1	0.0885	0.0991	0.0000	0.9929
13 11-dichloroethene	9522	62800	259067	562011	1088836	1490545	-1	0.0000	0.2867	0.0000	0.1231
14 Iodomethane	7324	57536	244664	532902	1022337	1206486	-1	0.0000	0.2534	0.0000	0.1075
15 F-113	8636	49466	193654	427782	814332	1086062	-1	0.0189	0.1881	0.0000	0.9947
16 acrylonitrile X10	14700	104060	420553	831510	1601521	2352958	-1	0.0000	0.0447	0.0000	0.1361
17 carbon disulfide	23125	156993	656825	1480814	2862257	3817157	-1	0.0000	0.7288	0.0000	0.1000
94 Isopropyl Alcoholx10	4021	15273	46223	124874	265806	369178	-1	-0.0027	0.0064	0.0000	0.9954
18 methylene chloride	36501	97000	257935	510536	960233	1435510	-1	0.0322	0.2370	0.0000	0.9996
19 t-12-di-Cl-ethene	8180	61414	249312	531623	1015155	1488348	-1	0.0000	0.2701	0.0000	0.0899
20 t-Bu-Me-ether	13066	102540	420692	866584	1693079	2598506	-1	0.0000	0.4496	0.0000	0.0781
95 Tert butyl alcoholx10	-1	28855	98345	205914	482970	785022	-1	-0.0326	0.0135	0.0000	0.9918

94 allyl chloride	-1	110646	413272	845923	1216384	1660968	-1	0.0000	0.3934	0.0000	0.2697
21 11-dichloroethane	14292	97373	381929	825889	1598207	2404444	-1	0.0000	0.4335	0.0000	0.1252
97 propionitrile	-1	4103	13637	33328	64498	101359	-1	0.0000	0.0168	0.0000	0.1453
22 c-12-di-Cl-ethene	8154	62676	253306	533706	1019103	1499328	-1	0.0000	0.2723	0.0000	0.0912
23 22-Dichloropropane	10809	72464	281116	589735	1098975	1539718	-1	0.0244	0.2629	0.0000	0.9982
24 Br-Cl-methane	4359	30212	117713	250220	483734	716534	-1	0.0000	0.1321	0.0000	0.1312
25 chloroform	19972	106303	398005	838697	1597118	2387736	-1	0.0108	0.4031	0.0000	0.9998
26 tetrahydrofuranX5	4965	35404	154519	318868	624422	946730	-1	0.0000	0.0328	0.0000	0.0666
98 Diisopropyl ether	17882	159533	636576	1326012	2521921	3767835	-1	0.0000	0.6674	0.0000	0.0923
27 Di-Br-F-Me (surr)	-1	59230	230740	486919	949109	1428311	-1	0.0000	0.2492	0.0000	0.1027
99 ETBE	12061	107588	486462	1064815	2106754	3231163	-1	0.0000	0.5102	0.0000	0.0820
29 1,2-Di-Cl-Et-d4 (S1)	-1	50036	187219	388784	757790	1126883	-1	0.0000	0.2018	0.0000	0.1296
30 12-dichloroethane	2582	18795	70404	142937	277276	411282	-1	0.0020	0.0695	0.0000	0.9999
32 vinyl acetate X5	43949	379164	1608933	2957025	5653569	8226056	-1	0.0000	0.3120	0.0000	0.1153
92 Nitro Methane(x10)	-1	12060	47784	111334	237578	325914	-1	0.0000	0.0056	0.0000	0.0909
33 2-butanoneMEK X10	22369	123309	444332	875377	1648493	2411259	-1	0.0340	0.0406	0.0000	0.9998
93 Ethyl Acetate x2	9671	54370	220002	434881	845931	1295021	-1	0.0014	0.1088	0.0000	0.9995
34 111-trichloroethane	13204	87716	354801	785718	1524561	2222673	-1	0.0000	0.4029	0.0000	0.1136
35 11-Di-Cl-propene	7463	61583	285223	660985	1285689	1859527	-1	0.0000	0.3044	0.0000	0.0740
36 benzene	30808	233485	926403	1995763	3805709	5575015	-1	0.0000	1.0150	0.0000	0.0969
37 CCl4	11983	79844	329846	732441	1420059	2060040	-1	0.0000	0.3715	0.0000	0.1020

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
100 Isobutyl alcoholx10	457	10371	40745	87337	182637	287972	-1	------	------	------	-------
38 thiophene	12985	115327	473132	1025220	1999457	2960047	-1	0.0000	0.5046	0.0000	0.0736
39 12-di-Cl-propane	6808	50516	204989	446632	875952	1293157	-1	0.0000	0.2271	0.0000	0.0793
40 trichloroethene	9774	67466	274815	633192	1246934	1815606	-1	0.0000	0.3164	0.0000	0.0859
41 dibromomethane	4889	32002	126997	270225	530196	793122	-1	0.0000	0.1441	0.0000	0.1368
101 TAME	9699	90788	421379	938326	1872529	2927534	-1	0.0000	0.4424	0.0000	0.1161
42 Br-di-Cl-methane	11934	72312	281223	604352	1181950	1745648	-1	0.0014	0.2967	0.0000	0.9998
43 Me-methacrylate	1794	19729	100519	228095	464768	714088	-1	-0.0114	0.1219	0.0000	0.9990
44 2-ClEt-Vi-ether10	2834	31796	189485	514977	1130652	-1	-1	-0.0446	0.0290	0.0000	0.9927
45 c-13-di-Cl-propene	8596	71992	308098	676158	1328342	1977341	-1	0.0000	0.3301	0.0000	0.0559
46 t-1,3-dichloropropene	6273	54825	247619	547714	1100371	1653172	-1	0.0000	0.2625	0.0000	0.0800
47 Chlorobezene-d5	683445	775455	774184	772935	739886	736062	-1	0.0000	1.0000	0.0000	0.0000

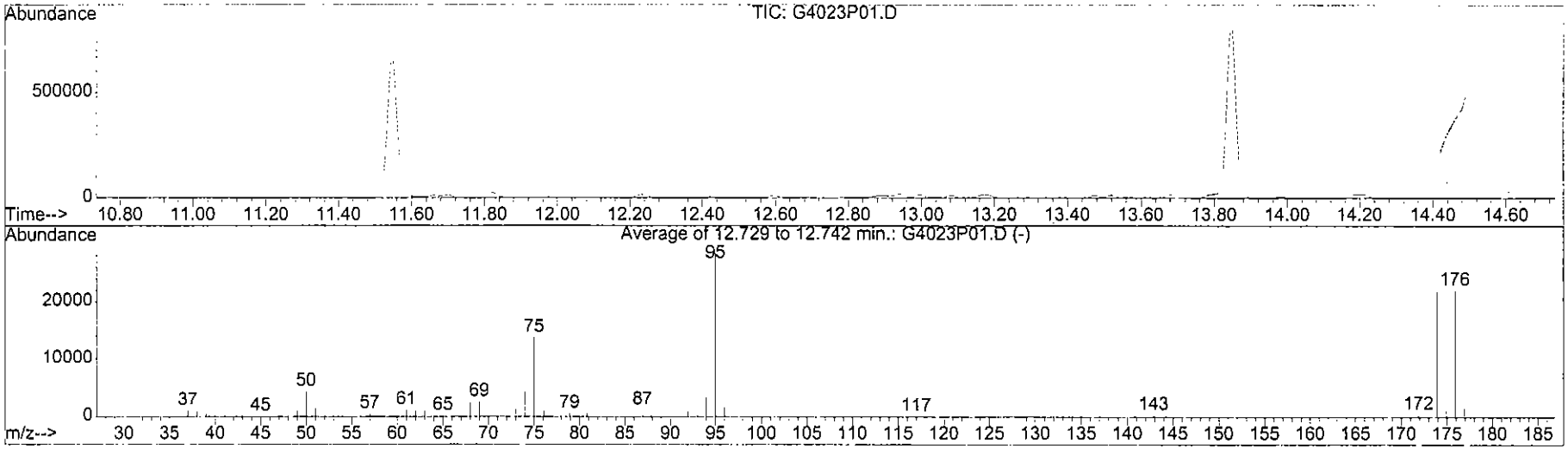
48 112-tri-Cl-Et	5902	42713	164770	343401	662895	997315	-1	0.0000	0.2413	0.0000	0.1317
49 13-di-Cl-propane	8941	66977	268452	552557	1062190	1558760	-1	0.0000	0.3807	0.0000	0.1091
50 Et methacrylate	3865	41714	210769	443099	890456	1418605	-1	-0.0322	0.3197	0.0000	0.9978

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
51 di-Br-Cl-methane	8661	52843	213283	456818	899440	1365305	-1	-0.0111	0.3087	0.0000	0.9994
52 bromoform	4560	29809	123106	263988	534402	823804	-1	0.0000	0.1852	0.0000	0.1170
53 1,4-dichlorobutane-2	8296	61397	241554	510059	1005306	1519089	-1	0.0000	0.3544	0.0000	0.1053
54 MIBK	2701	22334	103475	222364	457366	733371	-1	0.0000	0.1456	0.0000	0.0889
55 toluene-d8	27570	211476	874470	1923324	3719816	5400714	-1	0.0000	1.2603	0.0000	0.0678
56 toluene	29681	252340	1018191	2227432	4284454	6235319	-1	0.0000	1.4484	0.0000	0.0698
57 2-hexanone X5	10224	84522	356146	728526	1453530	2205707	-1	0.0000	0.0989	0.0000	0.0595
58 12-dibromoethane	5621	39459	162435	343609	688415	1038913	-1	0.0000	0.2381	0.0000	0.0968
59 tetra-Cl-ethene	10167	72027	292262	659769	1256084	1800306	-1	0.0000	0.4328	0.0000	0.0968
60 chlorobenzene	26600	179300	691236	1494861	2837497	4059222	-1	0.0338	0.9255	0.0000	0.9991
61 1112-tetra-Cl-Et	9159	63898	245258	525072	1031299	1537036	-1	0.0000	0.3686	0.0000	0.1347
62 1,4-Dichlorobenzene-d4	358277	419640	407774	393961	367099	365124	-1	0.0000	1.0000	0.0000	0.0000
63 1-chlorohexane	2893	25946	118729	280119	548810	784184	-1	0.0000	0.3261	0.0000	0.1294
64 Et-Bz	33015	273886	1133719	2529977	4833949	6913463	-1	0.0000	3.1290	0.0000	0.0601
65 m/p-Xylenes X2	49281	436018	1773476	3842318	7112016	9936549	-1	0.0000	2.3654	0.0000	0.0637
66 styrene	15818	166023	695954	1498467	2811895	3981902	-1	0.0000	1.7985	0.0000	0.1032
67 o-xylene	21010	210456	917264	1990843	3763083	5341093	-1	0.0000	2.3732	0.0000	0.0983
68 1122-Tetra-Cl-Et	7086	48249	186045	374484	736112	1101133	-1	0.0000	0.5283	0.0000	0.1434
69 123-tri-Cl-Pr	1994	14801	56224	114784	222436	332760	-1	0.0000	0.1581	0.0000	0.1176
70 4-Br-1-F-Bz (S3)	10243	73535	287803	629095	1208574	1766234	-1	0.0000	0.8271	0.0000	0.1001
71 isopropylbenzene	24316	252585	1164869	2648278	5083237	7208570	-1	0.0000	3.0403	0.0000	0.1458
72 bromobenzene	9030	73980	293172	635461	1236729	1774887	-1	0.0000	0.8166	0.0000	0.0673
92 t-1,4-dichloro-2-butene	406	6524	30509	64587	137632	207953	-1	-0.0118	0.0961	0.0000	0.9978
73 n-propylbenzene	8157	83853	353478	802663	1558540	2210026	-1	0.0000	0.9523	0.0000	0.1210
74 2-Cl-Toluene	8123	74427	309252	685694	1328259	1912837	-1	0.0000	0.8415	0.0000	0.0790
75 4-Cl-Toluene	9172	80121	308786	677984	1291985	1819259	-1	0.0000	0.8560	0.0000	0.0752
76 135-tri-Me-Benzene	21830	240336	1005234	2217776	4186569	5867539	-1	0.0000	2.6173	0.0000	0.1238
77 4-iso-Pr-toluene	24508	264794	1111631	2489320	4727712	6567533	-1	0.0000	2.9230	0.0000	0.1239
78 124-tri-Me-Benzene	24365	252796	1026195	2248874	4305294	6074118	-1	0.0000	2.7257	0.0000	0.1034
79 tert-butylbenzene	21932	200692	1030129	2077031	4034706	5816456	-1	0.0000	2.4995	0.0000	0.1024

80 13-DCB	21374	158442	605258	1313556	2467081	3488098	-1	0.0000	1.7167	0.0000	0.1095
81 sec-butylbenzene	29181	304851	1334960	3039109	5779243	8084394	-1	0.0000	3.5174	0.0000	0.1295
82 14-DCB	24079	155998	594167	1295125	2472135	3533637	-1	-0.0003	1.6325	0.0000	0.9988
83 Cl-benzyl	1764	13306	63403	132793	265795	361085	-1	0.0000	0.1654	0.0000	0.0541
84 12-DCB	18942	145496	540526	1153351	2171646	3083911	-1	0.0000	1.5286	0.0000	0.1167
85 n-butylbenzene	5679	66251	298215	689097	1335543	1846727	-1	-0.0178	0.8660	0.0000	0.9968
86 12-diBr-2-Cl-Pra	1180	8757	37194	80335	173925	263112	-1	0.0000	0.1076	0.0000	0.1009
87 124-tri-Cl-Bz	9061	77700	360446	838928	1658990	2390948	-1	0.0000	0.9898	0.0000	0.1216
88 naphthalene	23839	152715	581293	1300980	2689379	4011635	-1	0.0000	1.7961	0.0000	0.1450
89 hx-Cl-butadiene	6922	52135	209577	472099	923440	1288580	-1	0.0000	0.5992	0.0000	0.0774
90 123-Tri-Cl-Bz	9124	73440	317007	719921	1423460	2068944	-1	0.0000	0.8881	0.0000	0.0786

BFB

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023P01.D Vial: 1
Acq On : 3 Sep 2003 8:53 am Operator: zou
Sample : ##03g4023,w 50ng Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p
Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2



Spectrum Information: Average of 12.729 to 12.742 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	4387	PASS
75	95	30	60	48.3	13746	PASS
95	95	100	100	100.0	28476	PASS
96	95	5	9	7.6	2170	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	77.2	21993	PASS
175	174	5	9	8.5	1879	PASS
176	174	95	101	100.5	22096	PASS
177	176	5	9	7.1	1576	PASS

G4023P01.D E524A002.M Thu Sep 04 12:06:52 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 524.2

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	034854
Project ID:		BFB Inj. Date:	09/03/03	Batch No:	03G4023
		BFB Inj. Time:	08:53	Sequence No:	03G4023
Project No:	04-4428.10	Instrument ID:	A	GC Column:	HP-VOC
Data File Name:	G4023P01	Heated Purge: (Y/N)	N	Column ID:	0.20 mm

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

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1	03G4023-CCV-01	03G4023-CCV-01	G4023Q01	09/03/03	09:19
2	03G4023-LCS-01	03G4023-LCS-01	G4023L01	09/03/03	09:46
3	MW-8MS	03-4842-2MS	G4023M01	09/03/03	10:12
4	MW-8MSD	03-4842-2MSD	G4023N01	09/03/03	10:39
5	03G4023-MB-01	03G4023-MB-01	G4023K01	09/03/03	12:27
6	TB-9-8-26-03	03-4854-4	4854-04	09/03/03	12:54
7	MW-7	03-4854-1	4854-01	09/03/03	16:07
8	MW-13	03-4854-2	4854-02	09/03/03	16:34
9	MW-16	03-4854-3	4854-03	09/03/03	17:02
10					
11					
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18					
19					
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21					
22					
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24					
25					

Continuing Calibration Concentration Summary

Data File G4023Q01
Method File E524A002

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	10	10.00	ppb	0.00	692720
3 di-Cl-di-F-methane	20	22.59	ppb	12.96	392866
4 Chloromethane	20	17.82	ppb	10.89	261941
2 F114	20	19.29	ppb	3.56	175378
5 vinyl chloride	20	19.51	ppb	2.44	327638
6 bromomethane	20	17.02	ppb	14.91	137288
7 chloroethane	20	19.94	ppb	0.32	199257
8 tri-Cl-F-methane	20	21.45	ppb	7.24	533481
91 Acetonitrile X10	200	171.02	ppb	14.49	519753
9 acrolein X10	200	203.72	ppb	1.86	335652
11 acetone X10	200	401.76	ppb	100.88	622179
12 ethyl ether X5	100	106.95	ppb	6.95	795804
13 11-dichloroethene	20	19.81	ppb	0.96	393354
14 Iodomethane	20	10.22	ppb	48.88	179472
15 F-113	20	22.94	ppb	14.70	312078
16 acrylonitrile X10	200	164.83	ppb	17.58	510444
17 carbon disulfide	20	20.47	ppb	2.35	1033388
94 Isopropyl Alcoholx10	200	175.13	ppb	12.43	76039
18 methylene chloride	20	21.54	ppb	7.70	376011
19 t-12-di-Cl-ethene	20	18.91	ppb	5.45	353854
20 t-Bu-Me-ether	20	18.18	ppb	9.08	566384
95 Tert butyl alcoholx10	200	170.71	ppb	14.64	136952
94 allyl chloride	20	19.07	ppb	4.64	519753
21 11-dichloroethane	20	17.55	ppb	12.26	526952
97 propionitrile	20	19.04	ppb	4.79	22128
22 c-12-di-Cl-ethene	20	18.84	ppb	5.81	355392
23 22-Dichloropropane	20	25.78	ppb	28.90	486395
24 Br-Cl-methane	20	18.24	ppb	8.78	166908
25 chloroform	20	20.09	ppb	0.47	568551
26 tetrahydrofuranX5	100	81.19	ppb	18.81	184722
98 Diisopropyl ether	20	17.50	ppb	12.51	809012
27 Di-Br-F-Me (surr)	20	19.42	ppb	2.88	335336
99 ETBE	20	18.79	ppb	6.07	664011
29 1,2-Di-Cl-Et-d4 (S1)	20	19.34	ppb	3.31	270374
30 12-dichloroethane	20	20.36	ppb	1.78	99426
32 vinyl acetate X5	100	96.94	ppb	3.06	2095094
92 Nitro Methane(x10)	200	174.88	ppb	12.56	67276
33 2-butanoneMEK X10	200	242.12	ppb	21.06	704482
93 Ethyl Acetate x2	40	36.72	ppb	8.20	277696
34 111-trichloroethane	20	19.66	ppb	1.71	548596
35 11-Di-Cl-propene	20	20.47	ppb	2.35	431675
36 benzene	20	18.20	ppb	9.02	1279372
37 CCl4	20	20.69	ppb	3.45	532371

Compound Name	Amount	Actual	Units	%Dev	Target Response
100 Isobutyl alcoholx10	200	152.07	ppb	23.97	47971
38 thiophene	20	18.97	ppb	5.15	663020
39 12-di-Cl-propane	20	17.32	ppb	13.40	272490
40 trichloroethene	20	19.07	ppb	4.63	418033
41 dibromomethane	20	18.09	ppb	9.53	180567
101 TAME	20	19.05	ppb	4.75	583841
42 Br-di-Cl-methane	20	19.73	ppb	1.37	406413
43 Me-methacrylate	20	16.91	ppb	15.44	134869
44 2-ClEt-Vi-ether10	200	296.44	ppb	48.22	564039
45 c-13-di-Cl-propene	20	20.13	ppb	0.63	460170
46 t-1,3-dichloropropene	20	20.78	ppb	3.89	377751
47 Chlorobezene-d5	10	10.00	ppb	0.00	540075
48 112-tri-Cl-Et	20	17.41	ppb	12.97	226878
49 13-di-Cl-propane	20	17.67	ppb	11.65	363288
50 Et methacrylate	20	17.63	ppb	11.87	286875

Compound Name	Amount	Actual	Units	%Dev	Target Response
51 di-Br-Cl-methane	20	19.32	ppb	3.41	316099
52 bromoform	20	18.15	ppb	9.27	181553
53 1,4-dichlorobutane-2	20	16.95	ppb	15.25	324388
54 MIBK	20	16.32	ppb	18.40	128362
55 toluene-d8	20	18.83	ppb	5.84	1281795
56 toluene	20	18.69	ppb	6.56	1461903
57 2-hexanone X5	100	98.26	ppb	1.74	524559
58 12-dibromoethane	20	17.66	ppb	11.71	227054
59 tetra-Cl-ethene	20	19.50	ppb	2.51	455710
60 chlorobenzene	20	19.95	ppb	0.27	1015172
61 1112-tetra-Cl-Et	20	18.47	ppb	7.63	367788
62 1,4-Dichlorobenzene-d4	10	10.00	ppb	0.00	291184
63 1-chlorohexane	20	19.85	ppb	0.76	188472
64 Et-Bz	20	18.64	ppb	6.82	1697861
65 m/p-Xylenes X2	40	38.63	ppb	3.43	2660455
66 styrene	20	21.15	PPB	5.75	1107644
67 o-xylene	20	19.58	ppb	2.09	1353161
68 1122-Tetra-Cl-Et	20	15.90	ppb	20.49	244607
69 123-tri-Cl-Pr	20	16.84	ppb	15.79	77549
70 4-Br-1-F-Bz (S3)	20	18.11	ppb	9.47	436047
71 isopropylbenzene	20	20.26	ppb	1.32	1793892
72 bromobenzene	20	18.66	ppb	6.72	443595
92 t-1,4-dichloro-2-butene	20	18.19	ppb	9.05	47434
73 n-propylbenzene	20	20.17	ppb	0.85	559324
74 2-Cl-Toluene	20	19.57	ppb	2.14	479568
75 4-Cl-Toluene	20	19.27	ppb	3.63	480435
76 135-tri-Me-Benzene	20	20.54	ppb	2.71	1565613
77 4-iso-Pr-toluene	20	20.87	ppb	4.36	1776419
78 124-tri-Me-Benzene	20	20.02	ppb	0.11	1589191
79 tert-butylbenzene	20	19.97	ppb	0.14	1453549
80 13-DCB	20	18.47	ppb	7.64	923328
81 sec-butylbenzene	20	20.54	ppb	2.72	2104129

82 14-DCB	20	19.25	ppb	3.77	914732
83 Cl-benzyl	20	26.14	ppb	30.70	125907
84 12-DCB	20	18.24	ppb	8.82	811673
85 n-butylbenzene	20	19.93	ppb	0.35	497364
86 12-diBr-2-Cl-Pra	20	17.33	ppb	13.37	54302
87 124-tri-Cl-Bz	20	21.29	ppb	6.43	613490
88 naphthalene	20	17.67	ppb	11.67	923953
89 hx-Cl-butadiene	20	20.38	ppb	1.89	355552
90 123-Tri-Cl-Bz	20	20.25	ppb	1.24	523651

Average D % 9.130521

Evaluate Continuing Calibration Report

2735

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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	Fluorobenzene	1.000	1.000	0.0	68	0.02
2		3	di-Cl-di-F-methane	0.251	0.284	-13.1	77	0.04
3	p	4	Chloromethane	0.235	0.189	19.6	58	0.04
4		2	F114	0.131	0.127	3.1	64	0.04
5	C	5	vinyl chloride	0.242	0.236	2.5	68	0.03
6		6	bromomethane	0.116	0.099	14.7	60	0.04
7		7	chloroethane	0.144	0.144	0.0	75	0.03
8		8	tri-Cl-F-methane	0.359	0.385	-7.2	74	0.04
9		91	Acetonitrile X10	0.044	0.038	13.6	61	0.03
10		9	acrolein X10	0.028	0.024	14.3	65	0.04
11		11	acetone X10	0.043	0.045	-4.7	125	0.03
12		12	ethyl ether X5	0.127	0.115	9.4	67	0.04
13	M, C	13	11-dichloroethene	0.287	0.284	1.0	70	0.04
14		14	Iodomethane	0.253	0.130	48.6#	34#	0.04
15		15	F-113	0.225	0.225	0.0	73	0.04
16		16	acrylonitrile X10	0.045	0.037	17.8	61	0.03
17		17	carbon disulfide	0.729	0.746	-2.3	70	0.03
18		94	Isopropyl Alcoholx10	0.008	0.005	37.5#	61	0.06
19		18	methylene chloride	0.467	0.271	42.0#	74	0.04
20		19	t-12-di-Cl-ethene	0.270	0.255	5.6	67	0.03
21		20	t-Bu-Me-ether	0.450	0.409	9.1	65	0.03
22		95	Tert butyl alcoholx10	0.012	0.010	16.7	67	0.03
23		94	allyl chloride	0.393	0.375	4.6	61	0.03
24	p	21	11-dichloroethane	0.433	0.380	12.2	64	0.03
25		97	propionitrile	0.017	0.016	5.9	66	0.02
26		22	c-12-di-Cl-ethene	0.272	0.257	5.5	67	0.02

(#) = Out of Range

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
27		23 22-Dichloropropane	0.310	0.351	-13.2	82	0.02
28		24 Br-Cl-methane	0.132	0.120	9.1	67	0.02
29	C	25 chloroform	0.478	0.410	14.2	68	0.02
30		26 tetrahydrofuranX5	0.033	0.027	18.2	58	0.02
31		98 Diisopropyl ether	0.667	0.584	12.4	61	0.02
32	S	27 Di-Br-F-Me (surr)	0.249	0.242	2.8	69	0.03
33		99 ETBE	0.510	0.479	6.1	62	0.02
34	S	29 1,2-Di-Cl-Et-d4 (S1)	0.202	0.195	3.5	70	0.03
35		30 12-dichloroethane	0.078	0.072	7.7	70	0.02
36		32 vinyl acetate X5	0.312	0.302	3.2	71	0.03
37		92 Nitro Methane(x10)	0.006	0.005	16.7	60	0.02
38		33 2-butanoneMEK X10	0.052	0.051	1.9	80	0.02
39		93 Ethyl Acetate x2	0.124	0.100	19.4	64	0.02
40		34 111-trichloroethane	0.403	0.396	1.7	70	0.02
41		35 11-Di-Cl-propene	0.304	0.312	-2.6	65	0.02
42	M	36 benzene	1.015	0.923	9.1	64	0.02
43		37 CCl4	0.371	0.384	-3.5	73	0.02
44		100 Isobutyl alcoholx10	0.004	0.003	25.0#	55	-0.23
45		38 thiophene	0.505	0.479	5.1	65	0.02
46	C	39 12-di-Cl-propane	0.227	0.197	13.2	61	0.02
47	M	40 trichloroethene	0.316	0.302	4.4	66	0.01
48		41 dibromomethane	0.144	0.130	9.7	67	0.01
49		101 TAME	0.442	0.421	4.8	62	0.02
50		42 Br-di-Cl-methane	0.327	0.293	10.4	67	0.01
51		43 Me-methacrylate	0.102	0.097	4.9	59	0.00
52		44 2-ClEt-Vi-ether10	0.020	0.041	-105.0#	110	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

2737

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
53		45	c-13-di-Cl-propene	0.330	0.332	-0.6	68	0.01
54		46	t-1,3-dichloropropene	0.262	0.273	-4.2	69	0.00
55	I	47	Chlorobezene-d5	1.000	1.000	0.0	70	0.00
56		48	112-tri-Cl-Et	0.241	0.210	12.9	66	0.00
57		49	13-di-Cl-propane	0.381	0.336	11.8	66	0.00
58		50	Et methacrylate	0.273	0.266	2.6	65	0.00
59		51	di-Br-Cl-methane	0.325	0.293	9.8	69	0.00
60	P	52	bromoform	0.185	0.168	9.2	69	0.00
61		53	1,4-dichlorobutane-2	0.354	0.300	15.3	64	0.00
62		54	MIBK	0.146	0.119	18.5	58	0.00
63	s	55	toluene-d8	1.260	1.187	5.8	67	0.01
64	M,C	56	toluene	1.448	1.353	6.6	66	0.00
65		57	2-hexanone X5	0.099	0.097	2.0	72	0.00
66		58	12-dibromoethane	0.238	0.210	11.8	66	0.00
67		59	tetra-Cl-ethene	0.433	0.422	2.5	69	0.00
68	M,P	60	chlorobenzene	1.032	0.940	8.9	68	0.00
69		61	1112-tetra-Cl-Et	0.369	0.340	7.9	70	0.00
70	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	74	0.00
71		63	1-chlorohexane	0.326	0.324	0.6	67	0.00
72	C	64	Et-Bz	3.129	2.915	6.8	67	0.00
73		65	m/p-Xylenes X2	2.365	2.284	3.4	69	0.00
74		66	styrene	1.798	1.902	-5.8	74	0.00
75		67	o-xylene	2.373	2.324	2.1	68	0.00
76	p	68	1122-Tetra-Cl-Et	0.528	0.420	20.5#	65	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G4023\G4023Q01.D Vial: 2
Acq On : 3 Sep 2003 9:19 am Operator: zou
Sample : f=1 Inst : GCMS-A
Misc : Multiplr: 1.00
MS Integration Params: Lscint.p

Method : C:\MSDCHEM\1\METHODS\E524A002.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Thu Jul 24 12:40:35 2003
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)
77		69	123-tri-Cl-Pr	0.158	0.133	15.8	68	0.00
78	S	70	4-Br-1-F-Bz (S3)	0.827	0.749	9.4	69	0.00
79		71	isopropylbenzene	3.040	3.080	-1.3	68	0.00
80		72	bromobenzene	0.817	0.762	6.7	70	0.00
81		92	t-1,4-dichloro-2-butene	0.077	0.081	-5.2	73	0.00
82		73	n-propylbenzene	0.952	0.960	-0.8	70	0.00
83		74	2-Cl-Toluene	0.841	0.823	2.1	70	0.00
84		75	4-Cl-Toluene	0.856	0.825	3.6	71	0.00
85		76	135-tri-Me-Benzene	2.617	2.688	-2.7	71	0.00
86		77	4-iso-Pr-toluene	2.923	3.050	-4.3	71	0.00
87		78	124-tri-Me-Benzene	2.726	2.729	-0.1	71	0.00
88		79	tert-butylbenzene	2.499	2.496	0.1	70	0.00
89		80	13-DCB	1.717	1.585	7.7	70	0.00
90		81	sec-butylbenzene	3.517	3.613	-2.7	69	0.00
91		82	14-DCB	1.749	1.571	10.2	71	0.00
92		83	Cl-benzyl	0.165	0.216	-30.9#	95	0.00
93		84	12-DCB	1.529	1.394	8.8	70	0.00
94		85	n-butylbenzene	0.779	0.854	-9.6	72	0.00
95		86	12-diBr-2-Cl-Pra	0.108	0.093	13.9	68	0.00
96		87	124-tri-Cl-Bz	0.990	1.053	-6.4	73	0.00
97		88	naphthalene	1.796	1.587	11.6	71	0.00
98		89	hx-Cl-butadiene	0.599	0.611	-2.0	75	0.00
99		90	123-Tri-Cl-Bz	0.888	0.899	-1.2	73	0.00

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

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	034854
Project ID:		Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G4023Q01	Instrument ID:	A
Batch No:	03G4023				

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
	12 Hour CCV STD		09/03/03 09:19	692720	7.65	540075	11.55	291184	13.85
	CCV Upper Limit			1385440	8.15	1080150	12.05	582368	14.35
	CCV Lower Limit			346360	7.15	270037	11.05	145592	13.35
1	03G4023-LCS-01	03G4023-LCS-01	09/03/03 09:46	710195	7.65	554073	11.54	286475	13.85
2	MW-8MS	03-4842-2MS	09/03/03 10:12	719520	7.65	555249	11.55	280397	13.85
3	MW-8MSD	03-4842-2MSD	09/03/03 10:39	733071	7.65	575956	11.54	300170	13.85
4	03G4023-MB-01	03G4023-MB-01	09/03/03 12:27	608454	7.65	495232	11.55	271466	13.84
5	TB-9-8-26-03	03-4854-4	09/03/03 12:54	606699	7.65	485777	11.54	261616	13.84
6	MW-7	03-4854-1	09/03/03 16:07	597955	7.65	489932	11.55	261972	13.84
7	MW-13	03-4854-2	09/03/03 16:34	592691	7.65	478776	11.55	260823	13.85
8	MW-16	03-4854-3	09/03/03 17:02	601019	7.64	485024	11.55	262857	13.85
9									
10									
11									
12									
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14									
15									
16									
17									
18									
19									
20									
21									
22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

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

plied P & Ch Laboratory
Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

ce # 03G4023 Batch # 03G4023 Matrix: W Date: 09/03/03 Analyst: Zou

IS/Surrogate: GC-15114/15115 Methanol(mark-M): PEG (mark-PEG): Defoaming(mark-DF):

+ Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path:

	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
	SP	G4023P01	E524A 002	25/25 = 1	/ =	/ =	1		G4023P01	09/03/03	8:53am
	CCV	Q01		/ =	/ =	/ =			Q01	gc15586	
	LCS	L01		/ =	/ =	/ =			L01		
	MS	M01		/ =	/ =	/ =			M01	$4842-02	<2
	MSD	N01		/ =	/ =	/ =			N01	↓	↓
	MB	K01		/ =	/ =	/ =			K01		
	Sample	4854-04		/ =	/ =	/ =			4854-04	tb	<2
		4842-04		/ =	/ =	/ =			4842-04		
		4878-04		/ =	/ =	/ =			4878-04	↓	
		02		/ =	/ =	/ =			02		
		4842-01		/ =	/ =	/ =			4842-01		
		02		/ =	/ =	/ =			02		
		03		/ =	/ =	/ =			03		
		4854-01		/ =	/ =	/ =			4854-01		
		02		/ =	/ =	/ =			02		
		03		/ =	/ =	/ =			03		
01				/ =	/ =	/ =					
02				/ =	/ =	/ =					
03				/ =	/ =	/ =					
04				/ =	/ =	/ =					
05				/ =	/ =	/ =					
06				/ =	/ =	/ =					
07				/ =	/ =	/ =					
08				/ =	/ =	/ =					
09				/ =	/ =	/ =					
10				/ =	/ =	/ =					
11				/ =	/ =	/ =					
12				/ =	/ =	/ =					
13				/ =	/ =	/ =					
14				/ =	/ =	/ =					
15				/ =	/ =	/ =					
16				/ =	/ =	/ =					

9/05/03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
S/LCSD	2987	GC-15587	200 × 25 /X= 20 ppb		GC-	× /X= ppb
S/MSD	2988/2989	GC-	× /X= ppb		GC-	× /X= ppb

otnote/Anomaly:

: [CUST.DOC.GC]VOC_LOG .TEX Root-File: VOC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]VOC_LOG1.TEX; pH for field water ~~sample~~ only.
L form 7-201, April 03, 1996; Ver 4.1 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Sequence # 0393415 Batch # 0393415 Matrix: W Date: 07/22/03 Analyst: Bou

Lot #: IS/Surrogate: GC-1514/1515 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

☐ Calib. + Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{xpg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
2217	SP	G3415P01	E524A.02	25/25 = 1	/ =	/ =	1		G3415P01	07/22/03	17:08
2218	Calib.	02-00003	↓	/ =	/ =	/ =	↓		02-00003	0.3ppb	
2219	↓	0002A		/ =	/ =	/ =			0002A	2ppb	
2220		00010		/ =	/ =	/ =			00010	10ppb	
2221		00020		/ =	/ =	/ =			00020	20ppb	
2222		00040		/ =	/ =	/ =			00040	40ppb	
2223	↓	00060	↓	/ =	/ =	/ =	↓		00060	60ppb	
2224				/ =	/ =	/ =					
2225				/ =	/ =	/ =					
2226				/ =	/ =	/ =					
2227				/ =	/ =	/ =					
2228				/ =	/ =	/ =					
2229				/ =	/ =	/ =					
2230				/ =	/ =	/ =					
2231				/ =	/ =	/ =					
2232				/ =	/ =	/ =					
2233				/ =	/ =	/ =					
2234				/ =	/ =	/ =					
2235				/ =	/ =	/ =					
2236				/ =	/ =	/ =					
2237				/ =	/ =	/ =					
2238				/ =	/ =	/ =					
2239				/ =	/ =	/ =					
2240				/ =	/ =	/ =					
2241				/ =	/ =	/ =					
2242				/ =	/ =	/ =					
2243				/ =	/ =	/ =					
2244				/ =	/ =	/ =					
2245				/ =	/ =	/ =					
2246				/ =	/ =	/ =					
2247				/ =	/ =	/ =					
2248				/ =	/ =	/ =					

07/23/03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)= T$
LCS/LCSD		GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD		GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

A

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VOC Analysis General Logbook

Sequence # 033452 Batch # 033452 Matrix: W Date: 07/24/03 Analyst: Zou

Lot #: IS/Surrogate: GC-15114/15115 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

☐ Calib. + Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
2313	SP	G3452P01	E524A 002	25/25 = 1	/ =	/ =	1		G3452P01	07/24/03	10:07am
2314	CCV	Q01		/ =	/ =	/ =			Q01	GC15447	
2315	LCS	L01		/ =	/ =	/ =			L01		
2316	LCSD	J01		/ =	/ =	/ =			J01		
2317	MB	K01		/ =	/ =	/ =			K01		
2318	Sample	4176-08		/ =	/ =	/ =			4176-08	Internal PE	
2319		4182-05		/ =	/ =	/ =			4182-05	PE	
2320		18		/ =	/ =	/ =	5		18		
2321		03		15 = 5	/ =	/ =	1		03		
2322		03A		125 = 1	/ =	/ =	5		03A		
2323		04		15 = 5	/ =	/ =	5		04		
2324		04A		15 = 5	/ =	/ =	1		04A		
2325		04B		125 = 1	/ =	/ =	5		04B		
2326		4175-03B		15 = 5	/ =	/ =	1		4175-03B		
2327		03C		125 = 1	/ =	/ =			03C		
2328				/ =	/ =	/ =					
2329				/ =	/ =	/ =					
2330				/ =	/ =	/ =					
2331				/ =	/ =	/ =					
2332				/ =	/ =	/ =					
2333				/ =	/ =	/ =					
2334				/ =	/ =	/ =					
2335				/ =	/ =	/ =					
2336				/ =	/ =	/ =					
2337				/ =	/ =	/ =					
2338				/ =	107/105/01	/ =					
2339				/ =	/ =	/ =					
2340				/ =	/ =	/ =					
2341				/ =	/ =	/ =					
2342				/ =	/ =	/ =					
2343				/ =	/ =	/ =					
2344				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	2315/2316	GC-15448	200 × 2.5 /X= 20 ppb		GC-	× /X= ppb
MS/MSD		GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly: