Level C Data Package Deliverables

Perchlorate

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:	33391	Collected by:	

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/29/03	03W3074	μg/L	12	147	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/29/03	03W3074	μg/L	200	1810	
03W3074-MB-01	03W3074-MB-01	Water	05/29/03	05/29/03	05/29/03	03W3074	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.

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:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3074		
LCS Filename:	-	Date Analyzed:	053003	Time Analyzed:	11:43
LCSD Filename:	-	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	25	0	24.3	97	80-120
# 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-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:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3074		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	16:00
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	16:19
MS Sample No:	MW-7	Sample Lab ID:	03-3444-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	50	2.3	51.9	99	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	50	53.5	102	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: _____

FORM-7

Applied P & Ch Laboratory

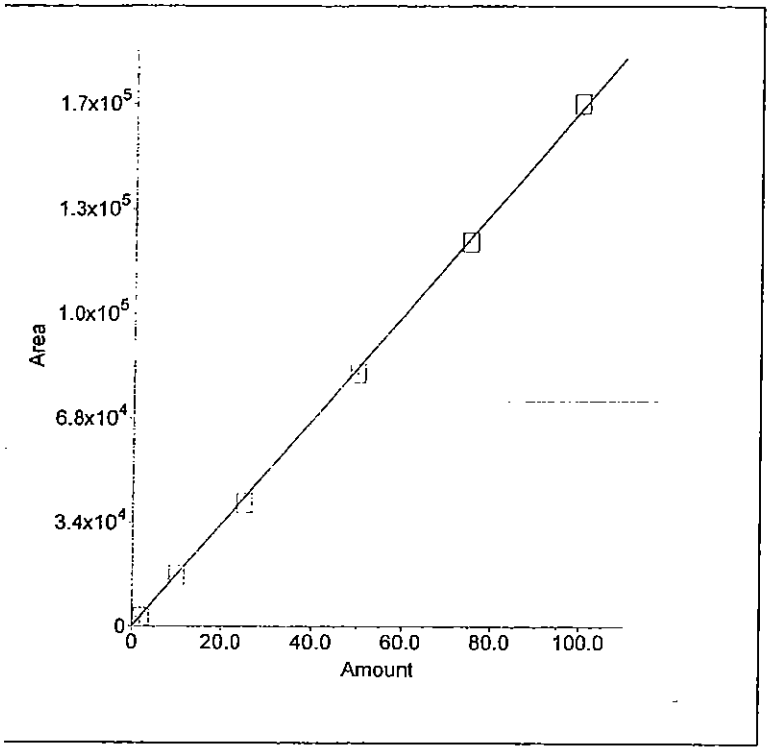
CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL
Case No: SAS No.: Service ID: 33391
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	Perchlorate	314.0	03W3074	μg/L	50	49.7	99	-1	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	μg/L	50	52.5	105	5	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	μg/L	50	50.8	102	2	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	μg/L	50	49.9	100	0	√	85-115	05/30/2003

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

Line	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	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
1	##03w3074kw ipc 25ppb w7759	Sample		e314-011.met	w3074k ipc 25ppb	1	1	1
2	ccv 50ppb w7827e	Sample		e314-011.met	w3074k q01	1	1	1
3	ccb	Sample		e314-011.met	w3074k ccb01	1	1	1
4	lcs 25ppb w7827d	Sample		e314-011.met	w3074k l01	1	1	1
5	LCS 18PPB W7685D	Sample		e314-011.met	w3074k j01	1	1	1
6	ICCS 4ppb w7827b	Sample		e314-011.met	w3074k iccs 4ppb	1	1	1
7	mb	Sample		e314-011.met	w3074k k01	1	1	1
8	3381-01 F=2	Sample		e314-011.met	3381-01	1	2	1
9	3381-06 f=3	Sample		e314-011.met	3381-06	1	3	1
0	3381-07 F=2	Sample		e314-011.met	3381-07	1	2	1
1	3391-01 f=1	Sample		e314-011.met	3391-01	1	1	1
2	3391-02 f=1	Sample		e314-011.met	3391-02	1	1	1
3	ccv 50ppb w7827e	Sample		e314-011.met	w3074k q02	1	1	1
4	ccb	Sample		e314-011.met	w3074k k02	1	1	1
5	3414-01 F=1	Sample		e314-011.met	3414-01	1	1	1
6	3414-02 F=1	Sample		e314-011.met	3414-02_016.dxd	1	1	1
7	3391-01 MD F=3	Sample		e314-011.met	w3074k d01_017.dxd	1	3	1
8	3414-02 MS50PPB F=1 W7428B	Sample		e314-011.met	w3074k m01_018.dxd	1	1	1
9	3414-02 MSD50PPB F=1 W7428B	Sample		e314-011.met	w3074k n01_019.dxd	1	1	1
0	3391-02 F=50	Sample		e314-011.met	3391-02a_020.dxd	1	50	1
1	ccv 50ppb w7827e	Sample		e314-011.met	w3074k q03_021.dxd	1	1	1
2	CCV 50PPB W7827E	Sample		e314-011.met	w3074k q04	1	1	1
3	CCB	Sample		e314-011.met	w3074k k03	1	1	1
4	3444-01 F=1	Sample		e314-011.met	3444-01	1	1	1
5	3444-02 F=1	Sample		e314-011.met	3444-02	1	1	1
6	3444-02 F=100	Sample		e314-011.met	3444-02a	1	100	1
7	3444-03 F=1	Sample		e314-011.met	3444-03a	1	1	1
8	3444-01 MS50PPB F=1 W7428B	Sample		e314-011.met	w3074k m02	1	1	1
9	3444-01 MSD50PPB F=1 W7428B	Sample		e314-011.met	w3074k n02	1	1	1
0	3444-02 MS50PPB F=100 W7428B	Sample		e314-011.met	w3074k m03	1	100	1
1	3444-02 MSD250PPB F=100 W7428B	Sample		e314-011.met	w3074k n03_031.dxd	1	100	1
2	CCV 50PPB W7827E	Sample		e314-011.met	w3074k q05_032.dxd	1	1	1
3	CCB	Sample		e314-011.met	w3074k k04	1	1	1
4	3465-01 F=1	Sample		e314-011.met	3465-01	1	1	1
5	3465-02 F=1	Sample		e314-011.met	3465-02	1	1	1
6	3465-03 F=1	Sample		e314-011.met	3465-03	1	1	1
7	CCV 50PPB W7827E	Sample		e314-011.met	w3074k q06	1	1	1

Analyst [illegible]

Date 5/29-30/03

Instrument Zc-K

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

Conductance (120.1) Worksheet

for reference

Matrix: W

Test Date: 5/28/03 Analyst: mw

Constant _____ Calibration STD: 0.0100M KCl SOP: G-45

	Sample ID	Treatment V/X=f0	Dilution Vf/Vi=f1	Temperature T, °C	$C_{25}=C_T f_1/\{1-0.0191(25-T)\}$ C_T, µmhos/cm	C_{25}, µmhos/cm	ρ=1/C_{25} MΩ cm	Note & Anomaly
Std.	Lot #:	-	-	25 C				C_{25}=1,413±20
MB		/ =	/ =					for CO_3
1	3381-1 mw 5/28/03	/ =	/ =			8160		
2	-6	/ =	/ =			10000		
3	-7	/ =	/ =			8940		
4	3391-1	/ =	/ =			676		
5	-2	/ =	/ =			550		
6	3414-1	/ =	/ =			660		
7	-2	/ =	/ =			501		
8	3444-1	/ =	/ =			1300		
9	-2	/ =	/ =			593		
10	-3	/ =	/ =			597		
11		/ =	/ =					
12		/ =	/ =					
13		/ =	/ =					
14		/ =	/ =					
15		/ =	/ =					
16		/ =	/ =					
17		/ =	/ =					
18		/ =	/ =					
19		/ =	/ =					
20		/ =	/ =					
Dup.		/ =	/ =					

Level C Data Package Deliverables

Wet Chemistry

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Wet Analysis Results for Method SM2320B

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	SM2320B
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Bicarbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	06/02/03	03W3113	mg/L	2	115	
03-3391-2	MW-16	Water	05/27/03	05/27/03	06/02/03	03W3113	mg/L	2	115	
03W3113-MB-01	03W3113-MB-01	Water	06/02/03	06/02/03	06/02/03	03W3113	mg/L	2	<2	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.

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Wet Analysis Results for Method SM2320B

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	SM2320B
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Carbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U
03-3391-2	MW-16	Water	05/27/03	05/27/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U
03W3113-MB-01	03W3113-MB-01	Water	06/02/03	06/02/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	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.

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Wet Analysis Results for Method 9040B

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	9040B
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: pH
CAS No: 10-29-7

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/27/03	03W3048	pH unit	0.01	7.00	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/27/03	03W3048	pH unit	0.01	7.18	
03W3048-MB-01	03W3048-MB-01	Water	05/27/03	05/27/03	05/27/03	03W3048	pH unit	0.01	6.82	

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

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Wet Analysis Results for Method 160.1

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	160.1
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Solids, Total Dissolved (TDS)
CAS No: 10-33-3

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/29/03	03W3071	mg/L	10	529	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/29/03	03W3071	mg/L	10	347	
03W3071-MB-01	03W3071-MB-01	Water	05/29/03	05/29/03	05/29/03	03W3071	mg/L	10	<10	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:	33391	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
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/27/03	03W3046	mg/L	0.01	0.024	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/27/03	03W3046	mg/L	0.01	<0.01	U
03W3046-MB-01	03W3046-MB-01	Water	05/27/03	05/27/03	05/27/03	03W3046	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.

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Wet Analysis Results for Method 300.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	300.0
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Chloride Cl^-
CAS No: 16887-00-6

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	1.6	52.8	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	1	33.5	
03W3042-MB-01	03W3042-MB-01	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	0.2	<0.2	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.

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Wet Analysis Results for Method 300.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	300.0
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Nitrate as N
CAS No: 14797-55-8

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	0.32	9.4	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	0.2	9.5	
03W3042-MB-01	03W3042-MB-01	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	0.04	<0.04	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 300.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	300.0
Project ID:	JPL	Service ID:	33391	Collected by:	

Component Name: Sulfate SO_4^{--}
CAS No: 14808-79-8

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3391-1	MW-13	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	4	80.7	
03-3391-2	MW-16	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	2.5	33.7	
03W3042-MB-01	03W3042-MB-01	Water	05/27/03	05/27/03	05/27/03	03W3042	mg/L	0.5	<0.5	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 SM2320B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3113		
LCS Filename:	-	Date Analyzed:	060203	Time Analyzed:	11:45
LCSD Filename:	-	Date Analyzed:	060203	Time Analyzed:	11:45

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BICARBONATE	mg/L	100	0	101	101	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BICARBONATE	mg/L	100	99.6	100	1	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

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 300.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3042		
LCS Filename:	-	Date Analyzed:	052703	Time Analyzed:	12:12
LCSD Filename:	-	Date Analyzed:	052703	Time Analyzed:	12:24

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	0	4.06	102	80-120
NITRATE AS N	mg/L	1.5	0	1.55	103	80-120
SULFATE SO_4^{--}	mg/L	15	0	15.3	102	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	4.05	101	1	20	80-120
NITRATE AS N	mg/L	1.5	1.54	103	0	20	80-120
SULFATE SO_4^{--}	mg/L	15	15.2	101	1	25	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 300.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3042		
MS Filename:	-	Date Analyzed:	052703	Time Analyzed:	16:39
MSD Filename:	-	Date Analyzed:	052703	Time Analyzed:	16:52
MS Sample No:	**AE113**	Sample Lab ID:	03-3370-13		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	8000	4420	12600	102	75-125
NITRATE AS N	mg/L	3000	46.9	3030	99	75-125
SULFATE SO_4^{--}	mg/L	30000	1690	31300	99	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	8000	12500	101	1	20	75-125
NITRATE AS N	mg/L	3000	2960	97	2	20	75-125
SULFATE SO_4^{--}	mg/L	30000	30900	97	2	25	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: _____

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 160.1

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3071		
LCS Filename:	-	Date Analyzed:	052903	Time Analyzed:	09:36
LCSD Filename:	-	Date Analyzed:	052903	Time Analyzed:	09:36

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	0	385	96	88-108
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	391	98	2	20	88-108
# 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 160.1

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3071		
MS Filename:	-	Date Analyzed:	052903	Time Analyzed:	09:36
MSD Filename:	-	Date Analyzed:	052903	Time Analyzed:	09:36
MS Sample No:	**AE420**	Sample Lab ID:	03-3389-9		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec%	#	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	4140	4450	78	*	80-119
# of Out-of-control					1		

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec%	#	RPD%	#	QC Limit, % RPD	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	4500	90		14		20	80-119
# 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 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3046		
LCS Filename:	-	Date Analyzed:	052703	Time Analyzed:	14:37
LCSD Filename:	-	Date Analyzed:	052703	Time Analyzed:	14:37

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.231	92	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	0.249	100	8	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:	33391
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3046		
MS Filename:	-	Date Analyzed:	052703	Time Analyzed:	14:37
MSD Filename:	-	Date Analyzed:	052703	Time Analyzed:	14:37
MS Sample No:	**MW-13**	Sample Lab ID:	03-3391-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0.024	0.245	88	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	0.255	92	4	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: _____

6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: _____

Analysis: Chromium (VI) Calibration Date: 01/29/2003

Concentration (mg/L)	0.000	0.0125	0.050	0.125	0.250	0.50
Absorbance	0.000	0.006	0.041	0.109	0.214	0.415

A= 0.000 + 0.836C

A=Absorbance

C=Concentration (mg/L)

r= 0.9997

Wet Chemistry QC Report B
Duplicate Results

Matrix: Water

APCL Service ID: 03-3391

Analysis	Batch ID	Analysis Date	Sample Name	Unit	Result	Duplicate Result	RPD %	RPD Control limit
Alkalinity	03W3113	06/02/2003	03-3444-1	mg-$CaCO_3$/L	284	282	1	20
PH	03W3048	05/27/2003	MW-13	PH UNITS	7.00	7.03	0	20

Note: N/A = Not applicable; NR: Not requested; NC= Not Calculated; ND: Not detected.

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: 33391
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	Chloride Cl^-	300.0	03W3042	mg/L	4.0	4.06	102	2	√	90-110	05/27/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3042	mg/L	1.5	1.54	103	3	√	90-110	05/27/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3042	mg/L	15	15.2	101	1	√	90-110	05/27/2003
	Chloride Cl^-	300.0	03W3042	mg/L	4.0	4.06	101	1	√	90-110	05/27/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3042	mg/L	1.5	1.54	103	3	√	90-110	05/27/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3042	mg/L	15	15.2	101	1	√	90-110	05/27/2003
	Chloride Cl^-	300.0	03W3042	mg/L	4.0	4.03	101	1	√	90-110	05/27/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3042	mg/L	1.5	1.55	103	3	√	90-110	05/27/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3042	mg/L	15	15.2	101	1	√	90-110	05/27/2003
2	Chromium (VI)	7196	03W3046	mg/L	0.25	0.252	101	1	√	90-110	05/27/2003
	Chromium (VI)	7196	03W3046	mg/L	0.25	0.255	102	2	√	90-110	05/27/2003

DIONEX METHOD PARAMETERS - E300-063.MET

Method Comment: APCL EPA 300 ANALYSIS DX-100
Column ID: Dionex AS4A-SC
Analyst ID: David

System Parameters

System Name: DX-100

Number of Detectors	1
Run Time (minutes)	10.00
Sampling Rate (seconds)	0.20
Detector 1 Type	COND
Detector 1 real time plot scale maximum (uS)	30.000
minimum	-3.000
Detector 1 Output Equivalent to 1 Volt (in uS)	30.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\03W1991\W1991Q01.D10

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	Yes
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	No
Print Unknown Peaks	No
Print Chromatogram	Yes
Autoscale Chromatogram Maximum	No
Autoscale Chromatogram Minimum	No
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	Yes
Label with Component Name	Yes

Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

Starting Peak Width (seconds)	10.0
Peak Threshold	2.000
Peak Area Reject	1000
Area Reject for Reference Peaks	1000

Data Events

Time	Description
0.13	Start peak detection
10.00	Stop peak detection

Calibration Parameters

Number Of Levels for Calibration	6
Force Calibration Curve Through Origin	No
Calibration Fit Type	Linear
Replace Or Average Calibrations	Replace
External or Internal Calibration	External
Calculate Unknowns by Area or Height	Area
Default Sample Volume	1.0
Default Dilution Factor	1.0
Default Response Factor for Unknown Peaks	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	ppm

Component # 4 Bromide Retention Time 3.45
Reference Comp. Nitrate-N Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 4.58974E-002
K1 = 4.83279E-006

Level	Amount	Area	Height
1	7.50000E-002	13830	1488
2	1.50000E+000	298206	30100
3	3.00000E+000	591234	61776
4	6.00000E+000	1219933	128845
5	7.50000E+000	1559887	166594
6	0.00000E+000	0	0

Component # 5 Nitrate-N Retention Time 3.87
Reference Comp. Nitrate-N Window Size 0.25 min.
Amount = K0 + K1*Area
K0 = 4.24689E-002
K1 = 8.05553E-007

Level	Amount	Area	Height
1	3.75000E-002	40157	3802
2	7.50000E-001	849179	77129
3	1.50000E+000	1713421	152776
4	3.00000E+000	3610927	313707
5	3.75000E+000	4688990	396441
6	0.00000E+000	0	0

Component # 6 Phosphate-P Retention Time 6.38
Reference Comp. Phosphate-P Window Size 0.60 min.
Amount = K0 + K1*Area
K0 = 8.68926E-002
K1 = 2.12227E-006

Level	Amount	Area	Height
1	7.50000E-002	24783	1450
2	1.50000E+000	642376	38579
3	3.00000E+000	1301126	79971
4	6.00000E+000	2756481	168994
5	7.50000E+000	3546397	217521
6	0.00000E+000	0	0

Component Table -- Last Modified: 17:42 on Fri, 21 Mar 2003

Component # 1 Fluoride Retention Time 1.32
Reference Comp. Fluoride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = -9.62851E-004
K1 = 1.37614E-006

Level	Amount	Area	Height
1	2.50000E-002	28534	2732
2	5.00000E-001	373164	44629
3	1.00000E+000	707646	82595
4	2.00000E+000	1435865	173007
5	2.50000E+000	1837162	220914
6	0.00000E+000	0	0

Component # 2 Chloride Retention Time 1.97
Reference Comp. Chloride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = 1.28188E-001
K1 = 1.95287E-006

Level	Amount	Area	Height
1	1.00000E-001	51206	7044
2	2.00000E+000	909455	126181
3	4.00000E+000	1856586	261681
4	8.00000E+000	3987563	585791
5	1.00000E+001	5142155	754321
6	0.00000E+000	0	0

Component # 3 Nitrite-N Retention Time 2.33
Reference Comp. Chloride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = 2.38085E-002
K1 = 9.76240E-007

Level	Amount	Area	Height
1	3.75000E-002	30884	3582
2	7.50000E-001	734006	79701
3	1.50000E+000	1468106	162005
4	3.00000E+000	3021523	336616
5	3.75000E+000	3856614	429219
6	0.00000E+000	0	0

Component # 7 Sulfate Retention Time 7.92
Reference Comp. Sulfate Window Size 0.90 min.
Amount = K0 + K1*Area
K0 = 5.32283E-001
K1 = 2.53252E-006

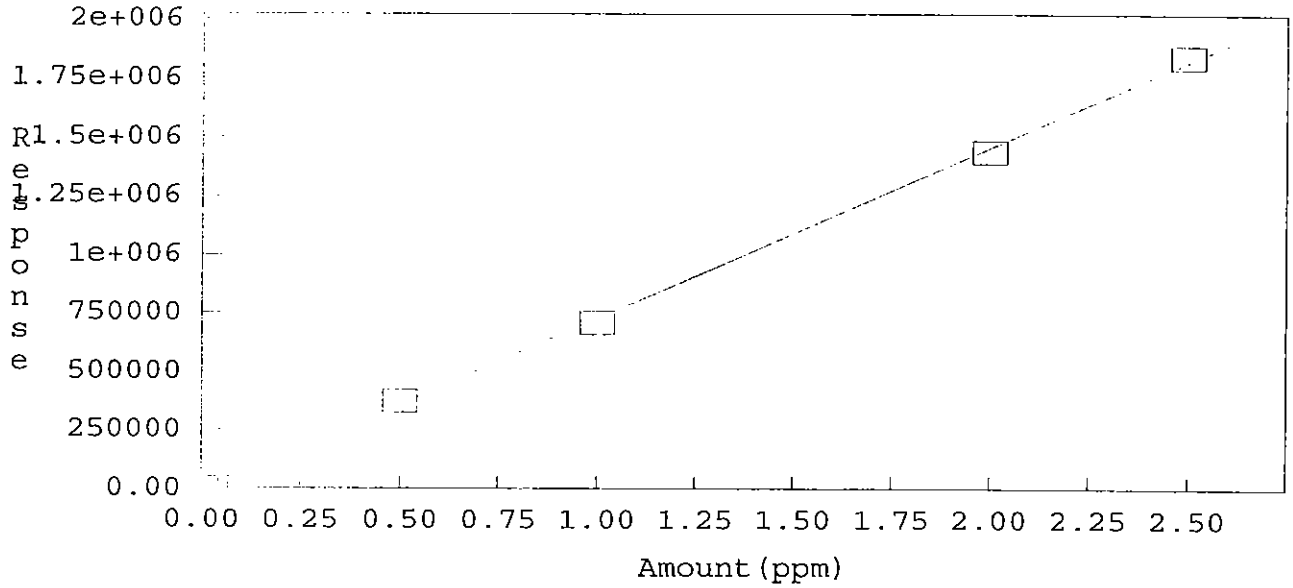
Level	Amount	Area	Height
1	3.76000E-001	129999	6524
2	7.50000E+000	2598757	138579
3	1.50000E+001	5330209	287851
4	3.00000E+001	11507107	615917
5	3.75000E+001	14859049	776426
6	0.00000E+000	0	0

Timed Events File: C:\DX\METHOD\W761CAL.TE

Step	Time	Description
Init		ACI Autosmp OFF
Init		ACI pump st ON
Init		ACI inject OFF
Init		ACI auto zer OFF
Init		ACI TTL 1 OFF
Init		ACI TTL 2 OFF
Init		ACI TTL 3 OFF
Init		ACI TTL 4 OFF
Init		ACI OFF
Init		ACI OFF
1	0.0	ACI Autosmp ON
1	0.0	ACI auto zer ON
2	2.5	ACI Autosmp OFF
2	2.5	ACI inject ON
2	2.5	ACI TTL 1 ON
2	2.5	Start Sampling

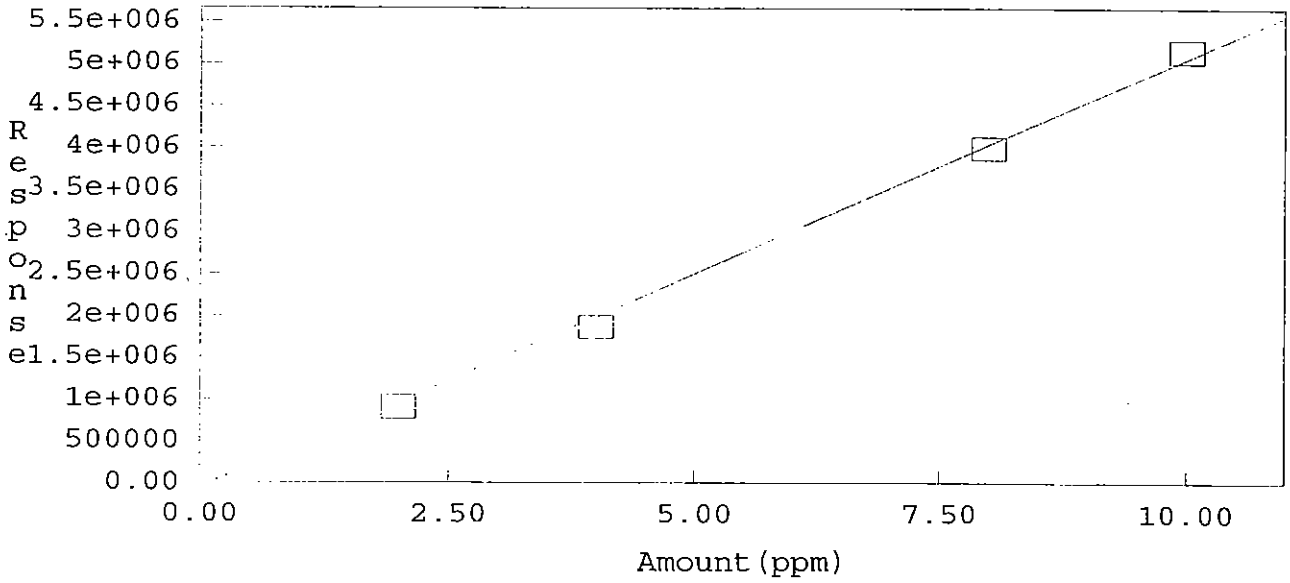
Method: E300-063.MET - Last Updated: 17:42 on Fri, 21 Mar 2003

Component: Fluoride
Fit Type: Linear
r^2 = 0.999552
Amt = Resp * 1.376e-006 + -0.000962
Resp = Amt * 7.267e+005 + 699.7
Standardization: External
Calibration: Area



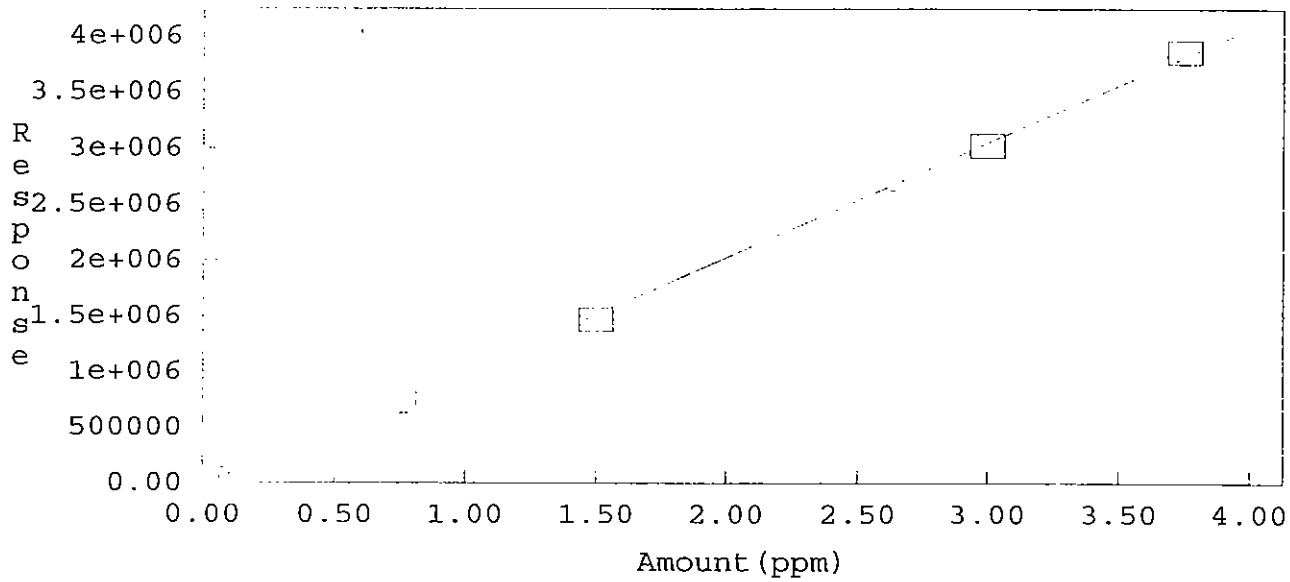
Method: C:\DX\METHOD\E300-063.MET

Component: Chloride
Fit Type: Linear
r^2 = 0.998409
Amt = Resp * 1.953e-006 + 0.1282
Resp = Amt * 5.121e+005 + -6.564e+00
Standardization: External
Calibration: Area



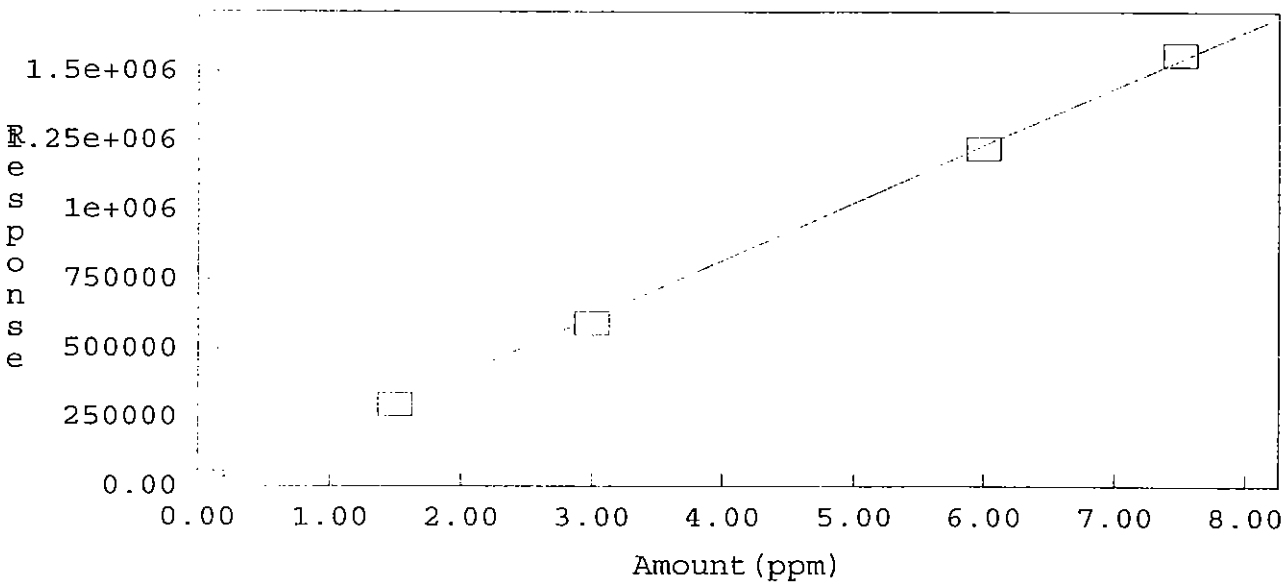
Method: C:\DX\METHOD\E300-063.MET

Component: Nitrite-N
Fit Type: Linear
r^2 = 0.999594
Amt = Resp * 9.762e-007 + 0.02381
Resp = Amt * 1.024e+006 + -2.439e+00
Standardization: External
Calibration: Area



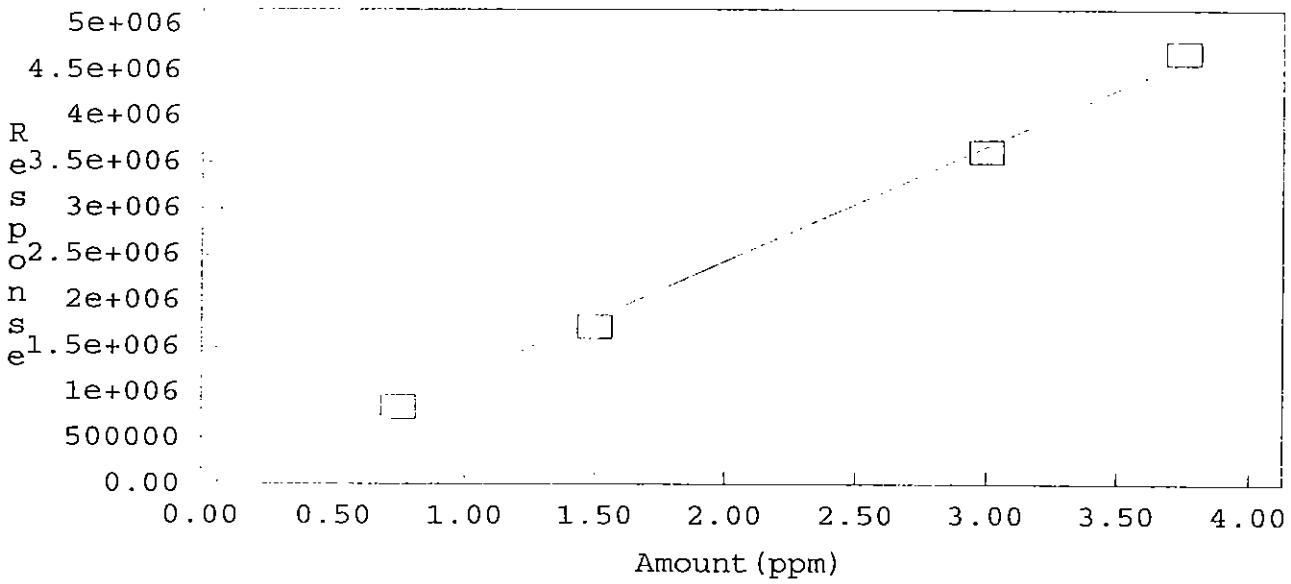
Method: C:\DX\METHOD\E300-063.MET

Component: Bromide
Fit Type: Linear
r^2 = 0.999518
Amt = Resp * 4.833e-006 + 0.0459
Resp = Amt * 2.069e+005 + -9497
Standardization: External
Calibration: Area



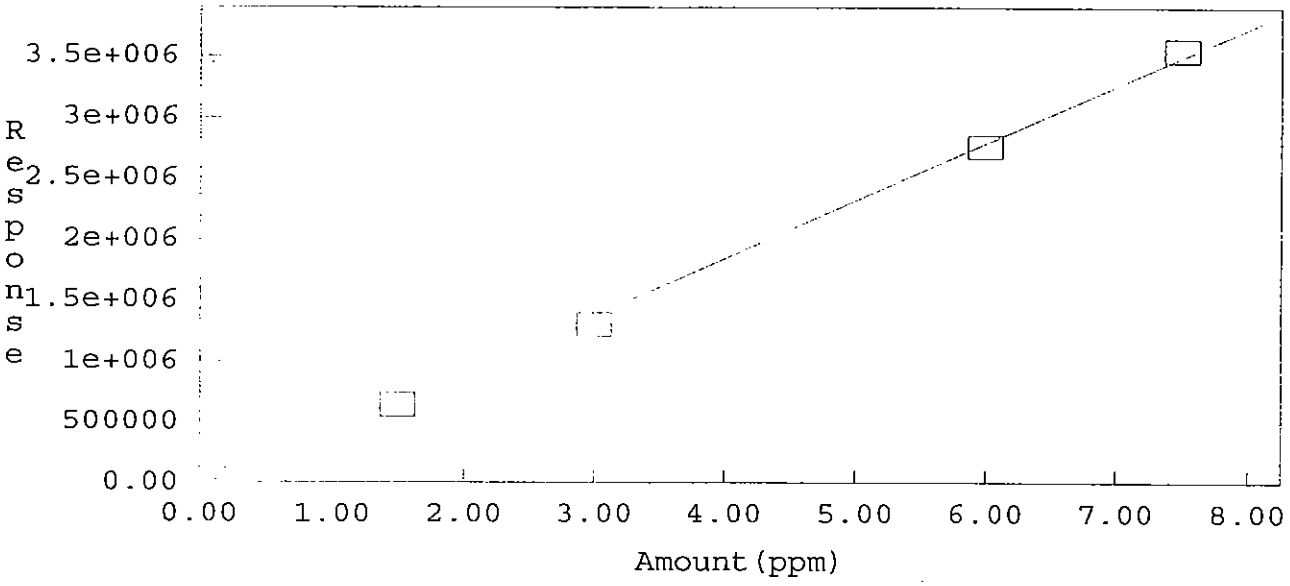
Method: C:\DX\METHOD\E300-063.MET

Component: Nitrate-N
Fit Type: Linear
r^2 = 0.998618
Amt = Resp * 8.056e-007 + 0.04247
Resp = Amt * 1.241e+006 + -5.272e+00
Standardization: External
Calibration: Area



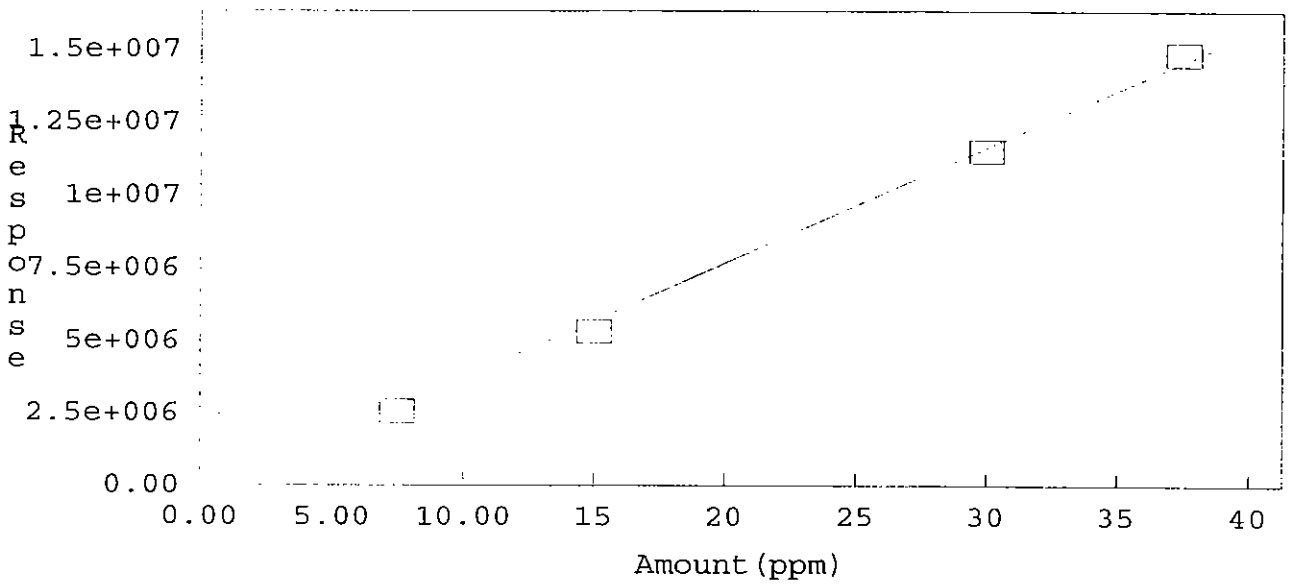
Method: C:\DX\METHOD\E300-063.MET

Component: Phosphate-P
Fit Type: Linear
r^2 = 0.998898
Amt = Resp * 2.122e-006 + 0.08689
Resp = Amt * 4.712e+005 + -4.094e+00
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\E300-063.MET

Component: Sulfate
Fit Type: Linear
r^2 = 0.998245
Amt = Resp * 2.533e-006 + 0.5323
Resp = Amt * 3.949e+005 + -2.102e+00
Standardization: External
Calibration: Area



DIONEX SCHEDULE - C:\DX\SCHEDULE\E300-063.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	autocal1r	..\E300-063	..\W7767Q01.D01	1	1	1
2	autocal2r	..\E300-063	..\W7767Q01.D02	1	1	1
3	autocal3r	..\E300-063	..\W7767Q01.D03	1	1	1
4	autocal4r	..\E300-063	..\W7767Q01.D04	1	1	1
5	autocal5r	..\E300-063	..\W7767Q01.D05	1	1	1
6	autocal6r	..\E300-063	..\W7767Q01.D06	1	1	1
7	icv-w7768-100X	..\E300-063	..\W7768Q01.D07	1	1	1
8	icb	..\E300-063	..\W7767Q01.D08	1	1	1

Comment:

Analyst DL

Date 3/21/03

Instrument J

DIONEX SCHEDULE - C:\DX\SCHEDULE\03W3042.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	##03W3042, W CCVW79	..\E300-063	..\W3042Q01.D01	1	1	1
2	MB RW1413	..\E300-063	..\W3042K01.D02	1	1	1
3	LCS W7934-100X	..\E300-063	..\W3042L01.D03	1	1	1
4	LCSD W7934-100X	..\E300-063	..\W3042J01.D04	1	1	1
5	3370-1 F=400	..\E300-063	..\3370-101.D05	1	400	1
6	3370-2 F=400	..\E300-063	..\3370-201.D06	1	400	1
7	3370-3 F=400	..\E300-063	..\3370-301.D07	1	400	1
8	3370-11 F=100	..\E300-063	..\33701101.D08	1	100	1
9	3370-12 F=400	..\E300-063	..\33701201.D09	1	400	1
10	3370-13 F=1000	..\E300-063	..\33701301.D10	1	1000	1
11	3370-14 F=1.25	..\E300-063	..\33701401.D11	1	1.25	1
12	CCV2W7933-100X	..\E300-063	..\W3042Q01.D12	1	1	1
13	MB RW1412	..\E300-063	..\W3042K11.D13	1	1	1
14	$3370-13 MS F=2000	..\E300-063	..\W3042M01.D14	1	2000	1
15	$3370-13 MSD F=2000	..\E300-063	..\W3042N01.D15	1	2000	1
16	3360-1 F=8	..\E300-063	..\3360-101.D16	1	8	1
17	3360-7 F=4	..\E300-063	..\3360-701.D17	1	4	1
18	3391-1 F=8	..\E300-063	..\3391-101.D18	1	8	1
19	3391-2 F=5	..\E300-063	..\3391-201.D19	1	5	1
20	CCV3W7933-100X	..\E300-063	..\W3042Q01.D20	1	1	1
21		..\STOP.MET		1	1	1

Comment:
LCS/LCSD LOT # W7934
MS/MSD LOT # W7933
ELUENT LOT # W7868
ANALYTICAL METHOD 9056/E300 MATRIX W

Analyst DC
Date 7/27/03
Instrument J

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

Solid Analysis (160.1, 160.2, 160.3) Worksheet

atch # 03W3071 Matrix W Method: 160.1 Balance No. _____ Date: 5/29/03 Analyst: DC

EPA 160.1 TDS – Total Dissolved (filterable) Solids — Dry for 1hr. or more at 180 °C

EPA 160.2 TSS – Total Suspended (nonfilterable) Soilds — Dry for 1hr. or more at 103-105 °C

EPA 160.3 TS – Total Solids — Dry for 1hr. or more at 103-105 °C

Other method (specify):

Result= $10^6 \times \Delta W \times f_1 / V$ SOP: G-81

#	Analysis Type	Sample ID (STD Lot #)	Treatment Ratio $V_1/X=f_1$	Volume V, mL	W_1 g	W_2 1st, g	W_2 2nd, g	$\Delta W = W_2 - W_1$, g	Results (ppm)	Note
1	Blank	T1116	1 =	100	103.1221	103.1225	103.1224	0.0003	3	GC
2	LCS	T1116	1 =	100	104.3113	104.3496	104.3498	0.0385	385	3
3	Sample-1	3392-2	1 =	100	115.1056	115.1442	115.1440	0.0384	384	G
4	MS on S-1	3389-9	1 =	50.0	111.7875	112.0102	112.0100	0.2225	4450	R
5	MSD on S-1	↓ -9	1 =	50.0	103.5388	103.7641	103.7639	0.2251	4502	76
6	Sample-2	3396-1	1 =	100	115.9208	116.2320	116.2317	0.3109	3109	Y9
7	Sample-3	-2	1 =	100	115.8746	116.1842	116.1842	0.3096	3096	CK
8	Sample-4	-3	1 =	100	113.1434	113.4346	113.4349	0.2607	2607	25
9	Sample-5	-4	1 =	100	116.9560	117.2356	117.2356	0.2796	2796	W
10	Sample-6	3395-2	1 =	100	113.0638	113.1108	113.1105	0.0467	467	PR
11	Sample-7	3394-11	1 =	100	117.9022	117.9982	117.9980	0.0958	958	7
12	Sample-8	-12	1 =	100	116.0616	116.1245	116.1243	0.0627	627	31
13	Sample-9	-13	1 =	100	111.2759	111.2763	111.2760	0.0001	1	J
14	Sample-10	3390-2	1 =	100	114.7856	114.8790	114.8798	0.0942	942	12
15	LCSD	T1116	1 =	100	117.6075	117.6468	117.6466	0.0391	391	XJ
16	Sample-11	3391-1	1 =	100	103.3015	103.3548	103.3544	0.0529	529	L
17	Sample-12	↓ -2	1 =	100	113.8632	113.8976	113.8979	0.0347	347	6
18	Sample-13	3389-4	1 =	100	115.8629	116.1886	116.1888	0.2959	2959	30
19	Sample-14	-5	1 =	100	114.1726	114.2306	114.2309	0.0583	583	4
20	Sample-15	↓ -9	1 =	50.0	99.0867	99.2942	99.2939	0.2072	4144	Y2
21	Sample-16	3413-1	1 =	100	108.5566	108.8817	108.8819	0.3259	3259	1P
22	Sample-17	3414-1	1 =	100	107.7204	107.7467	107.7467	0.0263	263	0
23	Sample-18	↓ -2	1 =	100	112.3057	112.3336	112.3334	0.0277	277	K
24	Sample-19		1 =							
25	Sample-20		1 =							
26	Mix Dup.	3389-9	1 =	50.0	116.6468	116.8562	116.8564	0.2096	4192	25

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-7618	– – × 1 = 40 ppm	%	85-115 %/80-120 %
MSD	W- ↓	× 1 = ppm	%	.. ..
LCS	W-7619	× 1 = ppm	%	90-110 %/85-115 %
LCSD	W- ↓	× 1 = ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	10
PQL(s)	50
MDL(w)	4
MDL(s)	20

PCL form 5-127, March 7, 1995. Ver. 3.0 No pencil. Use blue pen for record. Use red pen for correction.

LE: [CUST.DOC.WET]TDS .TEX ROOT-FILE: TDS_ROOT.TEX CONTROL-FILE: TDS.000 1-Page file: TDS1.TEX

ntrol limits are subjected to change. The updated values are given in the latest version of APCL Technical Handbook Vol. 2

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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Balance Daily Calibration Worksheet

Weight Set: [illegible]

Calib. Date	Lab Balance Balance #	1 g ±0.05g	10 g ±0.1g	200 g ±0.5g	Note (C)	Digital Balance Balance #	1 g ±0.02g	10 g ±0.05g	200 g ±0.10g	Note (D) (C) (AR).	Analytical Balance Balance #	1 g ±0.0002g	10 g ±0.0005g	200 g ±0.0010g	Note (D) (C) (AR)	Calib. by
5/23/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0002	✓✓✓	Yr
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0001	10.0000	200.0000	✓✓✓	
	A-03	1.00	9.99	200.00	✓	B-06	1.00	10.01	200.01	✓✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-					
	A-		5/23/03			B-		5/23/03			C-		5/23/03			
	A-					B-					C-					
5/27/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	Yr
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0001	10.0000	200.0000	✓✓✓	
	A-03	1.00	9.99	200.00	✓	B-06	1.00	10.01	200.01	✓✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-					
	A-		5/27/03			B-		5/27/03			C-		5/27/03			
	A-					B-					C-					
5/28/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	Yr
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0001	10.0000	200.0000	✓✓✓	
	A-03	1.00	9.99	200.00	✓	B-06	1.00	10.01	200.00	✓✓✓	C-					
	A-04					B-07	0.99	10.00	200.00	✓✓✓	C-					
	A-		5/28/03			B-		5/28/03			C-		5/28/03			
	A-					B-					C-					
5/29/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	Yr
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0001	10.0000	200.0000	✓✓✓	
	A-03	1.00	9.99	200.00	✓	B-06	1.00	10.01	200.00	✓✓✓	C-					
	A-04					B-07	0.99	10.00	200.00	✓✓✓	C-					
	A-		5/29/03			B-		5/29/03			C-		5/29/03			
	A-					B-					C-					

Notation: (C) – Cleanliness; (D) – Display; (AR) – Auto Rezeroing.

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pH (150.1/9045B) Worksheet

Temperature compensation must be performed by the instrument automatically.

Analyst: [illegible] SOP: G-44

Batch # 03W3048 Analysis Date: 7/27/03
Starting Time: 15:55 Ending Time: :
Matrix ☐ Aaueous ☐ Soil

Standard	4.00	7.00	10.00
Lot #		030660-24	030659-24
Temperature °C		24.4	24.4
pH Reading		7.01	10.01
T-corrected pH		7.00	10.00
Control Limit	±0.05 pH unit		

#	Sample ID	Pre-treat	pH	Note
MB	T1116		6.82	
1	3391-1		7.00	
2	-2		7.18	
3	3421-8		7.22	
4				
5				
6				
7				
8				
9				
10				
11			7/27/03	
12			[illegible]	
13				
14				
15				
16				
17				
18				
19				
20				
Dup.	3391-1		7.02	

Batch # 03W3061 Analysis Date: 7/28/03
Starting Time: 16:24 Ending Time: :
Matrix ☒ Aaueous ☐ Soil

Standard	4.00	7.00	10.00
Lot #		030660-24	030659-24
Temperature °C		24.0	24.0
pH Reading		6.99	10.00
T-corrected pH		7.00	10.07
Control Limit	±0.05 pH unit		

#	Sample ID	Pre-treat	pH	Note
MB	T1116		6.86	
1	3414-1		6.84	
2	-2		7.00	
3				
4				
5				
6				
7				
8				
9				
10				
11			7/28/03	
12			[illegible]	
13				
14				
15				
16				
17				
18				
19				
20				
Dup.	3414-2		7.03	

...h Laboratory
... Ave. Chino CA 91710
... 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

...ch # 03W3044-6 Matrix: W [Holding Time: 24 hours!!] Test Date: 5/27/03 Analyst: BM

Lot #: Reagent Water BM 5/27/03 Diphenylcazide solution _____ Test Time: 1023 SOP: G-22

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.= (≥ 0.995)	
STD-4	W-	× / = mg/L			RSD= % (≤ 15%)	
STD-5	W-	× / = mg/L			Ref. page	
STD-6	W-	× / = mg/L			A=0.000+0.8266	

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) $C=f_1 f_2 C'$	Anomaly Note
CCV	Lot: W- 7850	Expected Conc.:	×	/ = 0.25 mg/L	0.211	0.252 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1116		/X_0 = 1	95.0/ =	0.000	mg/L	0.000 ppm	
LCS1	Bl. Lot: "		/X_0 =	95.0/ =	0.193	mg/L	0.231 ppm	
Sample-1 13	3391-1		/X_0 =	95.0/ =	~~0.027~~ 0.020	mg/L	0.024 ppm	
MS on S-1	1		/X_0 =	95.0/ =	0.205	mg/L	0.245 ppm	
MSD on S-1	1		/X_0 =	95.0/ =	0.213	mg/L	0.255 ppm	
Sample 2 16	2		/X_0 =	95.0/ =	0.005	mg/L	0.006 ppm	
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: T1116		/X_0 = 1	95.0/ =	0.208	mg/L	0.249 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/ =	0.213	0.255 mg/L	ppm	

BM 5/27/03

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- 7850	× / = 0.25 ppm	%	80-120 %/80-120 %
MSD	W- "	× / = ppm	%	.. ..
LCS	W- 7759	× / = 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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Laboratory
Ave. Chino CA 91710
0-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

03W1295 Matrix: W

[Holding Time: 24 hours!!]

Test Date: 1/29/03 Analyst: BN

Test Time: _____ SOP: G-22

Lot #: Reagent Water _____ Diphenylcazide solution _____

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-7191	× / =0.000mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / =0.025mg/L	0.006		Average $\bar{RF}$=	A=0.000+0.836C
STD-3	W-	× / =0.050mg/L	0.041		C.C.=0.9917 (≥ 0.995)	
STD-4	W-	× / =0.125mg/L	0.109		RSD= % (≤ 15%)	
STD-5	W-	× / =0.250mg/L	0.214		Ref. page	
STD-6	W-	× / =0.500mg/L	0.415		A=0.003+BN 1/29/03	

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) $C=f_1 f_2 C'$	Anomaly Note
CCV	Lot: W-7076.	Expected Conc.:	×	/ =0.25 mg/L	0.246	0.258 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1115		/X_0 = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		/X_0 =	95.0/ =	0.204	mg/L	0.244 ppm	
Sample-1	1369-1		/X_0 =	95.0/ =	0.000	mg/L	0.00 ppm	
MS on S-1	6		/X_0 =	95.0/ =	0.223	mg/L	0.266 ppm	
MSD on S-1	6		/X_0 =	95.0/ =	0.230	mg/L	0.275 ppm	
Sample 2	2		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 3	3		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 4	4		/X_0 =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 5	5		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 6	6		/X_0 =	95.0/ =	0.004	mg/L	0.005 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: T1115		/X_0 = 1	95.0/ =	0.210	mg/L	0.251 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 0.25mg/L		/X_0 =	95.0/ =	0.204	mg/L	0.248 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-7076	× / =0.25 ppm	%	80-120 %/80-120 %
MSD	W-	× / = ppm	%	.. ..
LCS	W-7191	× / = 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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Alkalinity/OH/CO_3/HCO_3 (310.1/SM2320B) Worksheet

E332

Batch # 03W3113 Matrix: W Titrant H_2SO_4 Lot # W791 Concentration (C) 0.0255 N; Test Date: 6/26/03 Analyst: DL SOP: G-51

#	Sample ID	Dilution $V_f/V_i=f_1$	Smpl Amnt V, mL	H_2SO_4 (mL) by Phnln S_A	E_A	A	H_2SO_4 (mL) by MR-BCG S_B	E_B	B	Phnln-Alk., P	Tot. Alk., T (in unit of mg$CaCO_3$/L)	OH^-	CO_3^{2-}	HCO_3^-	Note & Anomaly
1	MB: 7.1116	/ =	100			0			0		0	0	0	0	
2	LCS	/ =	100						7.90		100.9				
3	LCSD	/ =	100						7.80		99.6				
4	3391-1	/ =	50.0			0			4.50		115.0	0	0	115.0	
5	-2	/ =	50.0			0			4.50		115.0	0	0	115.0	
6	3413-1	/ =	50.0			0			9.15		233.8	0	0	233.8	
7	3414-1	/ =	50.0			0			5.70		145.6	0	0	145.6	
8	-2	/ =	50.0			0			6.00		153.3	0	0	153.3	
9	3444-1	/ =	50.0			0			11.10		283.6	0	0	283.6	
10	-2	/ =	50.0			0			4.85		123.9	0	0	123.9	
11	-3	/ =	50.0			0			7.60		194.2	0	0	194.2	
12	3461-1	/ =	50.0			0			8.55		218.5	0	0	218.5	
13	-2	/ =	50.0			0			6.85		175.0	0	0	175.0	
14	-3	/ =	50.0			0			8.55		218.5	0	0	218.5	
15		/ =													
16		/ =													
17		/ =													
18		/ =													
19		/ =													
20		/ =													
Dup.	3444-1	/ =	50.0			0			11.05		282.3	0	0	282.3	

Titration Results	OH^- ($CaCO_3$ mg/L)	CO_3^{2-} ($CaCO_3$ mg/L)	HCO_3^- ($CaCO_3$ mg/L)
P=0	0	0	T
P<T/2	0	2P	T-2P
P=T/2	0	2P	0
P>T/2	2P-T	2(T-P)	0
P = T	T	0	0

Calculation:

$A=S_A-E_A$

$B=S_B-E_B$

$P=50{,}000\ f_1\ A\ C\ /V$

$T=50{,}000\ f_1\ (A+B)\ C\ /V$

APCL Form 5-101, Nov. 29, 1999 Ver 3.2

Using blue pen. Correcting by red pen.

File: [CUST.DOC.WET]ALK.TEX

Root-File: [CUST.DOC.WET]ALK-ROOT.TEX

1-Page-File: [CUST.DOC.WET]ALK1.TEX

APCL

Applied Physics & Chemistry Laboratory

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

May 23, 2003

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

Dear Leo,

This package contains samples in our Service ID 03-2843 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: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-032843
Collected by: Leo Williamson
Collected on: 04/23/03

Received: 04/23/03
Extracted: N/A
Tested: 04/23-29/03
Reported: 05/07/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-2-2Q03 03-02843-1	EB-4-4/23/03 03-02843-2	MW-14-1 03-02843-3	MW-14-2 03-02843-4
BICARBONATE	SM2320B	mg/L	2	210	<2	245	234
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	<2
PH	9040B	pH unit	0.01	7.63	7.00	6.77	7.18
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	669	<10	731	740
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	μg/L	4	5.4	<4	2.8J	3.3J
Dilution Factor				20	1.25	20	20
CHLORIDE CL^-	300.0	mg/L	0.2	96.7	0.23J	136	111
NITRATE AS N	300.0	mg/L	0.04	13.1	0.088	17.1	14.8
SULFATE SO_4^{--}	300.0	mg/L	0.5	139	0.73	194	179
Dilution Factor				1	1	1	1
ARSENIC	200.9	μg/L	5	<5	<5	<5	<5
CALCIUM	200.7	μg/L	200	96,500	98.0J	142,000	128,000
IRON	200.7	μg/L	50	19.2J	1.9J	32.4J	5.3J
MAGNESIUM	200.7	μg/L	100	39,800	15.1J	45,000	42,700
POTASSIUM	200.7	μg/L	400	3,630	27.8J	3,130	2,920
SODIUM	200.7	μg/L	2000	36,600	430J	36,200	29,900
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	<0.5	<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	<0.5	<0.5	<0.5	<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	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	0.3J	<0.5	0.4J	0.4J
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

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-2-2Q03 03-02843-1	EB-4-4/23/03 03-02843-2	MW-14-1 03-02843-3	MW-14-2 03-02843-4
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	1.1 [a]	<1.1	<1.1	<1.1	<1.1
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	<0.5	<0.5	<0.5	<0.5
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	1.8 [a]	<1.8	<1.8	<1.8	<1.8
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	<0.5	<0.5	0.4J	0.5J
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	0.5	<0.5	1.3	3.7
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	<0.5	<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

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 03-02843-5	MW-14-4 03-02843-6	MW-14-5 03-02843-7	TB-4-4/23/03 03-02843-8
BICARBONATE	SM2320B	mg/L	2	210	156	129	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	7.6	-
PH	9040B	pH unit	0.01	7.61	7.98	8.22	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	613	300	174	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	5.7	2.4J	<4	-
Dilution Factor				20	4	1.25	1
CHLORIDE CL^-	300.0	mg/L	0.2	94.3	37.9	9.9	-
NITRATE AS N	300.0	mg/L	0.04	13.1	10.1	0.15	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	136	30.0	16.9	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
CALCIUM	200.7	µg/L	200	97,600	50,300	17,100	-
IRON	200.7	µg/L	50	16.0J	21.2J	55.7	-
MAGNESIUM	200.7	µg/L	100	41,500	16,900	10,800	-
POTASSIUM	200.7	µg/L	400	3,610	2,230	2,150	-
SODIUM	200.7	µg/L	2000	38,100	25,500	28,200	-
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	<0.5	<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	<0.5	<0.5	<0.5	<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	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	0.3J	<0.5	<0.5	<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	1.1 [a]	<1.1	<1.1	<1.1	<1.1
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

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 03-02843-5	MW-14-4 03-02843-6	MW-14-5 03-02843-7	TB-4-4/23/03 03-02843-8
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	<0.5	<0.5	<0.5	<0.5
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	1.8 [a]	<1.8	<1.8	<1.8	<1.8
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	<0.5	<0.5	<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	0.5J	<0.5	<0.5	<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	<0.5	<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
[a] MDL reported.

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: 03-2843

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: 03-2843

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-14-5	03-02843-7
MW-14-4	03-02843-6
MW-14-3	03-02843-5
MW-14-2	03-02843-4
MW-14-1	03-02843-3
TB-4-4/23/03	03-02843-8
EB-4-4/23/03	03-02843-2
DUPE-2-2Q03	03-02843-1

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions by IC),
SM2320B (Carbonate),
SM2320B (Bicarbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals by ICP),
200.9 (Arsenic, As, by GFAA),

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

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

MW-14 0021

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	**PROJECT LOCATION**	**PROJECT NUMBER**	**LABORATORY PHONE**	**LABORATORY FAX**	**RECIPIENT NAME**
JPL GW MON-2Q03	MW-14 (Annex Parking Lot)	04-442810	(909) 590-1828	(909) 590-1498	Leo W. Williamson
PROJECT CONTACT	**PROJECT PHONE NUMBER**	**PROJECT FAX**	**LABORATORY ADDRESS**		**ADDRESS**
Leo W. Williamson	(714) 920-8729	(909) 396-1455	13760 Magnolia Ave		22632 Golden Springs Dr. #270
PROJECT ADDRESS	**CITY, STATE AND ZIPCODE**	**CLIENT**	**CITY, STATE AND ZIPCODE**		**CITY, STATE AND ZIPCODE**
4800 Oak Grove Dr.	Pasadena CA	US NAVY, SWDIV	Chino, CA. 91710		Diamond Bar, CA. 91765
PROJECT MANAGER	**PROJECT MANAGER'S PHONE**	**PROJECT MANAGER'S FAX**			
Asgar Faheem	(909) 396-7662	(909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	524.2 (VOC)	200.7 & 200.9 (Minerals)	7196 (Hex Chrome)	SM 2320B (Carb. Bicarb)	300.0 (Cl/SO4/NO3)	314.0 (Perchlorate)	160.1 (TDS) + 9040B (pH)	200.8 (Cr+Pb)	Comments
1	MW-14-5	H_2O	4/23/03	835	HCl NONE HNO_3	3 1+ 1+1	III	NORMAL	X	X	X	X	X	X	X	X	MINERALS: Na/K/Ca/As/Mg/Fe
2	MW-14-4	↓	↓	935	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
3	MW-14-3	↓	↓	1110	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
4	MW-14-2	↓	↓	1220	↓	↓	↓	↓	X	X	X	X	X	X	X	X	2843
5	MW-14-1	↓	↓	1320	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
6																	
7	TB-4-4/23/03	H_2O	—	—	HCl	2	III	NORMAL	X								
8	EB-4-4/23/03	↓	4/23/03	1125	HCl NONE HNO_3	3 1+ 1+1	↓	↓	X	X	X	X	X	X	X	X	
9	DUPE-2-2Q03	↓	↓	—	↓	↓	IV	↓	X	X	X	X	X	X	X	X	
10																	

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	[signature]	4/23/03	1400	
[signature]	[signature]	4/23/03	1515	

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: 2843 **Client Name/Project:** Geofon JPL

1. Sample Arrival

Date/Time Received 4/23/03 155 Date/Time Opened 4/23/03 155 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

☑ With Samples? ☑ Faxed? ☐ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 8
☑ 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 4.0

(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: [signature] Date: 23 Apr 2003 Time: 7:42a.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: [neal.texfiles]amprcl.tex.

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

Sample Login: Check List

03-02843 (0470_ 131) (2202777_ 131)

04/23/03

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?	*Kenny Chan*
		Receiving Date/Time:	*04/23/03 1515*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.0 °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-14-5	VOC	03-02843-7-α	W	V	C	40	3	G	042303	N	0	7	☐
	MW-14-5	Metal	03-02843-7-β	W	P	N	500	1	G	042303	N	0	7	☐
	MW-14-5	300	03-02843-7-γ	W	P		1000	1	G	042303	N	0	7	☐
2	MW-14-4	VOC	03-02843-6-α	W	V	C	40	3	G	042303	N	0	7	☐
	MW-14-4	Metal	03-02843-6-β	W	P	N	500	1	G	042303	N	0	7	☐
	MW-14-4	300	03-02843-6-γ	W	P		1000	1	G	042303	N	0	7	☐
3	MW-14-3	VOC	03-02843-5-α	W	V	C	40	3	G	042303	N	0	7	☐
	MW-14-3	Metal	03-02843-5-β	W	P	N	500	1	G	042303	N	0	7	☐
	MW-14-3	300	03-02843-5-γ	W	P		1000	1	G	042303	N	0	7	☐
4	MW-14-2	VOC	03-02843-4-α	W	V	C	40	3	G	042303	N	0	7	☐
	MW-14-2	Metal	03-02843-4-β	W	P	N	500	1	G	042303	N	0	7	☐
	MW-14-2	300	03-02843-4-γ	W	P		1000	1	G	042303	N	0	7	☐
5	MW-14-1	VOC	03-02843-3-α	W	V	C	40	3	G	042303	N	0	7	☐
	MW-14-1	Metal	03-02843-3-β	W	P	N	500	1	G	042303	N	0	7	☐
	MW-14-1	300	03-02843-3-γ	W	P		1000	1	G	042303	N	0	7	☐
6	TB-4-4/23/03	VOC	03-02843-8	W	V	C	40	2	G	042303	N	0	7	☐
7	EB-4-4/23/03	VOC	03-02843-2-α	W	V	C	40	3	G	042303	N	0	7	☐
	EB-4-4/23/03	Metal	03-02843-2-β	W	P	N	500	1	G	042303	N	0	7	☐
	EB-4-4/23/03	300	03-02843-2-γ	W	P		1000	1	G	042303	N	0	7	☐
8	DUPE-2-2Q03	VOC	03-02843-1-α	W	V	C	40	3	G	042303	N	0	7	☐
	DUPE-2-2Q03	Metal	03-02843-1-β	W	P	N	500	1	G	042303	N	0	7	☐
	DUPE-2-2Q03	300	03-02843-1-γ	W	P		1000	1	G	042303	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/SM4500NO3* 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

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:	04/28/2003
Project ID:	JPL	Service ID:	32843	Collected by:	
		Lab Sample ID:	03G2233-MB-01	Received Date:	04/28/2003
Sample ID:	**03G2233-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	17:37
Data File Name:	G2233K02	Sample Amount:	25 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	1.1	<1.1	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	1.8	<1.8	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	115
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	91
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	94
4	TOLUENE-D8	2037-26-5	73-129	107
# 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	88
3	FLUOROBENZENE	462-06-6	50-200	94
# 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

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3208

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233K02.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 17:37 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 28 17:57 2003
Print Time : Tue Apr 29 09:51 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.10	9.03	0.007	96	70	685.618	10.00		0.06	
47	47	Cl-benzene-d5, I2	12.75	12.66	0.007	82	119	180.325	10.00		0.09	
62	62	1,4-DCB-d4 150 15	15.24	15.15	0.005	152	150	143.101	10.00		0.08	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.52	7.44	0.006	111	113	457.593	18.83	18.8	94.16%	
29	29	1,2-di-Cl-ethane-	8.10	8.02	0.005	65	102	204.750	18.08	18.1	90.38%	
55	55	toluene-d8(S2)	11.23	11.15	0.005	100	99	729.771	21.31	21.3	106.54%	
70	70	4-Br-1-F-Bz (S3)	13.98	13.90	0.005	174	95	293.390	22.95	22.9	114.73%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
111	111	isopropyl alcoho	4.31	4.27	0.004	45	43	2.547	8.23		~~8.2 1~~	#
119	119	methyl acetate	5.04	5.06	-0.001	43	74	1.033	0.39		~~0.4 56~~	#
91	91	2-butanone MEKx10	6.83	6.83	0.000	43	72	3.133	0.49		~~0.5 74~~	#
201	201	Ethyl acetate x2	7.35	7.31	0.004	43	61	2.981	0.33		~~0.3 34~~	#?
117	117	Iso-butyl alcoho	7.35	7.31	0.004	43	42	2.981	1.63		~~1.6 1~~	#?
48	48	112-tri-Cl-Et	11.24	11.03	0.024	97	83	22.049	2.47		~~2.5 4~~	#?
<<< I2 : ISTD ID = 47 >>>												
49	49	1,3-di-cl-propane	11.23	11.29	-0.005	76	78	8.515	0.72		~~0.7 82~~	#?
<<< I3 : ISTD ID = 62 >>>												
87	87	124-tri-Cl-Bz	17.33	17.24	0.006	180	182	1.111	0.69		~~0.7 76~~	#

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

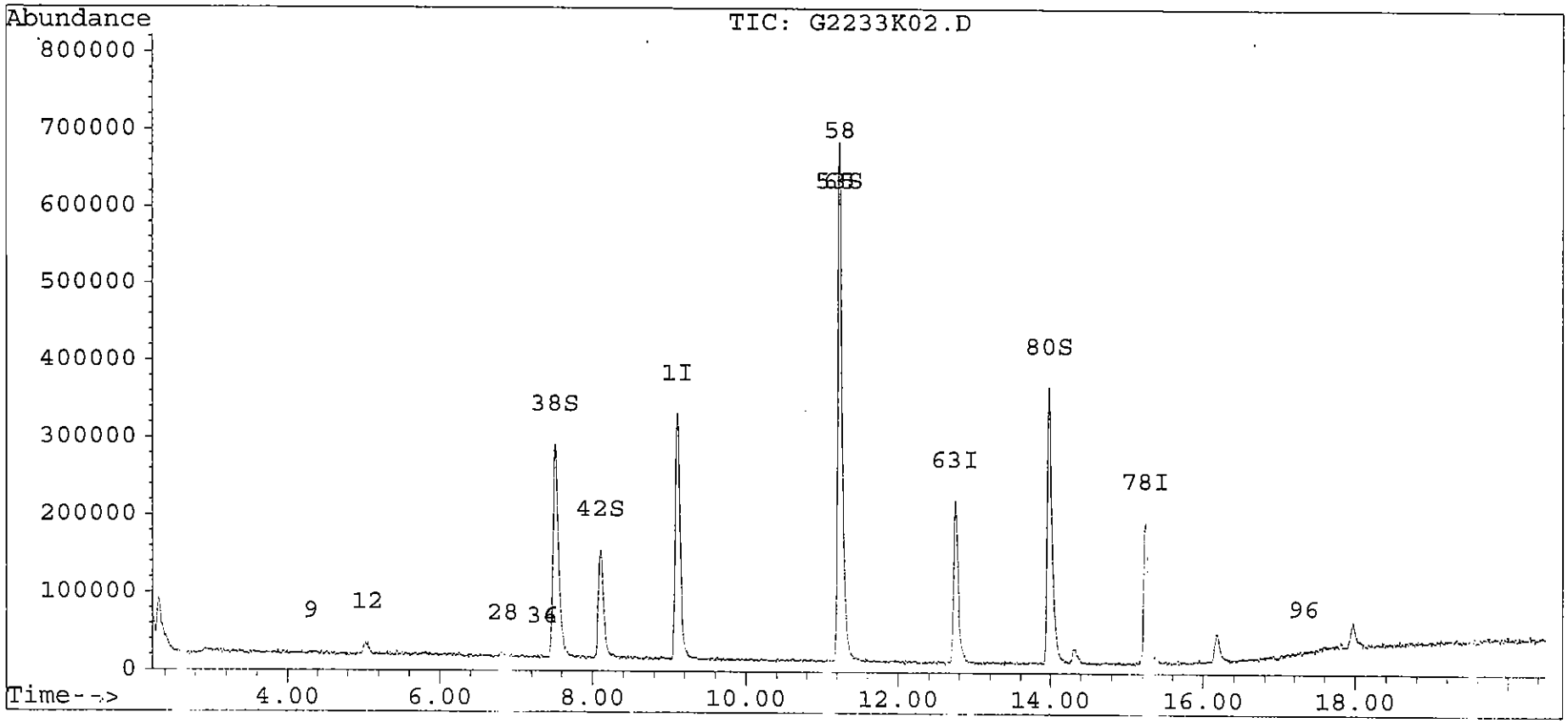
Quantitation Report

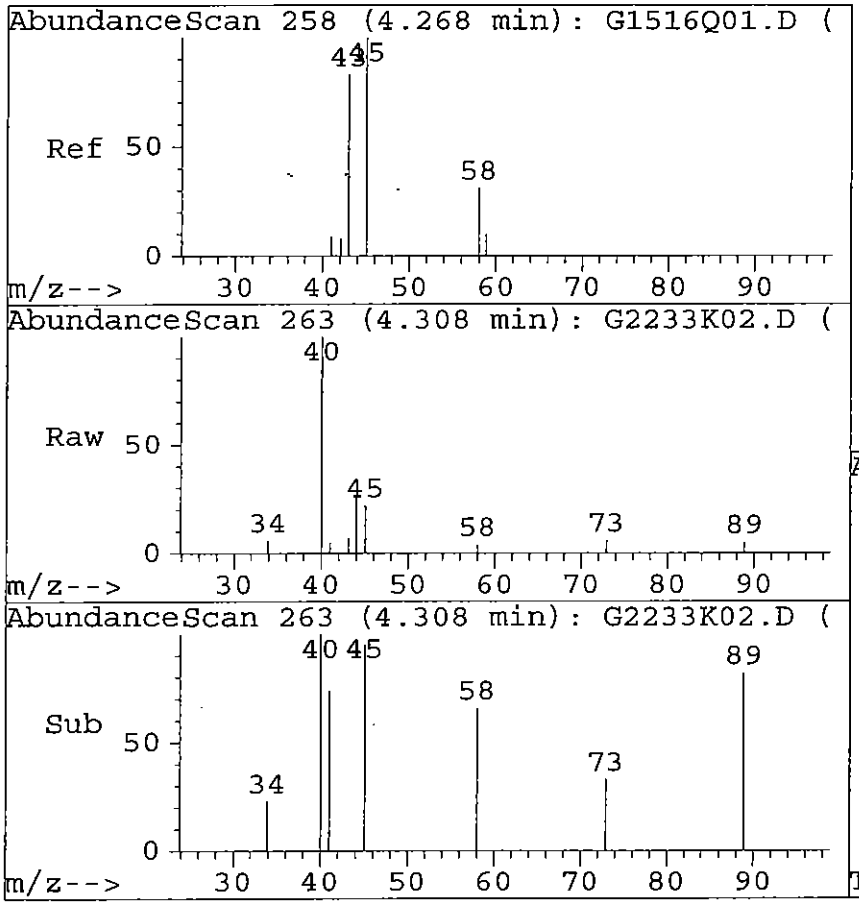
3209

Data File : C:\HPCHEM\1\DATA\03G2233\G2233K02.D
Acq On : 28 Apr 03 5:37 pm
Sample : f=1
Misc :
Quant Time: Apr 28 17:57 2003

Vial: 25
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

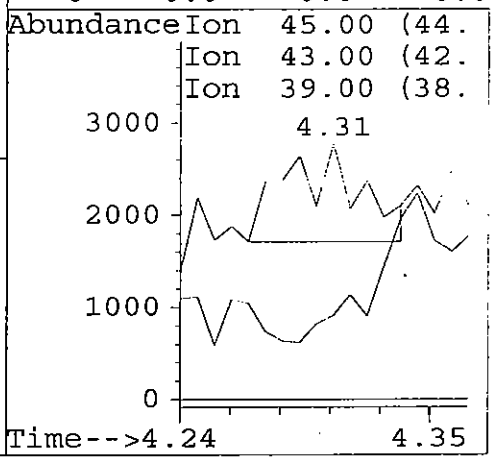


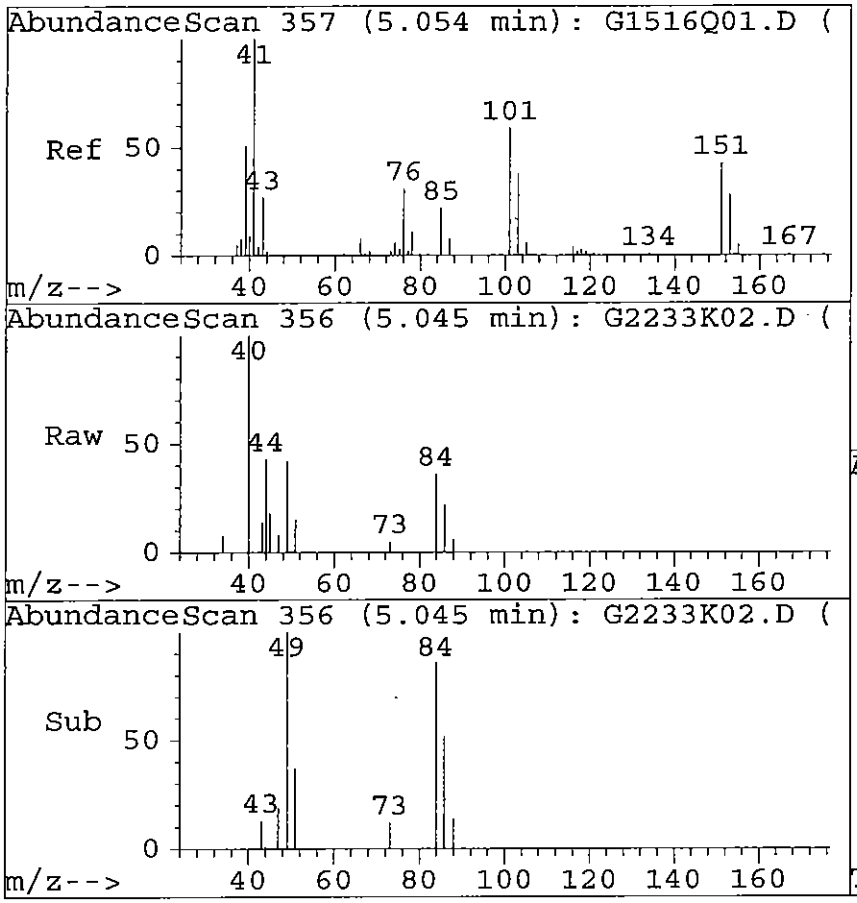


#9
111 isopropyl alcohol x10
Concen: 8.23 ppb
RT: 4.31 min Scan# 263
Delta R.T. 0.04 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:45 Resp: 2547

Ion	Ratio	Lower	Upper
45	100		
43	21.9	395.5	593.2#
39	0.0	28.3	42.4#
0	0.0	0.0	0.0

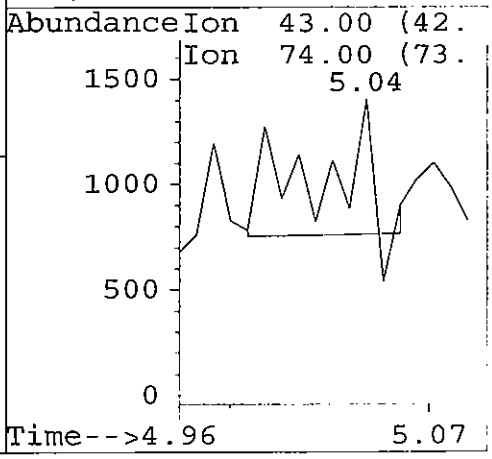


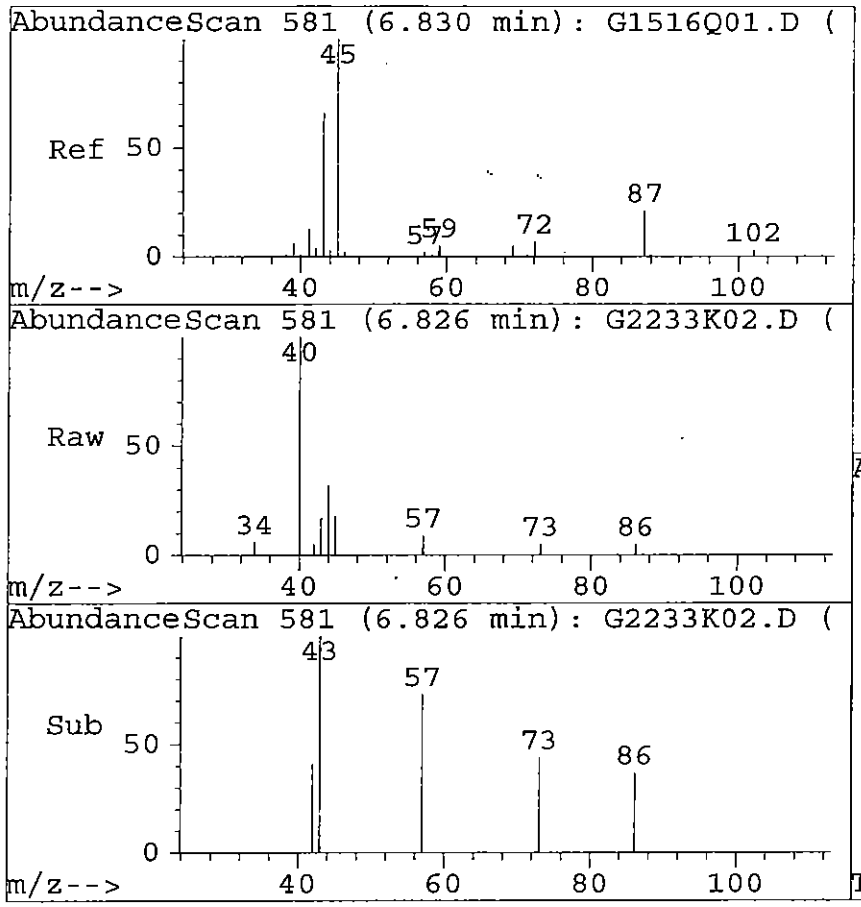


#12
119 methyl acetate
Concen: 0.39 ppb
RT: 5.04 min Scan# 356
Delta R.T. -0.01 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:43 Resp: 1033

Ion	Ratio	Lower	Upper
43	100		
74	0.0	0.6	40.6#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

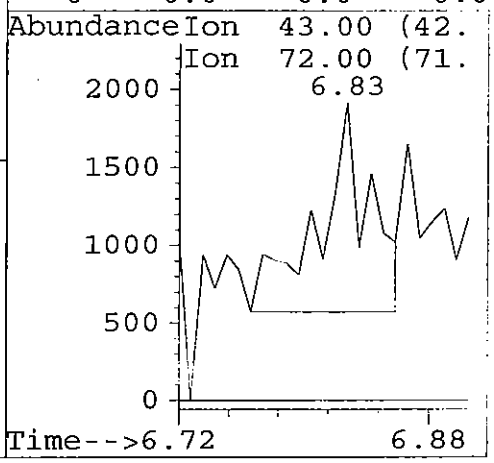


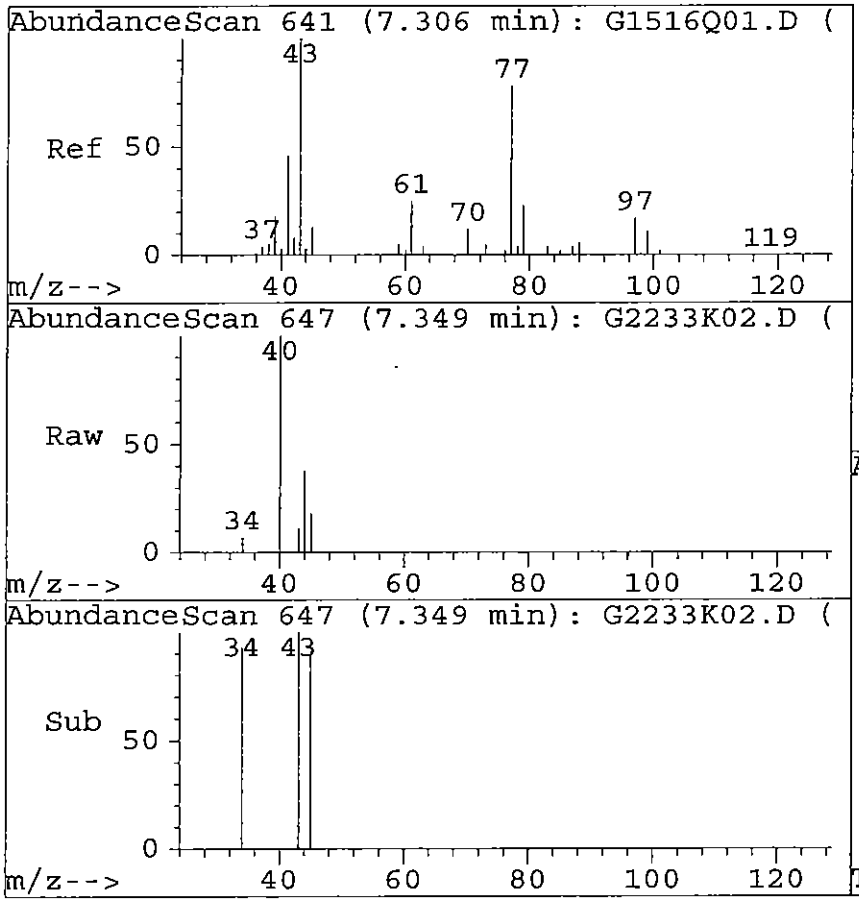


#28
91 2-butanone MEKx10
Concen: 0.49 ppb
RT: 6.83 min Scan# 581
Delta R.T. -0.01 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:43 Resp: 3133

Ion	Ratio	Lower	Upper
43	100		
72	0.0	7.7	11.6#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

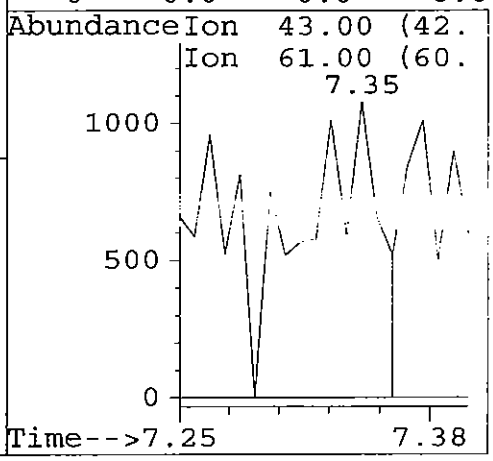


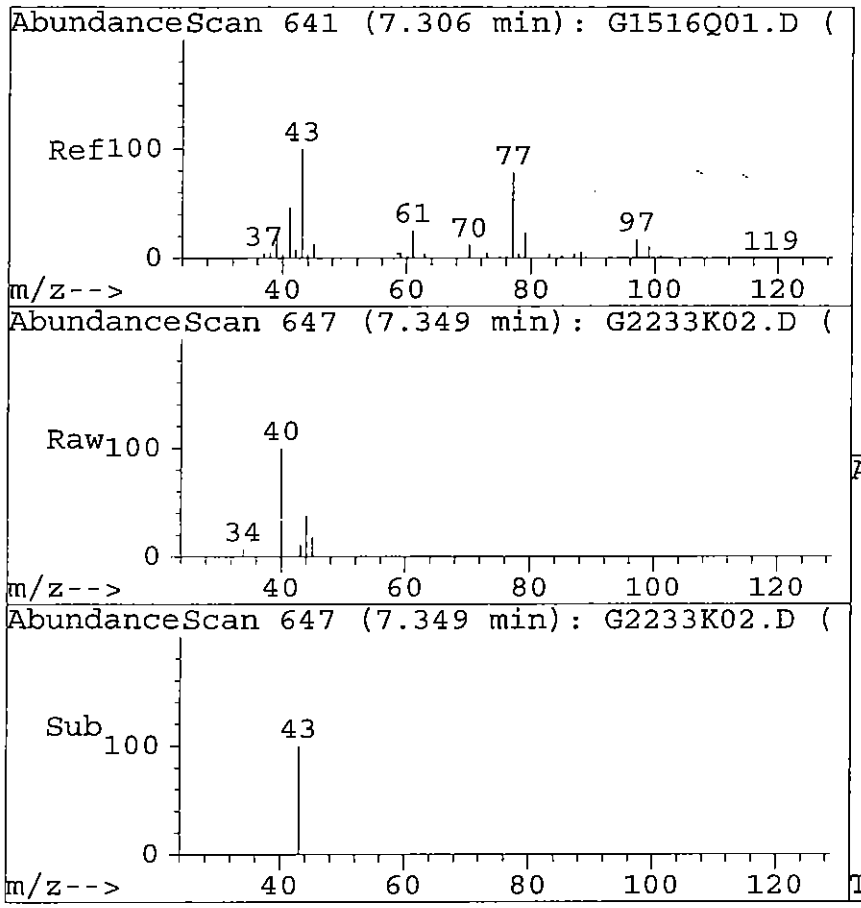


#34
201 Ethyl acetate x2
Concen: 0.33 ppb
RT: 7.35 min Scan# 647
Delta R.T. 0.04 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:43 Resp: 2981

Ion	Ratio	Lower	Upper
43	100		
61	0.0	33.7	50.6#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

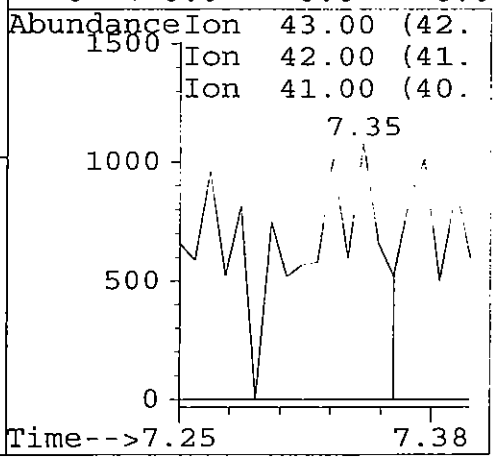


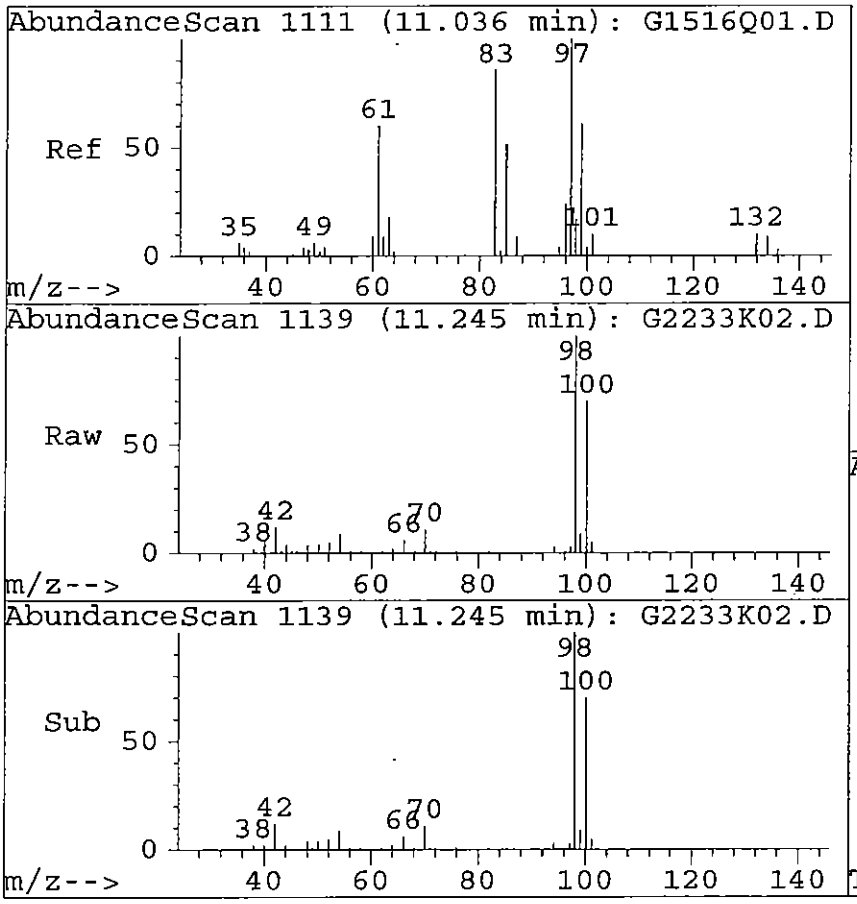


#36
117 Iso-butyl alcohol X10
Concen: 1.63 ppb
RT: 7.35 min Scan# 647
Delta R.T. 0.04 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:43 Resp: 2981

Ion	Ratio	Lower	Upper
43	100		
42	0.0	21.1	31.6#
41	0.0	161.8	242.7#
0	0.0	0.0	0.0

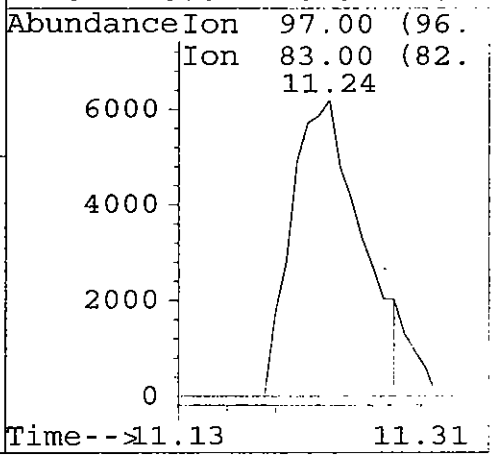


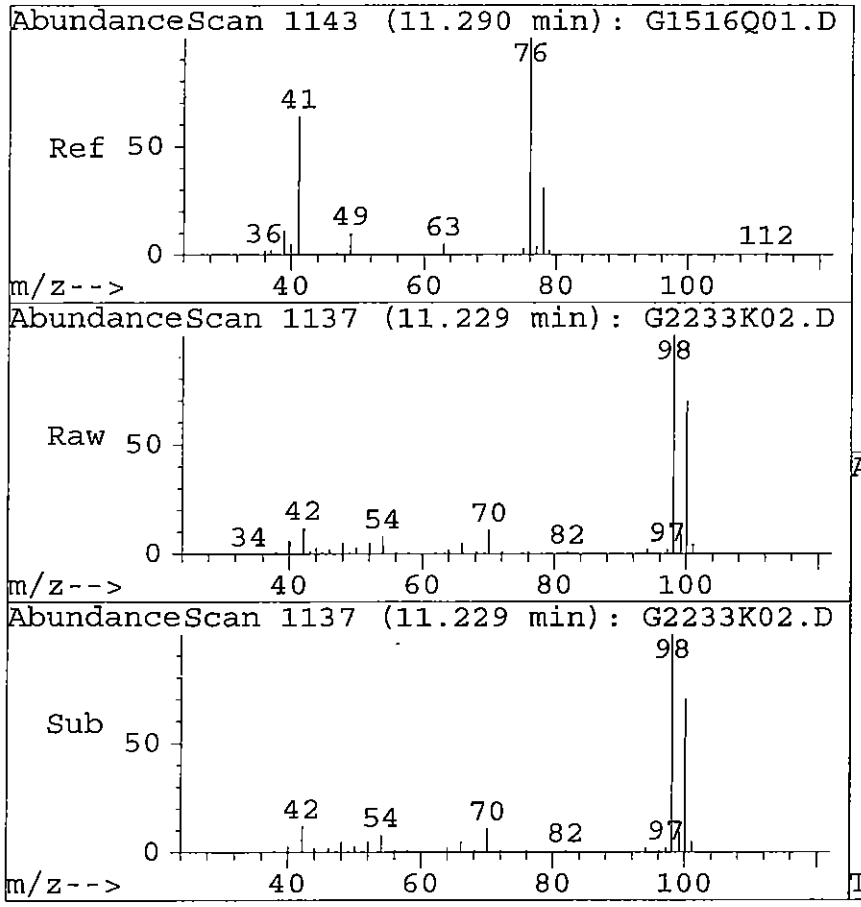


#58
48 112-tri-Cl-Et 97 83
Concen: 2.47 ppb
RT: 11.24 min Scan# 1139
Delta R.T. 0.22 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:97 Resp: 22049

Ion	Ratio	Lower	Upper
97	100		
83	0.0	46.0	137.9#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

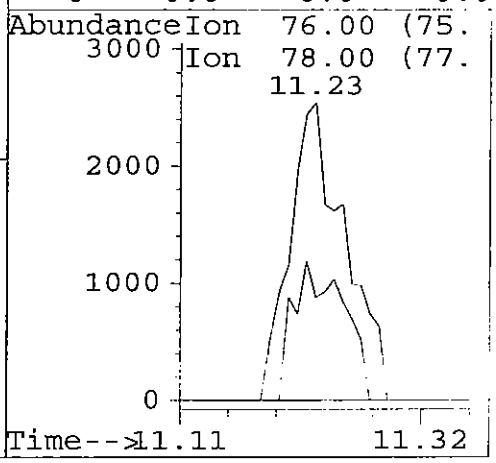


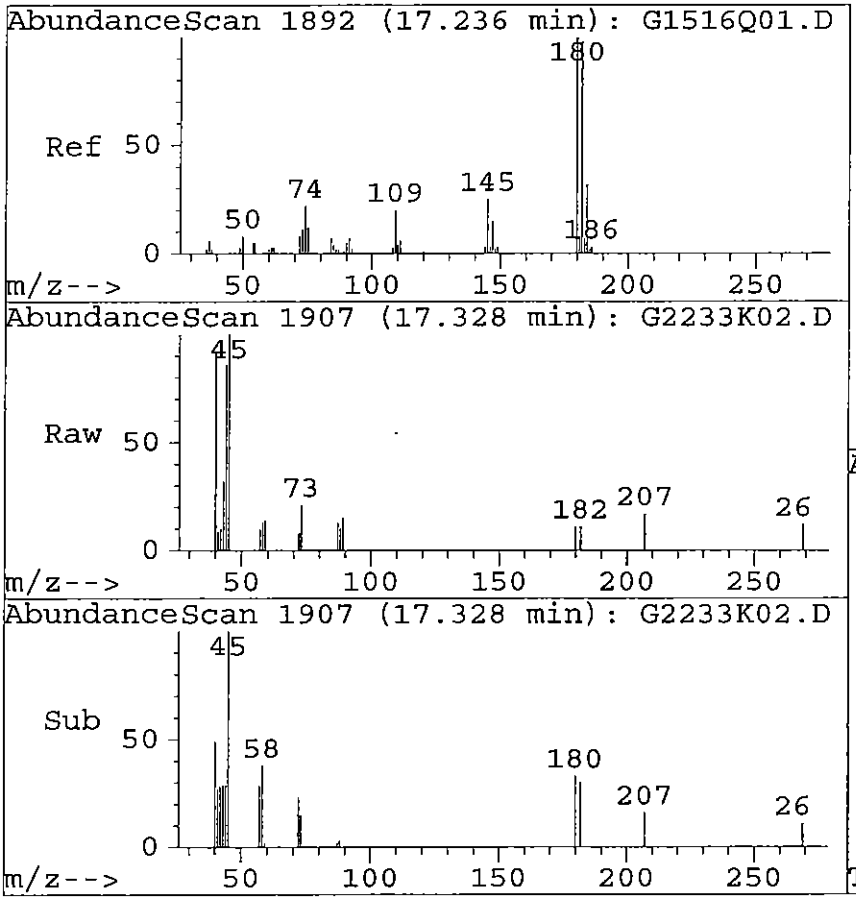


#65
49 1,3-di-cl-propane 76 78
Concen: 0.72 ppb
RT: 11.23 min Scan# 1137
Delta R.T. -0.06 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:76 Resp: 8515

Ion	Ratio	Lower	Upper
76	100		
78	43.1	26.5	39.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

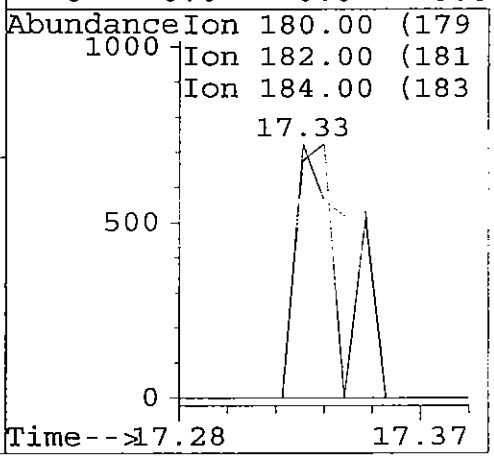




#96
87 124-tri-Cl-Bz 180 182
Concen: 0.69 ppb
RT: 17.33 min Scan# 1907
Delta R.T. 0.08 min
Lab File: G2233K02.D
Acq: 28 Apr 03 5:37 pm

Tgt Ion:180 Resp: 1111

Ion	Ratio	Lower	Upper
180	100		
182	81.6	47.8	143.3
184	0.0	15.1	45.1#
0	0.0	0.0	0.0



Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-1	Received Date:	04/23/2003
Sample ID:	**DUPE-2-2Q03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	21:55
Data File Name:	2843-01	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	
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	103
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	88
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	89
4	TOLUENE-D8	2037-26-5	73-129	100
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	105
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	99
3	FLUOROBENZENE	462-06-6	50-200	104
# of out-of-control				0

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

[a] MDL reported.

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

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3216

Data Filename: C:\HPCHEM\1\DATA\03G2233\2843-01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 21:55 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 28 22:16 2003
Print Time : Tue Apr 29 09:47 2003
Miscleneous :

Sample : f=1 9
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

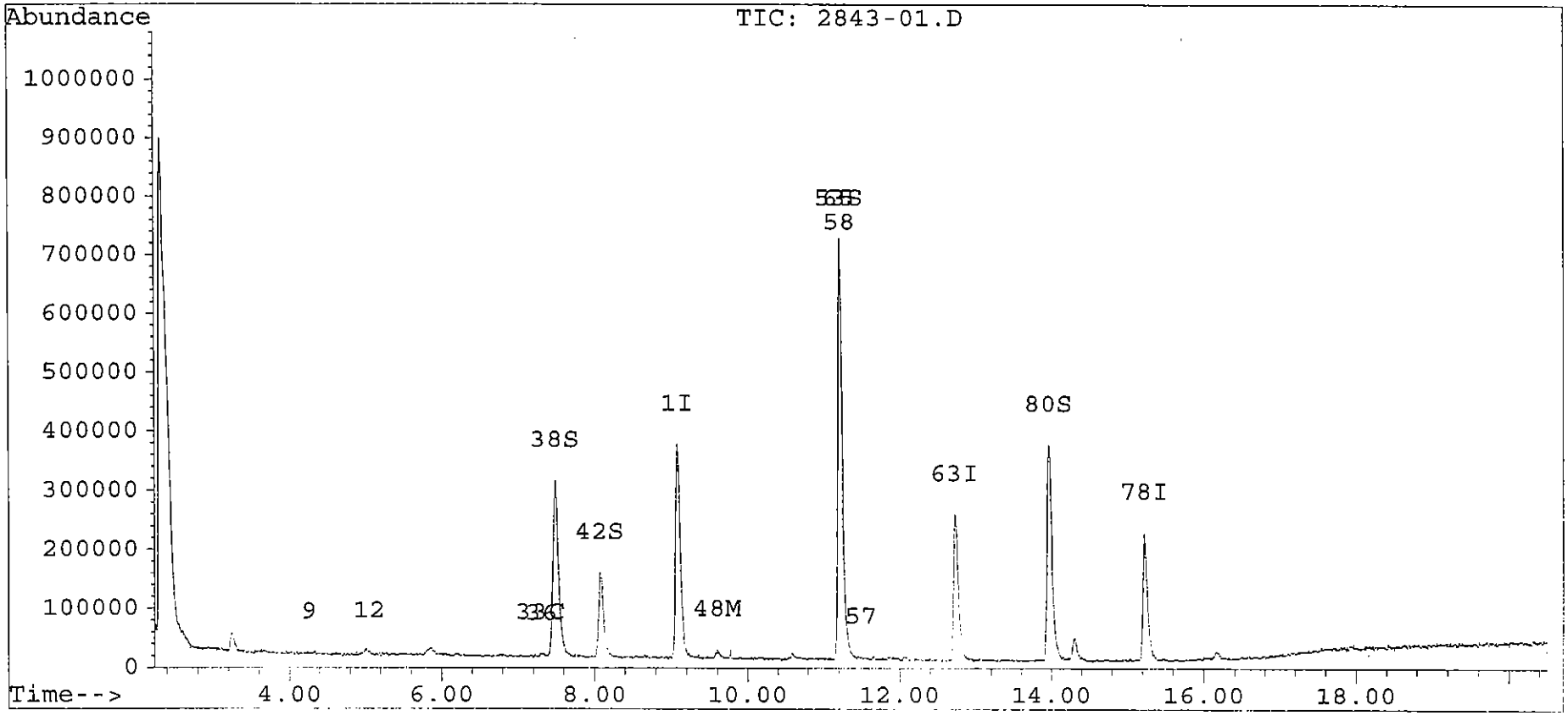
ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.08	9.03	0.005	96	70	759.953	10.00		0.05	
47	47	Cl-benzene-d5, I2	12.73	12.66	0.006	82	119	208.715	10.00		0.07	
62	62	1,4-DCB-d4 150 15	15.23	15.15	0.005	152	150	161.113	10.00		0.07	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.48	7.44	0.003	111	113	479.998	17.81	17.8	89.03%	
29	29	1,2-di-Cl-ethane-	8.07	8.02	0.003	65	102	220.128	17.53	17.5	87.66%	
55	55	toluene-d8(S2)	11.21	11.15	0.004	100	99	754.943	19.89	19.9	99.44%	
70	70	4-Br-1-F-Bz (S3)	13.96	13.90	0.004	174	95	296.702	20.61	20.6	103.06%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
111	111	isopropyl alcoho	4.26	4.27	0.000	45	43	1.256	3.66		~~3.7 1~~	#
119	119	methyl acetate	5.06	5.06	0.000	43	74	1.437	0.42		~~0.4 56~~	#
25	25	chloroform	7.29	7.27	0.003	83	85	12.016	0.30		0.3 87	?
117	117	Iso-butyl alcoho	7.31	7.31	0.000	43	42	2.068	1.02		~~1.0 1~~	#?
40	40	trichloroethene	9.60	9.54	0.006	130	132	10.429	0.51		0.5 90	
93	93	2-Hexanone x5	11.48	11.48	0.000	43	58	1.580	0.37		~~0.4 24~~	#
48	48	112-tri-Cl-Et	11.23	11.03	0.022	97	83	25.302	2.56		~~2.6 4~~	#?
<<< I2 : ISTD ID = 47 >>>												
49	49	1,3-di-cl-propane	11.21	11.29	-0.006	76	78	8.856	0.65		~~0.6 66~~	#?

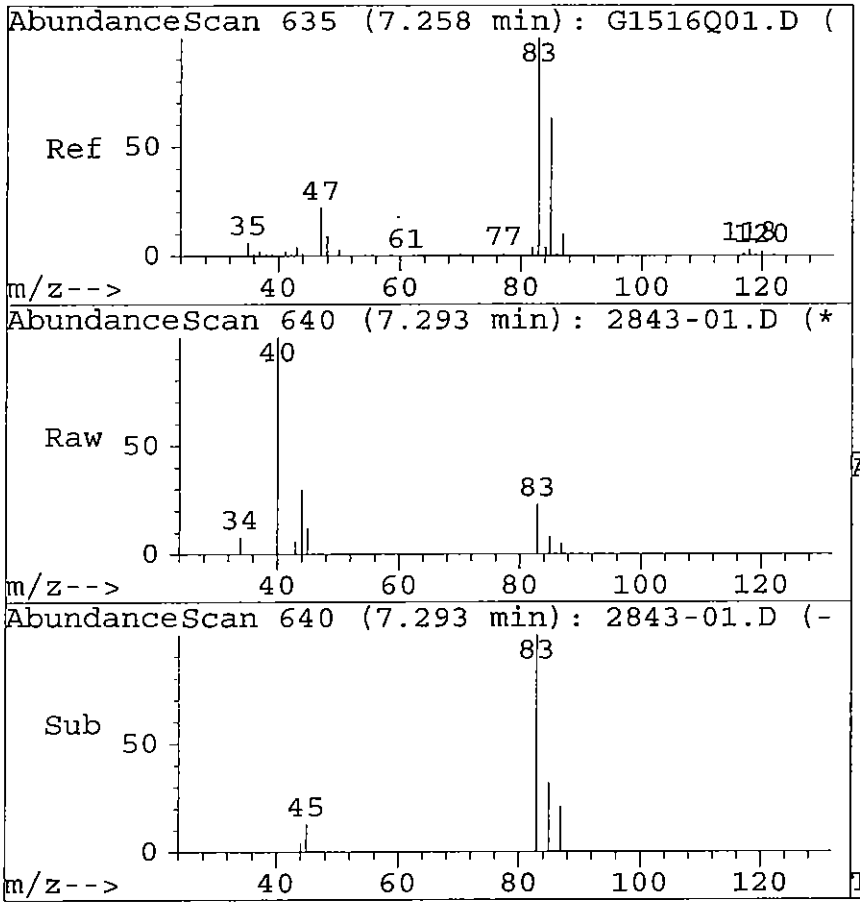
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2233\2843-01.D Vial: 21
Acq On : 28 Apr 03 9:55 pm Operator: Eddie
Sample : f=1 9 Inst : GCMS-G
Misc : Multiplr: 1.00
Quant Time: Apr 28 22:16 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

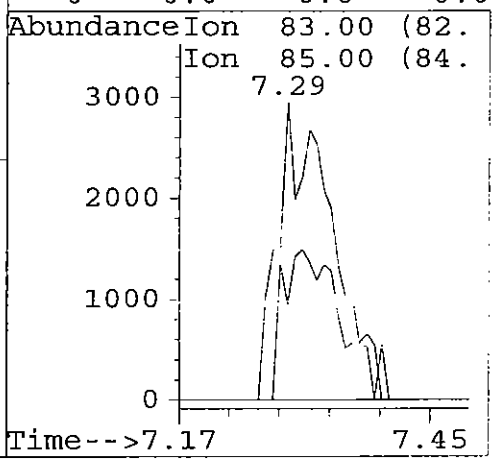


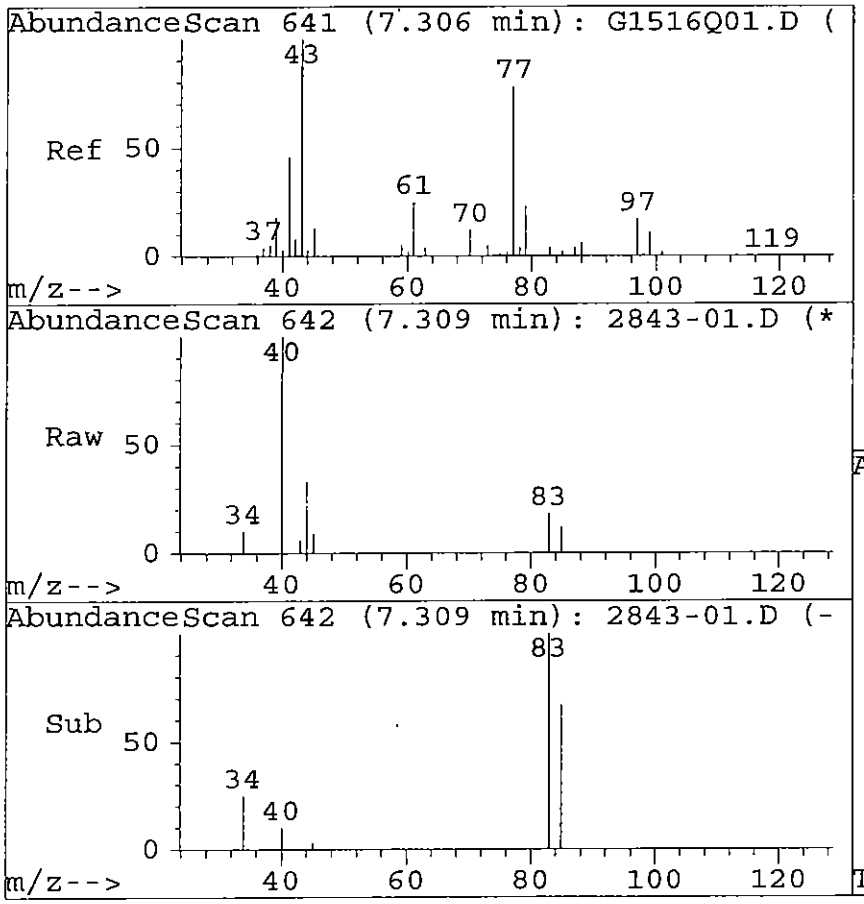


#33
25 chloroform 83 85
Concen: 0.30 ppb
RT: 7.29 min Scan# 640
Delta R.T. 0.02 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:83 Resp: 12016

Ion	Ratio	Lower	Upper
83	100		
85	55.5	32.8	98.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

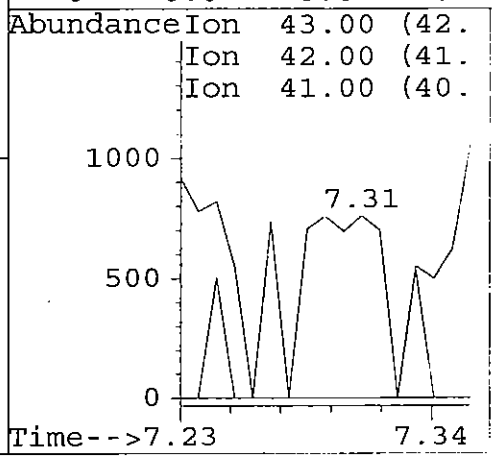


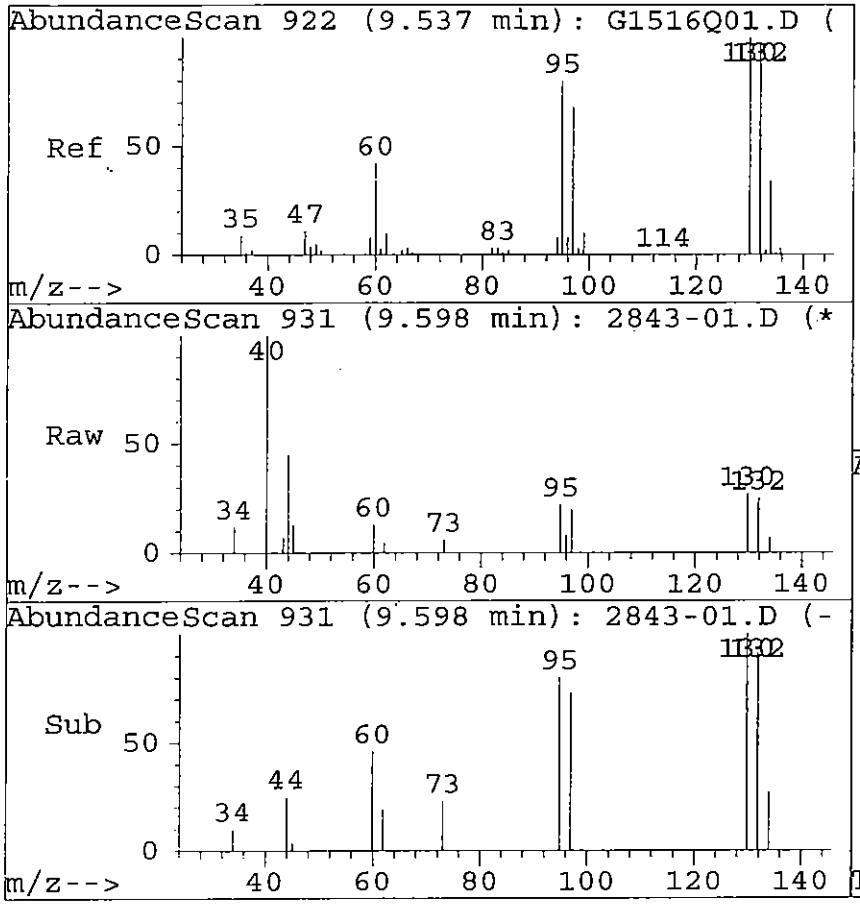


#36
117 Iso-butyl alcohol X10
Concen: 1.02 ppb
RT: 7.31 min Scan# 642
Delta R.T. -0.00 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:43 Resp: 2068

Ion	Ratio	Lower	Upper
43	100		
42	12.3	21.1	31.6#
41	0.0	161.8	242.7#
0	0.0	0.0	0.0

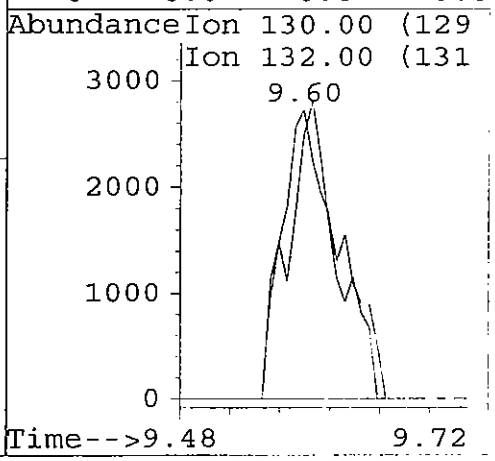


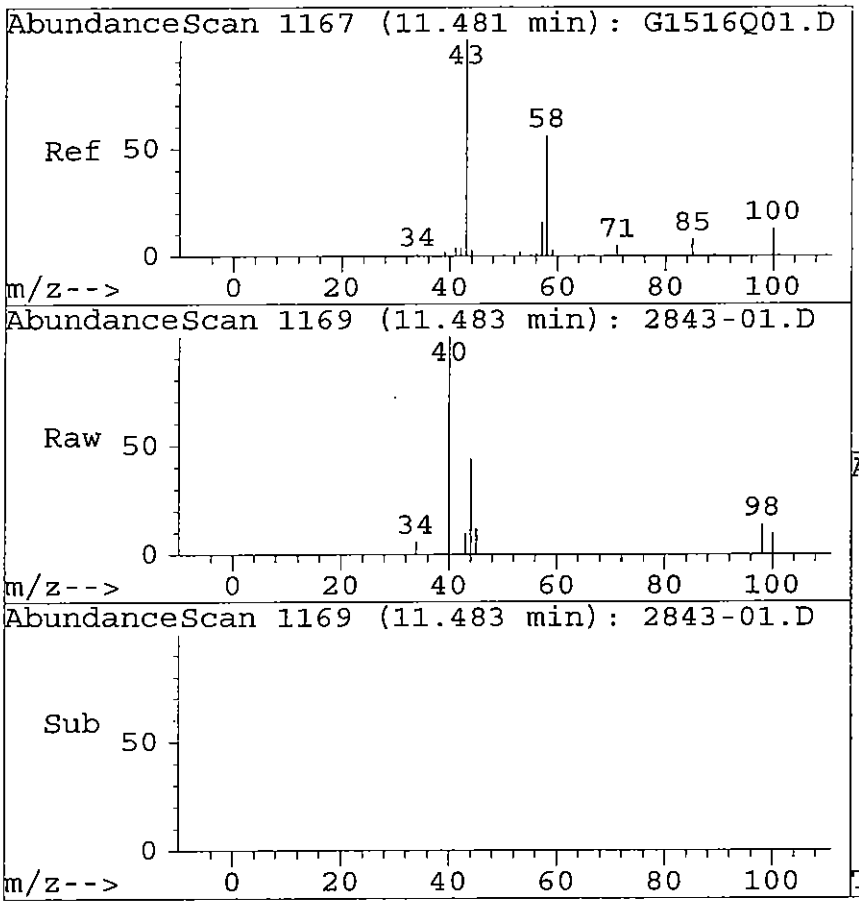


#48
40 trichloroethene 130 132
Concen: 0.51 ppb
RT: 9.60 min Scan# 931
Delta R.T. 0.06 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:130 Resp: 10429

Ion	Ratio	Lower	Upper
130	100		
132	88.0	48.8	146.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

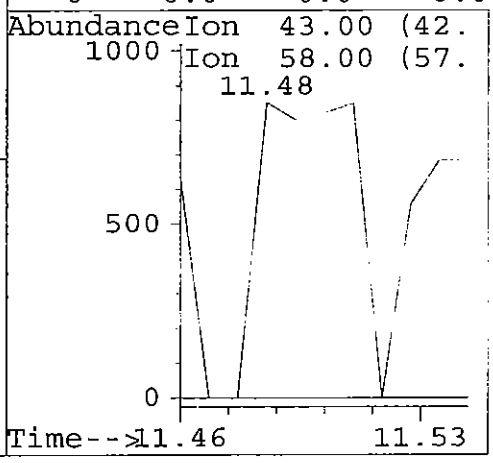


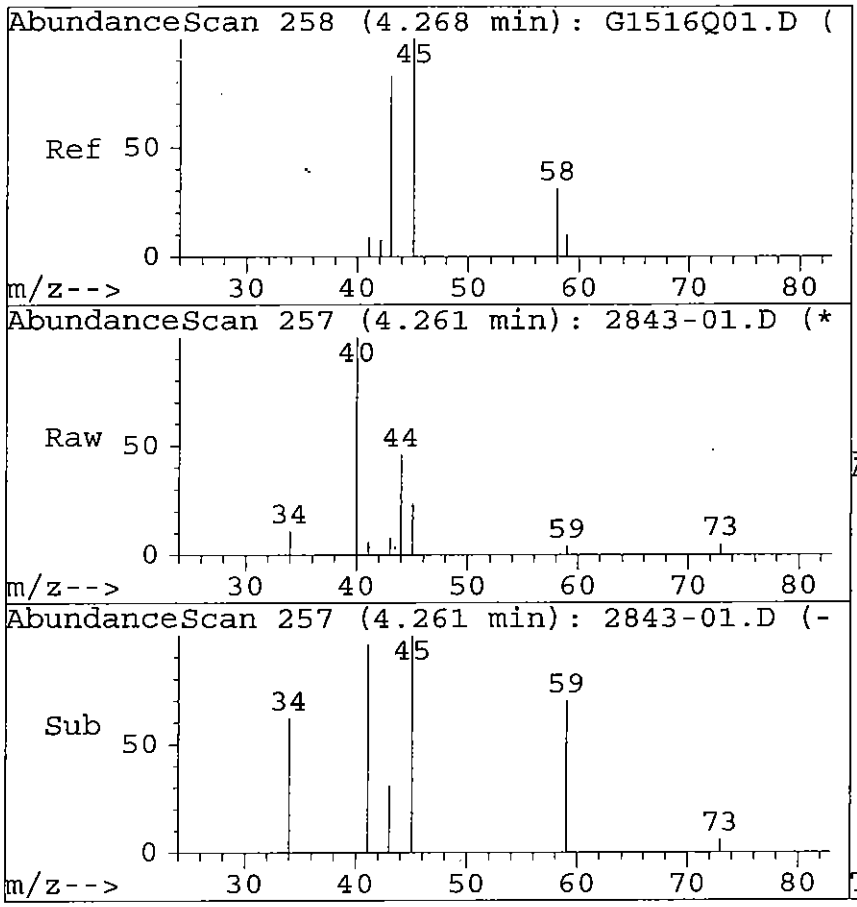


#57
93 2-Hexanone x5
Concen: 0.37 ppb
RT: 11.48 min Scan# 1169
Delta R.T. 0.00 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:43 Resp: 1580

Ion	Ratio	Lower	Upper
43	100		
58	0.0	44.5	66.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

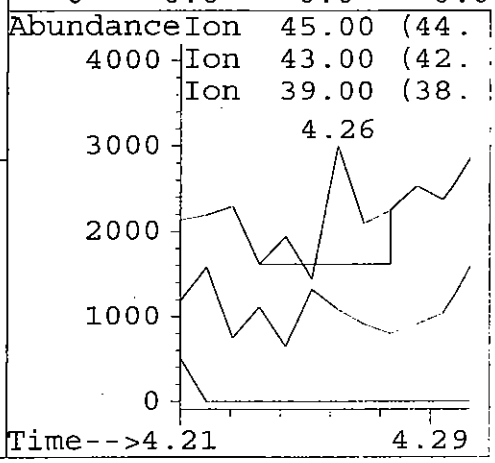


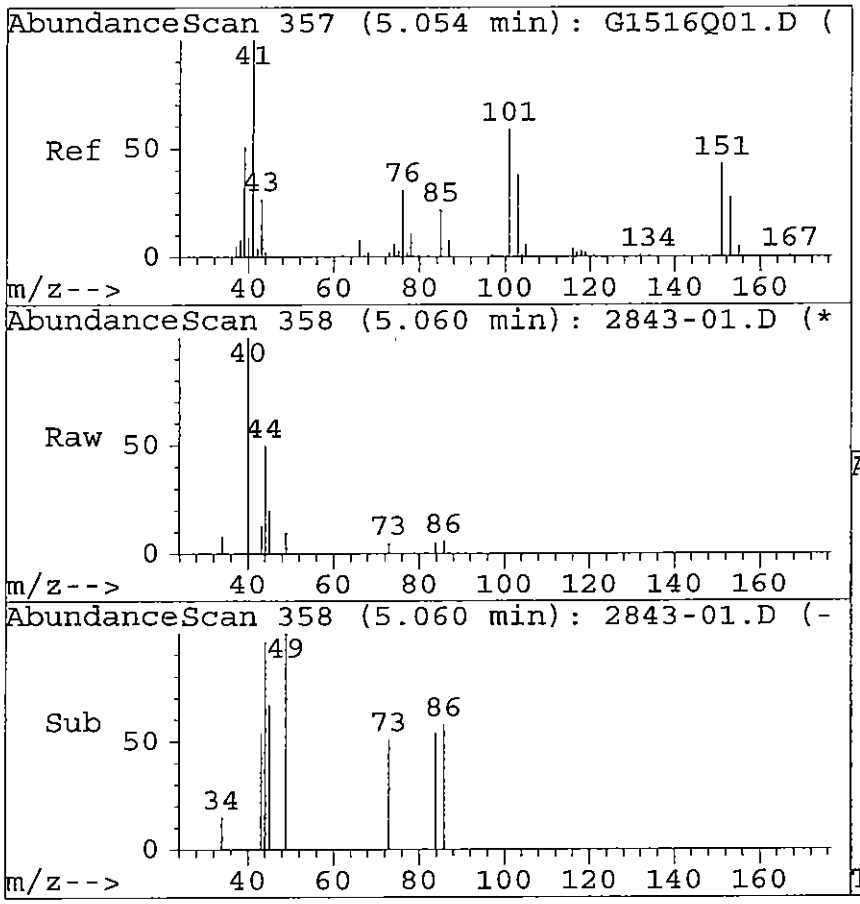


#9
111 isopropyl alcohol x10
Concen: 3.66 ppb
RT: 4.26 min Scan# 257
Delta R.T. -0.01 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:45 Resp: 1256

Ion	Ratio	Lower	Upper
45	100		
43	58.1	395.5	593.2#
39	0.0	28.3	42.4#
0	0.0	0.0	0.0

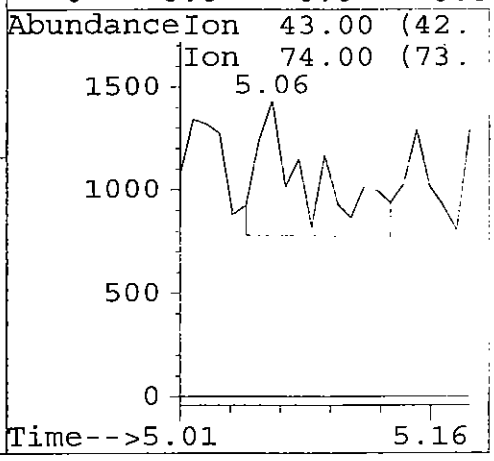


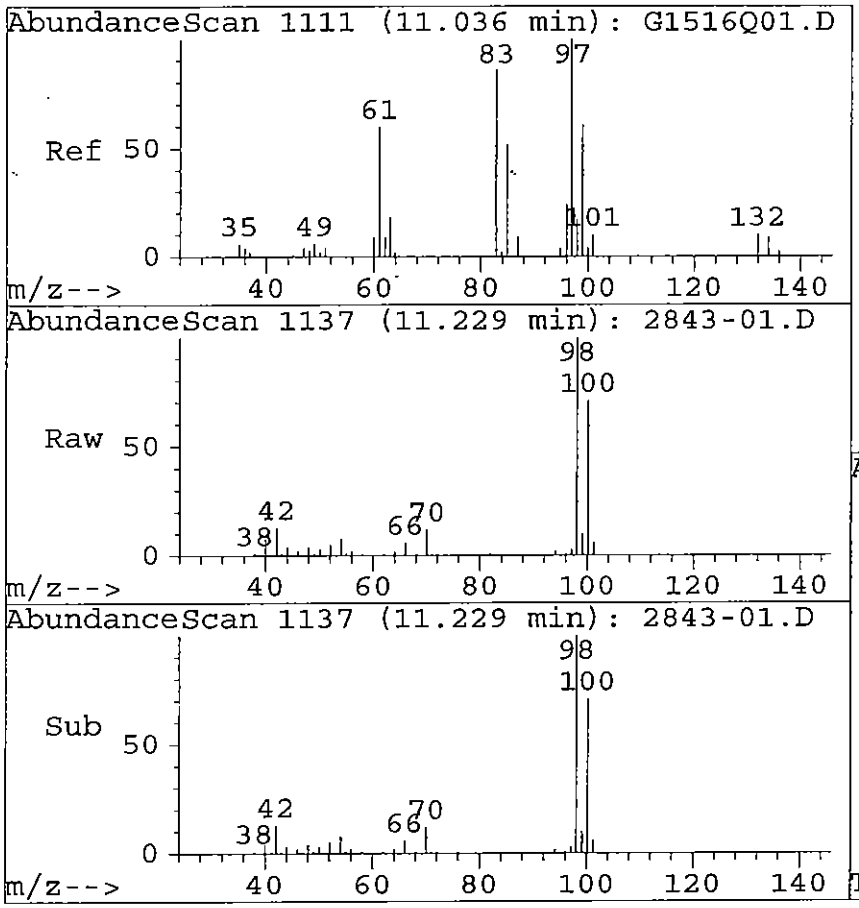


#12
119 methyl acetate
Concen: 0.42 ppb
RT: 5.06 min Scan# 358
Delta R.T. 0.00 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:43 Resp: 1437

Ion	Ratio	Lower	Upper
43	100		
74	0.0	0.6	40.6#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

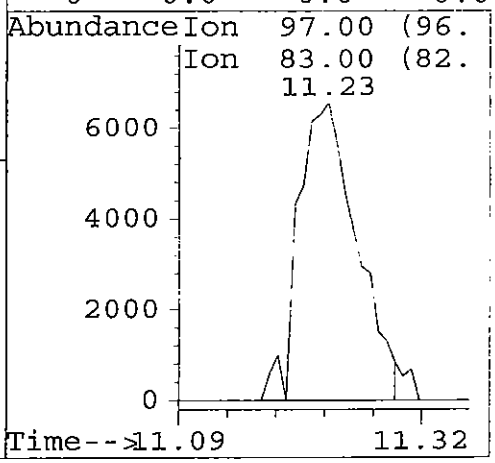


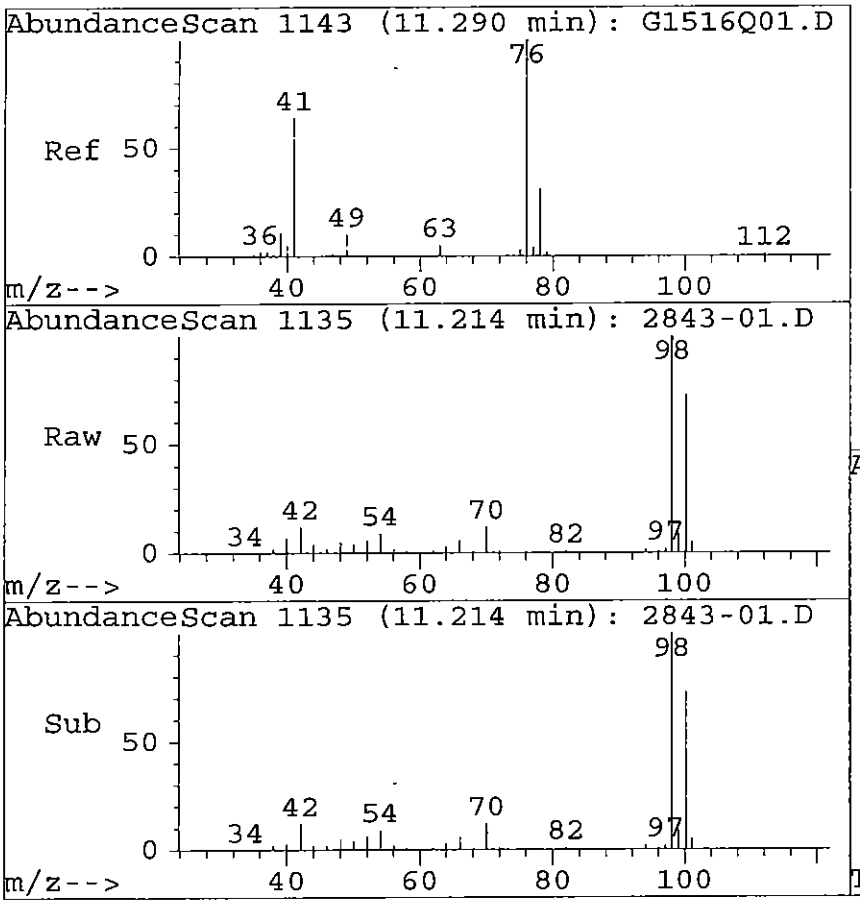


#58
48 112-tri-Cl-Et 97 83
Concen: 2.56 ppb
RT: 11.23 min Scan# 1137
Delta R.T. 0.20 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:97 Resp: 25302

Ion	Ratio	Lower	Upper
97	100		
83	0.0	46.0	137.9#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

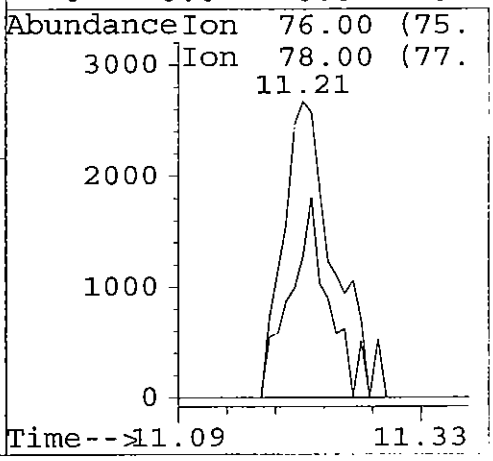




#65
49 1,3-di-cl-propane 76 78
Concen: 0.65 ppb
RT: 11.21 min Scan# 1135
Delta R.T. -0.08 min
Lab File: 2843-01.D
Acq: 28 Apr 03 9:55 pm

Tgt Ion:76 Resp: 8856

Ion	Ratio	Lower	Upper
76	100		
78	52.2	26.5	39.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



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Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-2	Received Date:	04/23/2003
Sample ID:	**EB-4-4/23/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	22:24
Data File Name:	2843-02	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	104
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	90
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	91
4	TOLUENE-D8	2037-26-5	73-129	101
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	107
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	103
3	FLUOROBENZENE	462-06-6	50-200	105
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-3	Received Date:	04/23/2003
Sample ID:	**MW-14-1**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	22:52
Data File Name:	2843-03	Sample Amount:	25 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	0.4	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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	0.4	J
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	1.3	
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	113
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	98
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	97
4	TOLUENE-D8	2037-26-5	73-129	109
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	98
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	91
3	FLUOROBENZENE	462-06-6	50-200	94
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-4	Received Date:	04/23/2003
Sample ID:	**MW-14-2**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	23:20
Data File Name:	2843-04	Sample Amount:	25 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	0.4	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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	J
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	101
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	88
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	87
4	TOLUENE-D8	2037-26-5	73-129	98
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	108
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	104
3	FLUOROBENZENE	462-06-6	50-200	106
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-5	Received Date:	04/23/2003
Sample ID:	**MW-14-3**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/28/03	Anal. Date:	04/28/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	23:49
Data File Name:	2843-05	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	J
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	108
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	92
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	97
4	TOLUENE-D8	2037-26-5	73-129	104
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	104
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	99
3	FLUOROBENZENE	462-06-6	50-200	101
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-6	Received Date:	04/23/2003
Sample ID:	**MW-14-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/29/03	Anal. Date:	04/29/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	00:17
Data File Name:	2843-06	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	115
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	95
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	97
4	TOLUENE-D8	2037-26-5	73-129	109
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	101
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	96
3	FLUOROBENZENE	462-06-6	50-200	101
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-7	Received Date:	04/23/2003
Sample ID:	**MW-14-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/29/03	Anal. Date:	04/29/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	00:45
Data File Name:	2843-07	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	105
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	86
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	89
4	TOLUENE-D8	2037-26-5	73-129	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	108
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	103
3	FLUOROBENZENE	462-06-6	50-200	108
# of out-of-control				0

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

[a] MDL reported.

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:	04/23/2003
Project ID:	JPL	Service ID:	32843	Collected by:	Leo Williamson
		Lab Sample ID:	03-2843-8	Received Date:	04/23/2003
Sample ID:	**TB-4-4/23/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	04/29/03	Anal. Date:	04/29/03
Batch No:	03G2233	Prep. No:	–	Anal. Time:	01:14
Data File Name:	2843-08	Sample Amount:	25 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	1.1 [a]	<1.1	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	1.8 [a]	<1.8	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	107
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	89
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	88
4	TOLUENE-D8	2037-26-5	73-129	101
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	109
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	101
3	FLUOROBENZENE	462-06-6	50-200	105
# of out-of-control				0

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

[a] MDL reported.

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:	032843
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2233		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	S4 % #	TOT OUT
1	03G2233-LCS-01	03G2233-LCS-01	112	87	99	110	0
2	MW-20-3MS	03-2866-5MS	105	86	99	107	0
3	MW-20-3MSD	03-2866-5MSD	108	83	96	108	0
4	03G2233-MB-01	03G2233-MB-01	115	91	94	107	0
5	DUPE-2-2Q03	03-2843-1	103	88	89	100	0
6	EB-4-4/23/03	03-2843-2	104	90	91	101	0
7	MW-14-1	03-2843-3	113	98	97	109	0
8	MW-14-2	03-2843-4	101	88	87	98	0
9	MW-14-3	03-2843-5	108	92	97	104	0
10	MW-14-4	03-2843-6	115	95	97	109	0
11	MW-14-5	03-2843-7	105	86	89	99	0
12	TB-4-4/23/03	03-2843-8	107	89	88	101	0
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:	32843
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2233		
LCS Filename:	G2233L01	Date Analyzed:	042803	Time Analyzed:	15:19
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	21.8	109	65-120
CHLOROBENZENE	μg/L	20	0	23.2	116	65-134
1,1-DICHLOROETHENE	μg/L	20	0	21.8	109	65-127
TOLUENE	μg/L	20	0	21.2	106	65-134
TRICHLOROETHENE	μg/L	20	0	21.8	109	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: _____

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3238

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233L01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:19 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:18 2003
Print Time : Tue Apr 29 11:19 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.09	9.03	0.006	96	70	690.083	10.00		0.06	
47	47 Cl-benzene-d5, I2	12.75	12.66	0.007	82	119	189.127	10.00		0.09	
62	62 1,4-DCB-d4 150 15	15.24	15.15	0.006	152	150	154.498	10.00		0.09	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.49	7.44	0.004	111	113	484.829	19.84	19.8	99.19%	
29	29 1,2-di-Cl-ethane-	8.08	8.02	0.004	65	102	199.082	17.46	17.5	87.31%	
55	55 toluene-d8(S2)	11.22	11.15	0.005	100	99	756.236	21.94	21.9	109.69%	
70	70 4-Br-1-F-Bz (S3)	13.98	13.90	0.006	174	95	308.803	22.37	22.4	111.85%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.60	2.60	0.000	85	87	425.083	21.71	21.7	99	
4	4 Chloromethane	2.79	2.78	0.001	50	52	291.426	17.35	17.4	98	
9	9 F114 85 135	2.84	2.83	0.001	85	135	497.516	22.58	22.6	94	
5	5 vinyl chloride	2.98	2.96	0.002	62	64	308.855	19.40	19.4	97	
6	6 bromomethane	3.39	3.37	0.002	94	96	244.354	17.42	17.4	94	
7	7 Chloroethane	3.55	3.52	0.004	64	66	251.754	21.35	21.4	100	
8	8 tri-Cl-F-methane	4.18	4.14	0.005	101	103	649.857	24.14	24.1	99	?
111	111 isopropyl alcoho	4.31	4.27	0.005	45	43	40.681	130.65	130.7	86	#
100	100 ethyl ether x5	4.47	4.44	0.004	59	74	806.844	82.03	82.0	100	
102	102 Acrolein x10	4.19	4.15	0.005	56	55	184.404	234.99	235.0	92	?
119	119 methyl acetate	5.10	5.06	0.005	43	74	236.044	27.81	27.8	98	
104	104 Carbon disulfide	5.23	5.18	0.005	76	78	1103.688	19.19	19.2	99	m
103	103 Acrylonitrilex10	4.93	4.89	0.005	53	52	149.377	90.59	90.6	98	
95	95 Acetone x10	4.35	4.31	0.005	43	58	216.038	182.62	182.6	94	
108	108 F-113	5.07	5.02	0.005	151	101	544.515	26.32	26.3	98	?
13	13 11-dichloroethene	4.81	4.76	0.005	61	96	590.028	21.81	21.8	98	
101	101 Acetonnitrilex10	4.26	4.20	0.006	41	40	46.345	103.96	104.0	87	#
109	109 Iodomethane	4.85	4.80	0.005	142	127	558.250	25.71	25.7	100	
113	113 Tert butyl alcoh	4.90	4.86	0.004	59	57	118.884	199.39	199.4	100	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3239

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233L01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:19 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:18 2003
Print Time : Tue Apr 29 11:19 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	5.01	4.97	0.005	84	49	477.397	17.33	17.3	98	
	112 Allyl chloride	5.12	5.07	0.005	41	76	652.522	21.81	21.8	97	?
200	200 Nitro methane x1	5.87	5.82	0.005	61	46	625.344	207.70	207.7	98	?
10	10 t-Bu-Me-ether	6.05	6.00	0.005	73	57	538.374	18.43	18.4	97	
19	19 t-12-di-Cl-ethene	5.87	5.82	0.005	96	61	405.586	19.56	19.6	92	?
98	98 Vinyl acetate x5	6.45	6.41	0.005	43	86	584.428	31.31	31.3	99	
21	21 11-dichloroethane	6.21	6.15	0.006	63	83	824.984	22.78	22.8	99	
91	91 2-butanone MEKx10	6.90	6.83	0.007	43	72	1011.791	156.34	156.3	98	?
115	115 Di isoprop ether	6.91	6.85	0.006	45	87	1752.428	19.17	19.2	98	?
22	22 c-12-di-Cl-ethene	7.02	6.97	0.006	96	61	403.922	19.90	19.9	98	
23	23 22-Dichloropropan	7.41	7.35	0.007	77	97	713.252	22.82	22.8	100	
24	24 Br-Cl-methane	7.26	7.18	0.008	128	130	118.678	16.30	16.3	96	
25	25 chloroform	7.32	7.27	0.005	83	85	716.169	19.77	19.8	100	
201	201 Ethyl acetate x2	7.37	7.31	0.007	43	61	193.925	21.02	21.0	34	m?
116	116 ETBE	7.46	7.40	0.007	59	87	993.097	17.84	17.8	97	
117	117 Iso-butyl alcoho	7.37	7.31	0.007	43	42	86.705	46.96	47.0	1	#?
26	26 tetrahydrofuranx5	7.77	7.71	0.007	72	42	54.842	77.55	77.5	84	
34	34 111-tri-Cl-ethane	8.30	8.23	0.007	97	99	675.505	22.38	22.4	100	
30	30 12-dichloroethane	8.18	8.13	0.006	62	64	252.247	17.86	17.9	98	
35	35 11-Di-Cl-propene	8.54	8.48	0.007	75	110	606.710	23.00	23.0	98	
36	36 benzene	8.80	8.75	0.006	78	52	1307.471	21.80	21.8	99	
37	37 CCl4	8.75	8.68	0.007	117	119	563.889	24.41	24.4	99	
97	97 thiophene	8.95	8.89	0.006	84	58	559.721	18.77	18.8	99	
118	118 TAME	9.06	9.00	0.006	73	43	651.711	17.00	17.0	96	
39	39 12-di-Cl-propane	9.56	9.49	0.007	63	76	356.312	20.30	20.3	96	
40	40 trichloroethene	9.61	9.54	0.007	130	132	404.536	21.77	21.8	99	
96	96 Me-methacrylate	9.90	9.85	0.005	69	100	89.432	14.82	14.8	97	
42	42 Br-di-Cl-methane	9.67	9.61	0.006	83	85	434.992	17.78	17.8	98	
41	41 dibromomethane	9.51	9.45	0.006	174	172	148.951	17.60	17.6	99	
45	45 c-13-di-Cl-propen	10.44	10.37	0.008	75	110	391.387	18.14	18.1	97	
92	92 2-ClEt-Vi-ether10	10.22	10.15	0.008	63	43	284.283	76.81	76.8	99	
56	56 toluene	11.30	11.23	0.009	91	92	1192.735	21.16	21.2	100	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P&Ch Lab** EPA 524.2

3240

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233L01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:19 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:18 2003
Print Time : Tue Apr 29 11:19 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.43	11.36	0.008	69	99	95.344	8.18	8.2	100	
93	93 2-Hexanone x5	11.56	11.48	0.009	43	58	230.796	58.88	58.9	94	
48	48 112-tri-Cl-Et	11.11	11.03	0.010	97	83	138.094	16.71	16.7	99	
58	58 1,2-di-br-ethane	11.91	11.82	0.009	107	109	143.623	16.28	16.3	99	
51	51 di-Br-Cl-methane	11.65	11.57	0.009	129	127	197.513	17.78	17.8	98	
46	46 t-13-di-cl-propen	10.94	10.87	0.008	75	110	251.962	18.12	18.1	100	
105	105 1-Chlorohexane	12.72	12.64	0.009	55	93	456.191	26.92	26.9	98	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.59	10.52	0.006	43	58	101.758	17.02	17.0	98	
49	49 1,3-di-cl-propane	11.36	11.29	0.006	76	78	245.388	19.85	19.8	97	
59	59 tetra-Cl-ethene	12.08	12.00	0.006	166	168	445.156	26.75	26.7	99	
60	60 chlorobenzene	12.77	12.70	0.006	112	77	641.644	23.21	23.2	97	
61	61 1112-tetra-Cl-Et	12.70	12.62	0.006	131	133	251.624	22.73	22.7	99	?
64	64 ethylbenzene	12.98	12.90	0.006	91	106	1367.932	25.69	25.7	99	
65	65 m/p-Xylenes x2	13.18	13.10	0.006	91	106	2051.449	50.67	50.7	98	
99	99 1-4-di-Cl-butane	13.54	13.46	0.006	55	41	227.565	18.65	18.7	99	
52	52 bromoform	13.30	13.22	0.006	173	175	109.434	19.42	19.4	97	
66	66 styrene	13.50	13.43	0.006	104	78	660.950	23.12	23.1	99	
67	67 o-xylene	13.58	13.50	0.006	91	106	947.348	23.78	23.8	99	?
68	68 1122-Tetra-Cl-Et	13.58	13.51	0.006	83	85	136.095	18.61	18.6	97	?
110	110 t-1,4-dichloro-2	13.75	13.67	0.007	89	53	27.942	24.52	24.5	67	#
106	106 Cl-benzyl	15.21	15.12	0.007	91	126	192.644	21.04	21.0	98	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.72	13.64	0.005	110	97	33.951	18.05	18.0	89	
71	71 isopropylbenzene	13.93	13.86	0.005	105	120	1441.682	28.40	28.4	100	
72	72 bromobenzene	14.17	14.10	0.005	156	158	249.664	22.40	22.4	98	
73	73 n-propylbenzene	14.36	14.29	0.005	120	78	389.376	28.45	28.5	99	
74	74 2-Cl-Tl 126 1	14.46	14.37	0.006	126	128	209.407	23.03	23.0	98	
75	75 4-Cl-Tl 126 1	14.52	14.45	0.005	126	128	302.445	24.33	24.3	94	m
76	76 135-tri-Me-Bz	14.64	14.57	0.005	105	120	1054.677	25.73	25.7	98	
79	79 tert-butylbenzene	14.91	14.84	0.005	119	91	1179.884	28.04	28.0	99	
78	78 124-tri-Me-Bz	15.02	14.94	0.005	105	120	854.513	24.52	24.5	97	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P&Ch Lab** EPA 524.2

3241

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233L01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:19 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:18 2003
Print Time : Tue Apr 29 11:19 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

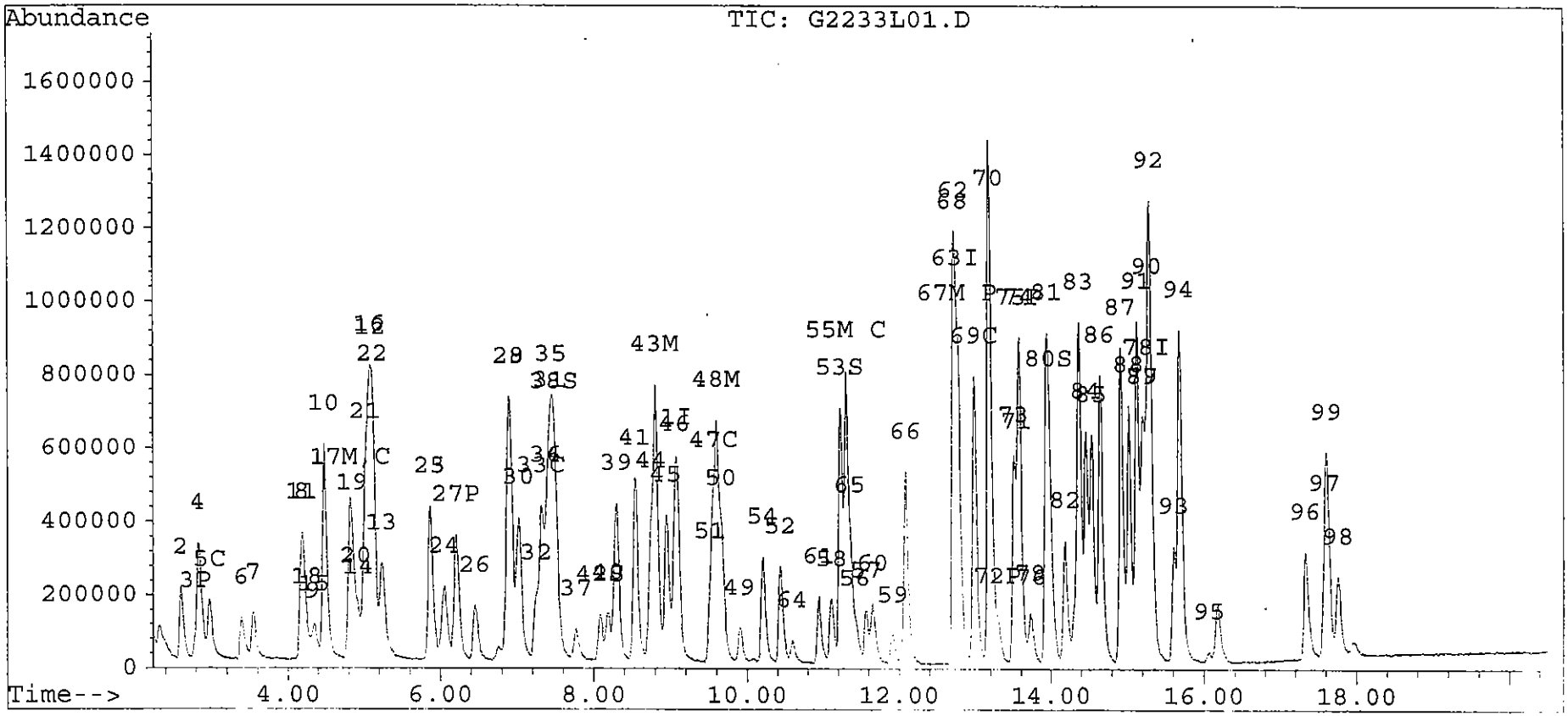
ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.21	15.11	0.006	146	148	375.345	21.14	21.1	91	
82	82	14-di-Cl-Bz 146	15.26	15.19	0.005	146	148	573.822	22.24	22.2	93	m
81	81	sec-butylbenzene	15.13	15.04	0.006	105	134	1707.466	27.75	27.7	100	
77	77	4-iso-Pr-toluene	15.30	15.22	0.005	119	134	1216.041	27.39	27.4	100	
84	84	12-di-Cl-benzene	15.61	15.52	0.006	146	148	361.151	21.08	21.1	97	
85	85	n-butylbenzene	15.68	15.60	0.005	91	134	1255.529	26.98	27.0	100	
86	86	12-diBr-3-Cl-Pra	16.07	15.97	0.006	157	155	22.331	17.79	17.8	92	
87	87	124-tri-Cl-Bz	17.33	17.24	0.006	180	182	288.573	21.35	21.3	99	
88	88	naphthalene	17.57	17.49	0.005	128	129	219.109	21.32	21.3	99	
90	90	123-tri-Cl-Bz	17.76	17.68	0.005	180	182	211.332	22.64	22.6	99	
89	89	hx-Cl-butadiene	17.61	17.52	0.005	225	260	314.462	30.99	31.0	95	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2233\G2233L01.D Vial: 12
Acq On : 28 Apr 03 3:19 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00
Quant Time: Apr 29 11:18 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Tue Apr 29 11:06:45 2003
Response via : Multiple Level Calibration



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:	32843
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2233		
MS Filename:	G2233M01	Date Analyzed:	042803	Time Analyzed:	15:48
MSD Filename:	G2233N01	Date Analyzed:	042803	Time Analyzed:	16:17
MS Sample No:	**MW-20-3**	Sample Lab ID:	03-2866-5		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	μg/L	20	0	21.5	108	65-121
CHLOROBENZENE	μg/L	20	0	22.5	113	65-134
1,1-DICHLOROETHENE	μg/L	20	0	21.3	107	65-127
TOLUENE	μg/L	20	0	21.0	105	65-134
TRICHLOROETHENE	μg/L	20	0	21.1	106	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	21.3	107	1	28	65-121
CHLOROBENZENE	μg/L	20	23.8	119	5	35	65-134
1,1-DICHLOROETHENE	μg/L	20	21.2	106	1	31	65-127
TOLUENE	μg/L	20	21.1	106	1	35	65-134
TRICHLOROETHENE	μg/L	20	21.4	107	1	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: _____

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3244

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233M01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:48 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:27 2003
Print Time : Tue Apr 29 11:28 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.11	9.03	0.008	96	70	702.271	10.00		0.07	
47	47 Cl-benzene-d5, I2	12.75	12.66	0.007	82	119	198.407	10.00		0.08	
62	62 1,4-DCB-d4 150 15	15.25	15.15	0.006	152	150	163.321	10.00		0.09	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.51	7.44	0.005	111	113	492.186	19.79	19.8	98.94%	
29	29 1,2-di-Cl-ethane-	8.10	8.02	0.005	65	102	199.130	17.16	17.2	85.81%	
55	55 toluene-d8(S2)	11.23	11.15	0.005	100	99	747.685	21.31	21.3	106.57%	
70	70 4-Br-1-F-Bz (S3)	13.97	13.90	0.005	174	95	306.153	20.98	21.0	104.90%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.61	2.60	0.001	85	87	420.819	21.10	21.1	99	
4	4 Chloromethane	2.80	2.78	0.002	50	52	289.349	16.93	16.9	97	
9	9 F114 85 135	2.84	2.83	0.001	85	135	498.925	22.25	22.2	93	
5	5 vinyl chloride	2.97	2.96	0.001	62	64	302.199	18.65	18.6	100	
6	6 bromomethane	3.39	3.37	0.002	94	96	258.619	18.14	18.1	98	
7	7 Chloroethane	3.55	3.52	0.004	64	66	252.389	21.03	21.0	99	
8	8 tri-Cl-F-methane	4.18	4.14	0.005	101	103	653.032	23.83	23.8	100	?
111	111 isopropyl alcoho	4.30	4.27	0.004	45	43	54.278	171.29	171.3	59	#
100	100 ethyl ether x5	4.49	4.44	0.005	59	74	805.564	80.48	80.5	99	
102	102 Acrolein x10	4.20	4.15	0.005	56	55	146.113	182.97	183.0	91	?
119	119 methyl acetate	5.11	5.06	0.006	43	74	234.595	27.16	27.2	95	
104	104 Carbon disulfide	5.24	5.18	0.006	76	78	1107.564	18.92	18.9	99	m
103	103 Acrylonitrilex10	4.94	4.89	0.005	53	52	260.371	155.16	155.2	99	
95	95 Acetone x10	4.35	4.31	0.005	43	58	206.559	170.71	170.7	90	
108	108 F-113	5.07	5.02	0.005	151	101	542.704	25.78	25.8	99	
13	13 11-dichloroethene	4.82	4.76	0.006	61	96	586.494	21.30	21.3	99	?
101	101 Acetonnitrilex10	4.26	4.20	0.007	41	40	77.522	172.24	172.2	81	#
109	109 Iodomethane	4.84	4.80	0.005	142	127	615.349	27.98	28.0	99	?
113	113 Tert butyl alcoh	4.91	4.86	0.005	59	57	114.448	188.52	188.5	97	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3245

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233M01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:48 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:27 2003
Print Time : Tue Apr 29 11:28 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	5.02	4.97	0.005	84	49	485.060	17.30	17.3	97	
	112 Allyl chloride	5.12	5.07	0.005	41	76	646.442	21.23	21.2	95	?
200	200 Nitro methane x1	5.87	5.82	0.005	61	46	649.107	211.85	211.9	94	#?
10	10 t-Bu-Me-ether	6.06	6.00	0.006	73	57	542.924	18.26	18.3	96	
19	19 t-12-di-Cl-ethene	5.87	5.82	0.005	96	61	429.249	20.34	20.3	95	?
98	98 Vinyl acetate x5	6.47	6.41	0.007	43	86	1020.343	53.72	53.7	98	
21	21 11-dichloroethane	6.22	6.15	0.007	63	83	842.148	22.85	22.9	98	
91	91 2-butanone MEKx10	6.91	6.83	0.008	43	72	1083.791	164.55	164.6	99	?
115	115 Di isoprop ether	6.92	6.85	0.008	45	87	1783.146	19.17	19.2	98	?
22	22 c-12-di-Cl-ethene	7.04	6.97	0.008	96	61	399.002	19.32	19.3	95	
23	23 22-Dichloropropan	7.43	7.35	0.009	77	97	701.128	22.05	22.0	100	
24	24 Br-Cl-methane	7.27	7.18	0.010	128	130	120.298	16.24	16.2	100	
25	25 chloroform	7.33	7.27	0.007	83	85	725.508	19.68	19.7	100	
201	201 Ethyl acetate x2	7.38	7.31	0.008	43	61	233.279	24.85	24.8	77	#?
116	116 ETBE	7.47	7.40	0.008	59	87	997.644	17.61	17.6	99	
117	117 Iso-butyl alcoho	7.38	7.31	0.008	43	42	233.554	124.31	124.3	64	#?
26	26 tetrahydrofuranx5	7.78	7.71	0.008	72	42	56.233	78.14	78.1	90	
34	34 111-tri-Cl-ethane	8.31	8.23	0.009	97	99	687.107	22.37	22.4	99	
30	30 12-dichloroethane	8.19	8.13	0.007	62	64	258.187	17.97	18.0	96	
35	35 11-Di-Cl-propene	8.55	8.48	0.008	75	110	591.923	22.05	22.1	98	
36	36 benzene	8.83	8.75	0.009	78	52	1312.041	21.50	21.5	100	
37	37 CCl4	8.76	8.68	0.009	117	119	552.642	23.51	23.5	99	
97	97 thiophene	8.97	8.89	0.009	84	58	578.945	19.08	19.1	98	
118	118 TAME	9.07	9.00	0.008	73	43	667.118	17.10	17.1	98	
39	39 12-di-Cl-propane	9.57	9.49	0.008	63	76	356.088	19.94	19.9	97	
40	40 trichloroethene	9.62	9.54	0.009	130	132	398.530	21.08	21.1	97	
96	96 Me-methacrylate	9.92	9.85	0.007	69	100	110.986	17.91	17.9	100	
42	42 Br-di-Cl-methane	9.69	9.61	0.008	83	85	443.157	17.79	17.8	97	
41	41 dibromomethane	9.53	9.45	0.008	174	172	151.035	17.53	17.5	96	
45	45 c-13-di-Cl-propen	10.45	10.37	0.009	75	110	395.821	18.02	18.0	98	
92	92 2-ClEt-Vi-ether10	10.22	10.15	0.008	63	43	317.298	84.24	84.2	98	
56	56 toluene	11.31	11.23	0.009	91	92	1202.580	20.97	21.0	100	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3246

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233M01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:48 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:27 2003
Print Time : Tue Apr 29 11:28 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.44	11.36	0.009	69	99	155.802	13.13	13.1	93	
93	93 2-Hexanone x5	11.57	11.48	0.009	43	58	313.946	78.70	78.7	95	
48	48 112-tri-Cl-Et	11.11	11.03	0.009	97	83	146.374	17.41	17.4	96	
58	58 1,2-di-br-ethane	11.91	11.82	0.009	107	109	149.298	16.63	16.6	99	
51	51 di-Br-Cl-methane	11.65	11.57	0.009	129	127	204.804	18.12	18.1	99	
46	46 t-13-di-cl-propen	10.95	10.87	0.009	75	110	253.335	17.90	17.9	99	
105	105 1-Chlorohexane	12.72	12.64	0.009	55	93	443.431	25.67	25.7	100	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.61	10.52	0.007	43	58	116.256	18.59	18.6	94	
49	49 1,3-di-cl-propane	11.37	11.29	0.006	76	78	258.081	19.90	19.9	99	
59	59 tetra-Cl-ethene	12.09	12.00	0.007	166	168	434.443	24.88	24.9	98	
60	60 chlorobenzene	12.78	12.70	0.006	112	77	651.486	22.47	22.5	99	
61	61 1112-tetra-Cl-Et	12.71	12.62	0.007	131	133	257.091	22.14	22.1	98	?
64	64 ethylbenzene	12.99	12.90	0.007	91	106	1359.049	24.33	24.3	99	
65	65 m/p-Xylenes x2	13.19	13.10	0.007	91	106	2030.507	47.81	47.8	98	
99	99 1-4-di-Cl-butane	13.53	13.46	0.006	55	41	238.436	18.63	18.6	98	
52	52 bromoform	13.30	13.22	0.007	173	175	114.135	19.30	19.3	95	
66	66 styrene	13.50	13.43	0.006	104	78	680.671	22.70	22.7	99	
67	67 o-xylene	13.57	13.50	0.006	91	106	944.219	22.59	22.6	99	?
68	68 1122-Tetra-Cl-Et	13.58	13.51	0.006	83	85	137.991	17.98	18.0	99	?
110	110 t-1,4-dichloro-2	13.74	13.67	0.006	89	53	28.308	23.52	23.5	65	#?
106	106 Cl-benzyl	15.21	15.12	0.007	91	126	208.052	21.71	21.7	95	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.72	13.64	0.005	110	97	36.069	18.14	18.1	87	?
71	71 isopropylbenzene	13.93	13.86	0.005	105	120	1419.781	26.45	26.5	100	
72	72 bromobenzene	14.18	14.10	0.005	156	158	254.497	21.60	21.6	97	
73	73 n-propylbenzene	14.36	14.29	0.005	120	78	379.146	26.21	26.2	99	
74	74 2-Cl-Tl 126 1	14.46	14.37	0.006	126	128	223.003	23.20	23.2	95	
75	75 4-Cl-Tl 126 1	14.53	14.45	0.006	126	128	298.544	22.72	22.7	97	m
76	76 135-tri-Me-Bz	14.64	14.57	0.005	105	120	1061.726	24.50	24.5	99	
79	79 tert-butylbenzene	14.92	14.84	0.006	119	91	1148.581	25.82	25.8	100	
78	78 124-tri-Me-Bz	15.02	14.94	0.006	105	120	865.549	23.49	23.5	98	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3247

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233M01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 15:48 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:27 2003
Print Time : Tue Apr 29 11:28 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80 13-di-Cl-Bz 146	15.20	15.11	0.006	146	148	413.711	22.04	22.0	90	?
82	82 14-di-Cl-Bz 146	15.27	15.19	0.006	146	148	551.120	20.21	20.2	94	m?
81	81 sec-butylbenzene	15.13	15.04	0.006	105	134	1699.782	26.13	26.1	100	
77	77 4-iso-Pr-toluene	15.29	15.22	0.005	119	134	1216.594	25.92	25.9	100	?
84	84 12-di-Cl-benzene	15.61	15.52	0.006	146	148	362.507	20.02	20.0	97	
85	85 n-butylbenzene	15.68	15.60	0.005	91	134	1236.468	25.14	25.1	100	
86	86 12-diBr-3-Cl-Pra	16.06	15.97	0.005	157	155	22.163	16.70	16.7	89	
87	87 124-tri-Cl-Bz	17.33	17.24	0.006	180	182	285.974	20.05	20.1	97	
88	88 naphthalene	17.57	17.49	0.005	128	129	223.049	20.53	20.5	99	
90	90 123-tri-Cl-Bz	17.76	17.68	0.005	180	182	212.927	21.58	21.6	100	
89	89 hx-Cl-butadiene	17.60	17.52	0.005	225	260	309.148	28.80	28.8	96	

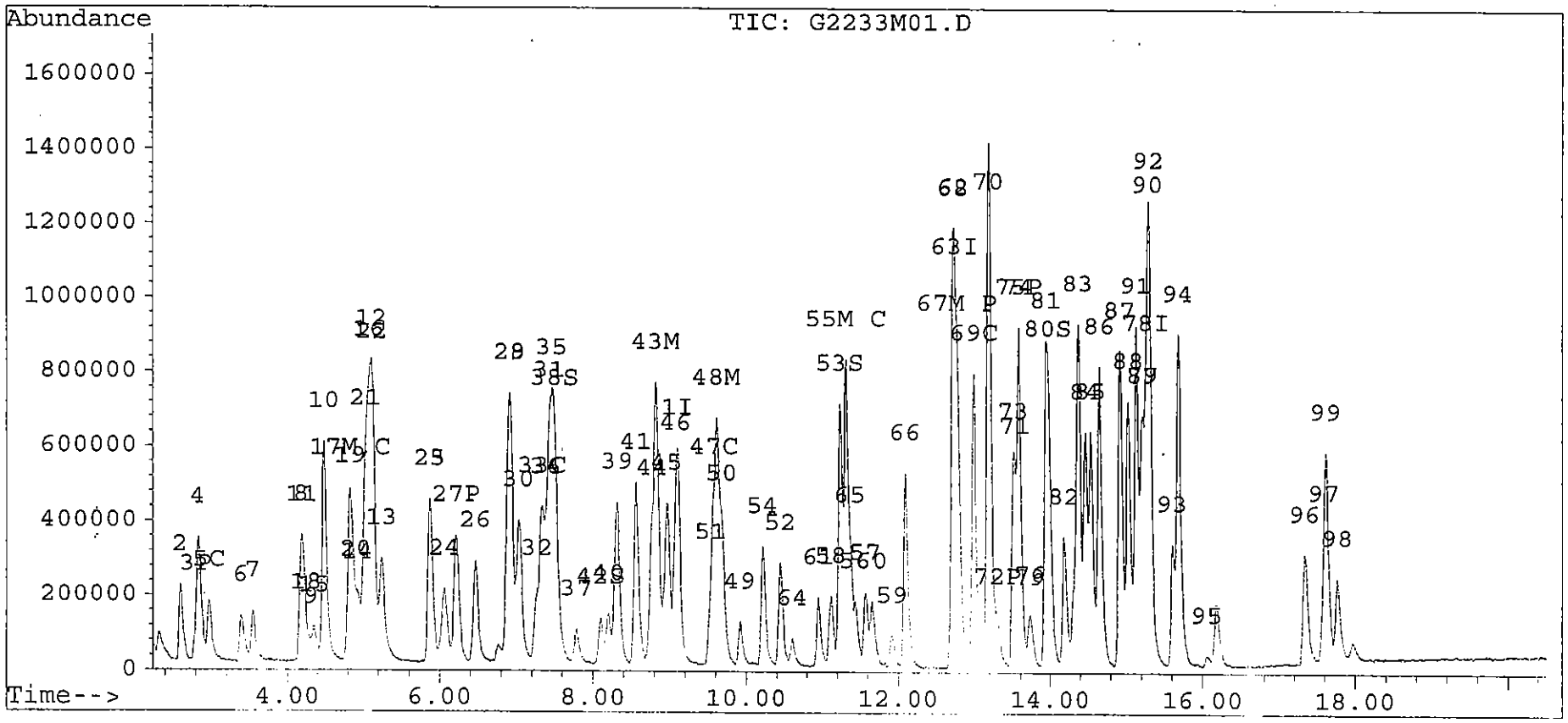
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2233\G2233M01.D
Acq On : 28 Apr 03 3:48 pm
Sample : f=1 $2866-05
Misc :
Quant Time: Apr 29 11:27 2003

Vial: 13
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Tue Apr 29 11:06:45 2003
Response via : Multiple Level Calibration



Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3249

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233N01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 16:17 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:31 2003
Print Time : Tue Apr 29 11:31 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.10	9.03	0.008	96	70	711.756	10.00		0.07	
47	47	Cl-benzene-d5, I2	12.74	12.66	0.006	82	119	188.117	10.00		0.07	
62	62	1,4-DCB-d4 150 15	15.24	15.15	0.006	152	150	156.706	10.00		0.09	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.52	7.44	0.005	111	113	484.709	19.22	19.2	96.10%	
29	29	1,2-di-Cl-ethane-	8.09	8.02	0.005	65	102	196.000	16.67	16.7	83.34%	
55	55	toluene-d8(S2)	11.23	11.15	0.005	100	99	767.056	21.57	21.6	107.87%	
70	70	4-Br-1-F-Bz (S3)	13.97	13.90	0.005	174	95	303.394	21.67	21.7	108.34%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	2.61	2.60	0.001	85	87	434.022	21.48	21.5	100	
4	4	Chloromethane	2.80	2.78	0.002	50	52	285.903	16.51	16.5	97	
9	9	F114 85 135	2.84	2.83	0.001	85	135	493.909	21.73	21.7	96	
5	5	vinyl chloride	2.98	2.96	0.002	62	64	316.137	19.25	19.2	98	
6	6	bromomethane	3.40	3.37	0.003	94	96	268.925	18.63	18.6	96	
7	7	Chloroethane	3.55	3.52	0.004	64	66	257.582	21.18	21.2	99	
8	8	tri-Cl-F-methane	4.20	4.14	0.006	101	103	663.029	23.88	23.9	100	?
111	111	isopropyl alcoho	4.31	4.27	0.005	45	43	48.766	151.85	151.8	78	#
100	100	ethyl ether x5	4.49	4.44	0.005	59	74	792.239	78.10	78.1	99	
102	102	Acrolein x10	4.20	4.15	0.005	56	55	139.193	171.98	172.0	98	?
119	119	methyl acetate	5.12	5.06	0.007	43	74	194.120	22.23	22.2	95	?
104	104	Carbon disulfide	5.25	5.18	0.007	76	78	1118.398	18.85	18.8	100	m
103	103	Acrylonitrilex10	4.95	4.89	0.006	53	52	257.961	151.68	151.7	99	
95	95	Acetone x10	4.36	4.31	0.005	43	58	211.444	172.56	172.6	97	
108	108	F-113	5.09	5.02	0.007	151	101	547.820	25.68	25.7	98	
13	13	11-dichloroethene	4.82	4.76	0.006	61	96	592.320	21.23	21.2	100	
101	101	Acetonnitrilex10	4.26	4.20	0.006	41	40	68.114	149.04	149.0	94	#
109	109	Iodomethane	4.86	4.80	0.006	142	127	603.343	27.02	27.0	100	
113	113	Tert butyl alcoh	4.90	4.86	0.004	59	57	98.017	159.02	159.0	96	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3250

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233N01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 16:17 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:31 2003
Print Time : Tue Apr 29 11:32 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	5.02	4.97	0.006	84	49	486.222	17.08	17.1	100	
	112 Allyl chloride	5.13	5.07	0.006	41	76	651.603	21.11	21.1	95	?
200	200 Nitro methane x1	5.88	5.82	0.007	61	46	645.186	207.77	207.8	100	?
10	10 t-Bu-Me-ether	6.06	6.00	0.007	73	57	530.640	17.62	17.6	97	
19	19 t-12-di-Cl-ethene	5.88	5.82	0.007	96	61	431.065	20.15	20.2	96	?
98	98 Vinyl acetate x5	6.48	6.41	0.008	43	86	1075.035	55.85	55.8	97	
21	21 11-dichloroethane	6.22	6.15	0.008	63	83	836.796	22.40	22.4	98	
91	91 2-butanone MEKx10	6.91	6.83	0.009	43	72	1060.941	158.94	158.9	99	?
115	115 Di isoprop ether	6.92	6.85	0.008	45	87	1739.010	18.44	18.4	99	?
22	22 c-12-di-Cl-ethene	7.05	6.97	0.009	96	61	407.332	19.46	19.5	98	
23	23 22-Dichloropropan	7.43	7.35	0.009	77	97	703.776	21.83	21.8	100	
24	24 Br-Cl-methane	7.28	7.18	0.010	128	130	120.942	16.11	16.1	97	
25	25 chloroform	7.34	7.27	0.008	83	85	730.691	19.55	19.6	99	
201	201 Ethyl acetate x2	7.39	7.31	0.009	43	61	252.779	26.56	26.6	87	?
116	116 ETBE	7.48	7.40	0.009	59	87	983.221	17.12	17.1	97	
117	117 Iso-butyl alcoho	7.39	7.31	0.009	43	42	282.910	148.57	148.6	90	#?
26	26 tetrahydrofuranx5	7.78	7.71	0.008	72	42	54.443	74.64	74.6	89	
34	34 111-tri-Cl-ethane	8.30	8.23	0.008	97	99	689.203	22.14	22.1	100	
30	30 12-dichloroethane	8.20	8.13	0.008	62	64	251.724	17.29	17.3	95	
35	35 11-Di-Cl-propene	8.56	8.48	0.009	75	110	605.962	22.28	22.3	100	
36	36 benzene	8.83	8.75	0.009	78	52	1318.831	21.32	21.3	99	
37	37 CCl4	8.76	8.68	0.009	117	119	567.260	23.81	23.8	100	
97	97 thiophene	8.97	8.89	0.009	84	58	569.162	18.51	18.5	99	
118	118 TAME	9.07	9.00	0.008	73	43	647.881	16.39	16.4	98	
39	39 12-di-Cl-propane	9.57	9.49	0.009	63	76	356.554	19.70	19.7	97	
40	40 trichloroethene	9.62	9.54	0.009	130	132	410.490	21.42	21.4	99	
96	96 Me-methacrylate	9.92	9.85	0.008	69	100	101.354	16.21	16.2	99	
42	42 Br-di-Cl-methane	9.68	9.61	0.008	83	85	436.659	17.30	17.3	97	
41	41 dibromomethane	9.53	9.45	0.009	174	172	153.097	17.54	17.5	98	
45	45 c-13-di-Cl-propen	10.44	10.37	0.008	75	110	393.057	17.66	17.7	97	
92	92 2-ClEt-Vi-ether10	10.21	10.15	0.008	63	43	300.415	78.70	78.7	98	
56	56 toluene	11.30	11.23	0.008	91	92	1225.467	21.08	21.1	99	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3251

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233N01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 16:17 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:31 2003
Print Time : Tue Apr 29 11:32 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.44	11.36	0.008	69	99	156.388	13.00	13.0	99	
93	93 2-Hexanone x5	11.56	11.48	0.008	43	58	290.667	71.89	71.9	94	
48	48 112-tri-Cl-Et	11.10	11.03	0.008	97	83	135.976	15.94	15.9	100	
58	58 1,2-di-br-ethane	11.91	11.82	0.009	107	109	147.030	16.16	16.2	97	
51	51 di-Br-Cl-methane	11.64	11.57	0.008	129	127	196.834	17.18	17.2	100	
46	46 t-13-di-cl-propen	10.94	10.87	0.008	75	110	254.026	17.71	17.7	98	
105	105 1-Chlorohexane	12.71	12.64	0.008	55	93	455.583	26.03	26.0	98	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.60	10.52	0.007	43	58	114.280	19.29	19.3	97	
49	49 1,3-di-cl-propane	11.37	11.29	0.006	76	78	250.256	20.35	20.3	98	
59	59 tetra-Cl-ethene	12.09	12.00	0.007	166	168	454.542	27.46	27.5	100	
60	60 chlorobenzene	12.78	12.70	0.006	112	77	653.946	23.79	23.8	100	
61	61 1112-tetra-Cl-Et	12.70	12.62	0.006	131	133	256.810	23.33	23.3	99	?
64	64 ethylbenzene	12.98	12.90	0.006	91	106	1387.425	26.19	26.2	100	
65	65 m/p-Xylenes x2	13.18	13.10	0.006	91	106	2066.102	51.31	51.3	97	
99	99 1-4-di-Cl-butane	13.53	13.46	0.006	55	41	230.043	18.96	19.0	99	
52	52 bromoform	13.29	13.22	0.006	173	175	109.984	19.63	19.6	98	
66	66 styrene	13.50	13.43	0.006	104	78	672.321	23.64	23.6	100	
67	67 o-xylene	13.57	13.50	0.006	91	106	949.746	23.97	24.0	99	?
68	68 1122-Tetra-Cl-Et	13.57	13.51	0.005	83	85	129.921	17.86	17.9	98	?
110	110 t-1,4-dichloro-2	13.76	13.67	0.007	89	53	25.897	22.53	22.5	75	#
106	106 Cl-benzyl	15.20	15.12	0.006	91	126	188.067	20.62	20.6	99	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.72	13.64	0.005	110	97	33.631	17.63	17.6	89	
71	71 isopropylbenzene	13.93	13.86	0.005	105	120	1435.271	27.87	27.9	99	
72	72 bromobenzene	14.19	14.10	0.005	156	158	250.958	22.20	22.2	97	
73	73 n-propylbenzene	14.36	14.29	0.005	120	78	384.949	27.73	27.7	99	
74	74 2-Cl-Tl 126 1	14.46	14.37	0.005	126	128	228.140	24.74	24.7	94	
75	75 4-Cl-Tl 126 1	14.53	14.45	0.005	126	128	285.916	22.68	22.7	99	m
76	76 135-tri-Me-Bz	14.64	14.57	0.005	105	120	1082.843	26.04	26.0	100	
79	79 tert-butylbenzene	14.92	14.84	0.005	119	91	1183.044	27.72	27.7	98	
78	78 124-tri-Me-Bz	15.02	14.94	0.005	105	120	903.363	25.56	25.6	98	

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3252

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233N01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 16:17 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 29 11:31 2003
Print Time : Tue Apr 29 11:32 2003
Miscleneous :

Sample : f=1 $2866-05
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.20	15.11	0.006	146	148	411.656	22.86	22.9	91	?
82	82	14-di-Cl-Bz 146	15.27	15.19	0.005	146	148	542.143	20.72	20.7	93	m?
81	81	sec-butylbenzene	15.12	15.04	0.005	105	134	1688.826	27.06	27.1	99	
77	77	4-iso-Pr-toluene	15.29	15.22	0.005	119	134	1239.130	27.51	27.5	98	?
84	84	12-di-Cl-benzene	15.60	15.52	0.005	146	148	351.701	20.24	20.2	99	
85	85	n-butylbenzene	15.68	15.60	0.005	91	134	1277.729	27.07	27.1	100	
86	86	12-diBr-3-Cl-Pra	16.07	15.97	0.006	157	155	21.911	17.21	17.2	92	
87	87	124-tri-Cl-Bz	17.32	17.24	0.005	180	182	285.339	20.83	20.8	98	
88	88	naphthalene	17.57	17.49	0.005	128	129	213.287	20.46	20.5	98	
90	90	123-tri-Cl-Bz	17.75	17.68	0.005	180	182	208.185	21.99	22.0	100	
89	89	hx-Cl-butadiene	17.60	17.52	0.005	225	260	321.939	31.28	31.3	95	

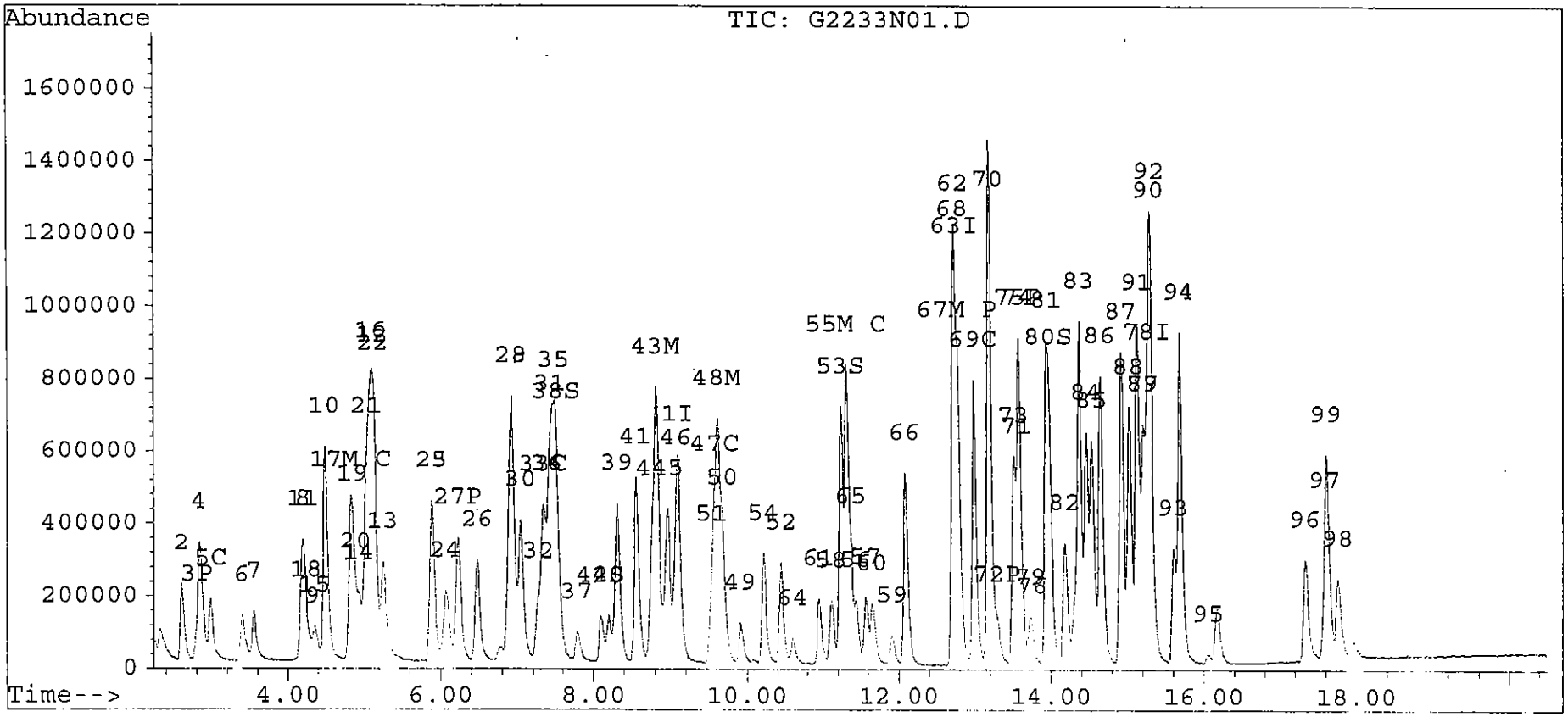
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

3253

Data File : C:\HPCHEM\1\DATA\03G2233\G2233N01.D Vial: 14
Acq On : 28 Apr 03 4:17 pm Operator: Eddie
Sample : f=1 $2866-05 Inst : GCMS-G
Misc : Multiplr: 1.00
Quant Time: Apr 29 11:31 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Tue Apr 29 11:06:45 2003
Response via : Multiple Level Calibration



Quantitation Report: **Applied P &Ch Lab** EPA 524.2

3254

Data Filename: C:\HPCHEM\1\DATA\03G2233\2866-05.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 20:01 2003
Method Update: Tue Apr 29 11:06 2003
Quant. Time : Apr 28 20:21 2003
Print Time : Tue Apr 29 11:32 2003
Miscleneous :

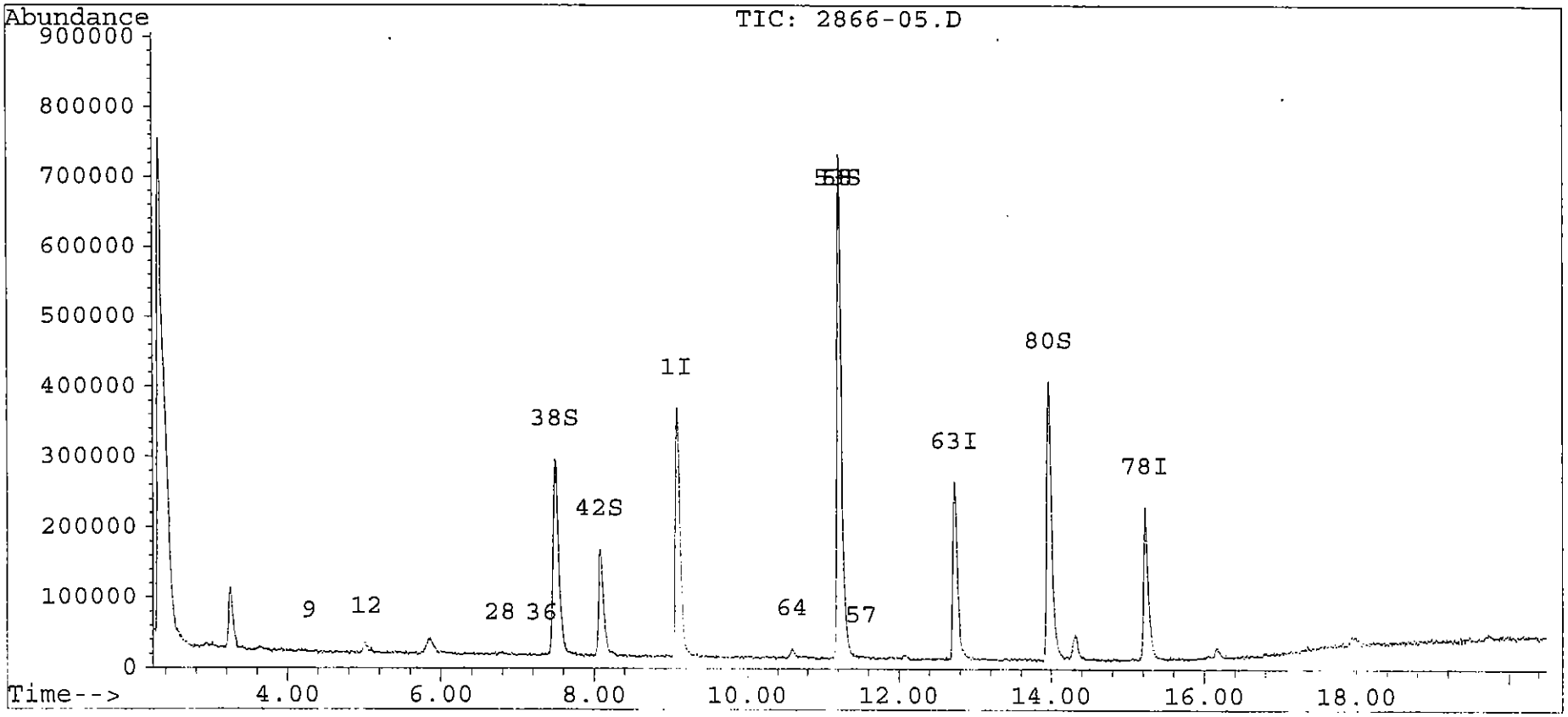
Sample : f=1
Inst. : GCMS-G
RF via : Multiple Level Calibration
Operator: Eddie
Multiplr: 1.000000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.09	9.03	0.006	96	70	740.598	10.00		0.06	
47	47 Cl-benzene-d5, I2	12.73	12.66	0.006	82	119	214.196	10.00		0.07	
62	62 1,4-DCB-d4 150 15	15.23	15.15	0.005	152	150	168.157	10.00		0.08	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.49	7.44	0.004	111	113	469.236	17.86	17.9	89.32%	
29	29 1,2-di-Cl-ethane-	8.09	8.02	0.004	65	102	227.552	18.60	18.6	92.98%	
55	55 toluene-d8(S2)	11.21	11.15	0.004	100	99	767.704	20.75	20.8	103.76%	
70	70 4-Br-1-F-Bz (S3)	13.97	13.90	0.005	174	95	317.366	21.12	21.1	105.62%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
111	111 isopropyl alcoho	4.29	4.27	0.003	45	43	1.691	5.06	5.1	~~1~~	#
119	119 methyl acetate	5.04	5.06	-0.001	43	74	0.810	0.36	0.4	~~56~~	#
91	91 2-butanone MEKx10	6.79	6.83	-0.005	43	72	8.853	1.27	1.3	~~74~~	#
117	117 Iso-butyl alcoho	7.32	7.31	0.000	43	42	1.621	0.82	0.8	~~1~~	#
93	93 2-Hexanone x5	11.51	11.48	0.003	43	58	2.201	0.52	0.5	~~24~~	#
48	48 112-tri-Cl-Et	11.21	11.03	0.021	97	83	21.693	2.22	2.2	~~4~~	#?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.60	10.52	0.006	43	58	26.862	3.51	3.5	90	
49	49 1,3-di-cl-propane	11.21	11.29	-0.006	76	78	9.122	0.65	0.7	~~67~~	#?

= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2233\2866-05.D
Acq On : 28 Apr 03 8:01 pm
Sample : f=1
Misc :
Quant Time: Apr 28 20:21 2003

Vial: 30
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Tue Apr 29 11:06:45 2003
Response via : Multiple Level Calibration