Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Wet Analysis Results for Method 314.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 314.0
Project ID: JPL Service ID: 34509 Collected by:

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-4509-1	DUPE-4-3-Q03	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	2.3	J
03-4509-2	ER-5-8-6-03	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	<4	U
03-4509-3	MW-23-1	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	2.4	J
03-4509-4	MW-23-2	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	4.7	
03-4509-5	MW-23-3	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	2.0	J
03-4509-7	MW-14-1	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	3.8	J
03-4509-8	MW-14-2	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	5.4	
03-4509-9	MW-14-3	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	3.0	J
03W3974-MB-01	03W3974-MB-01	Water	08/06/03	08/06/03	08/06/03	03W3974	μg/L	4	<4	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 7196

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 7196
Project ID: JPL Service ID: 34509 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
03-4509-1	DUPE-4-3-Q03	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-2	ER-5-8-6-03	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-3	MW-23-1	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-4	MW-23-2	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-5	MW-23-3	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-6	MW-23-4	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-7	MW-14-1	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-8	MW-14-2	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-9	MW-14-3	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03-4509-10	MW-14-4	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U
03W3982-MB-01	03W3982-MB-01	Water	08/06/03	08/06/03	08/06/03	03W3982	mg/L	0.01	<0.01	U

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

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

FORM-3

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	34509
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3974		
LCS Filename:	-	Date Analyzed:	080603	Time Analyzed:	
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	25.0	100	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:	34509
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3974		
MS Filename:	-	Date Analyzed:	080603	Time Analyzed:	
MSD Filename:	-	Date Analyzed:	080603	Time Analyzed:	
MS Sample No:	**MW-14-2**	Sample Lab ID:	03-4509-8		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	50.0	5.4	60.1	109	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	50.0	58.3	106	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-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:	34509
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3982		
LCS Filename:	-	Date Analyzed:	080603	Time Analyzed:	17:02
LCSD Filename:	-	Date Analyzed:	080603	Time Analyzed:	17:02

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.247	99	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	0.257	103	4	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:	34509
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3982		
MS Filename:	-	Date Analyzed:	080603	Time Analyzed:	17:02
MSD Filename:	-	Date Analyzed:	080603	Time Analyzed:	17:02
MS Sample No:	**MW-14-2**	Sample Lab ID:	03-4509-8		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.217	87	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	0.220	88	1	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: 34509

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

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

A=-0.001+ 0.846C

A=Absorbance

C=Concentration (mg/L)

r= 0.9999

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL
Case No: SAS No.: Service ID: 34509
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	03W3974	μg/L	50.0	53.1	106	6	√	85-115	08/06/2003
	Perchlorate	314.0	03W3974	μg/L	50.0	54.2	108	8	√	85-115	08/06/2003
	Perchlorate	314.0	03W3974	μg/L	50.0	54.0	108	8	√	85-115	08/06/2003
	Perchlorate	314.0	03W3974	μg/L	50.0	53.1	106	6	√	85-115	08/06/2003
2	Chromium (VI)	7196	03W3982	mg/L	0.25	0.253	101	1	√	90-110	08/06/2003
	Chromium (VI)	7196	03W3982	mg/L	0.25	0.260	104	4	√	90-110	08/06/2003

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Chromium (VI) (7196) Worksheet

Batch #23W3982 Matrix: W [Holding Time: 24 hours!!] Test Date: 8/6/03 Analyst: [illegible]

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: 17:02 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.=0.9979 (≥ 0.995)	
STD-4	W-	× / = mg/L			RSD= % (≤ 15%)	
STD-5	W-	× / = mg/L			Ref. page	
STD-6	W-	× / = mg/L			A=0.001+0.8466C	

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-7757	Expected Conc.:	×	/ =0.25 mg/L	0.213	0.252 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1117		/X_0 = 1	95.0/ =	0.000	mg/L	~~0.000~~ 0.001 ppm	0.001
LCS1	Bl. Lot: 〃		/X_0 =	95.0/ =	0.208	mg/L	0.247 ppm	
Sample-1	4509-1		/X_0 =	95.0/ =	0.000	mg/L	0.001 ppm	
MS on S-1 24-2	8		/X_0 =	95.0/ =	0.183	mg/L	0.217 ppm	
MSD on S-1	8		/X_0 =	95.0/ =	0.185	mg/L	0.220 ppm	
Sample 2	2		/X_0 =	95.0/ =	0.000	mg/L	0.001 ppm	
Sample 3	3		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 4	4		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 5	5		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 6	6		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 7	7		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 8	8		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 9	9		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Sample 10	10		/X_0 =	95.0/ =	0.000	mg/L	ppm	
Blank	Lot: T1117		/X_0 =	95.0/ =	0.000	mg/L	ppm	
LCS2	Bl. Lot: 〃		/X_0 =	95.0/ =	0.216	mg/L	0.257 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/ =	0.219	0.260 mg/L	ppm	

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

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

APCL form 5-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]CR6.TEX Root-file: CR6_ROOT.TEX I-Page-File: CR61.TEX
Control limits are subjected to change. The updated values are given in the latest version of APCL Technical Handbook Vol. 2

Applied P & Ch Laboratory

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Tel: (909) 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

Batch # PZ Matrix: W & GS [Holding Time: 24 hours!!] Test Date: 7/28/03 Analyst: Br.

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ SOP: G

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-7757	× / = 0.00 mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / = 0.025 mg/L	0.007		Average $\bar{RF}$=	
STD-3	W-	× / 0.025 = 0.050 mg/L	0.017		C.C.= 0.9999 (≥ 0.995)	
STD-4	W-	× / = 0.125 mg/L	0.107		RSD= % (≤ 15%)	
STD-5	W-	× / = 0.250 mg/L	0.212		Ref. page	
STD-6	W-	× / = 0.50 mg/L	0.420		A = -0.001 + 0.846C	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0 = f_1$	Treat. Ratio $V/X = f_2$	540 nm A	Concentration $C' = A/\bar{RF}$	C (Sample) $C = f_1 f_2 C'$	Anom Note
CCV	Lot: W-7853	Expected Conc.:	×	/ = 0.25 mg/L	0.218	0.259 mg/L	REC. %	90-110
Method Blank	Bl. Lot:		$/X_0$ =	95.0/ =	0.000	0.000 mg/L	ppm	
LCS1	Bl. Lot:		$/X_0$ =	95.0/ =	0.210	0.250 mg/L	ppm	
Sample-1	4177-37	1ml → 100ml	$/X_0$ = 1	95.0/ = 2	0.290	0.689 mg/L	ppm	
MS on S-1	37	0.5ml → 100ml	$/X_0$ =	95.0/ = 2	0.287	0.682 mg/L	ppm	report
MSD on S-1	4175-15	10.0g	50.0ml $/X_0$ = 5	95.0/ = 10	0.050	3.04 mg/L	ppm	
Sample 2	15	4	$/X_0$ =	95.0/ = 2	0.247	2.94 mg/L	ppm	report
Sample 3			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 4			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 5			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 6			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 7			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 8			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 9			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 10			$/X_0$ =	95.0/ =		mg/L	ppm	
Blank	Lot:		$/X_0$ =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot:		$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 11			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 12			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 13			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 14			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 15			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 16			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 17			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 18			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 19			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 20			$/X_0$ =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		$/X_0$ =	95.0/ =	0.218	0.259 mg/L	ppm	

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

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

2352

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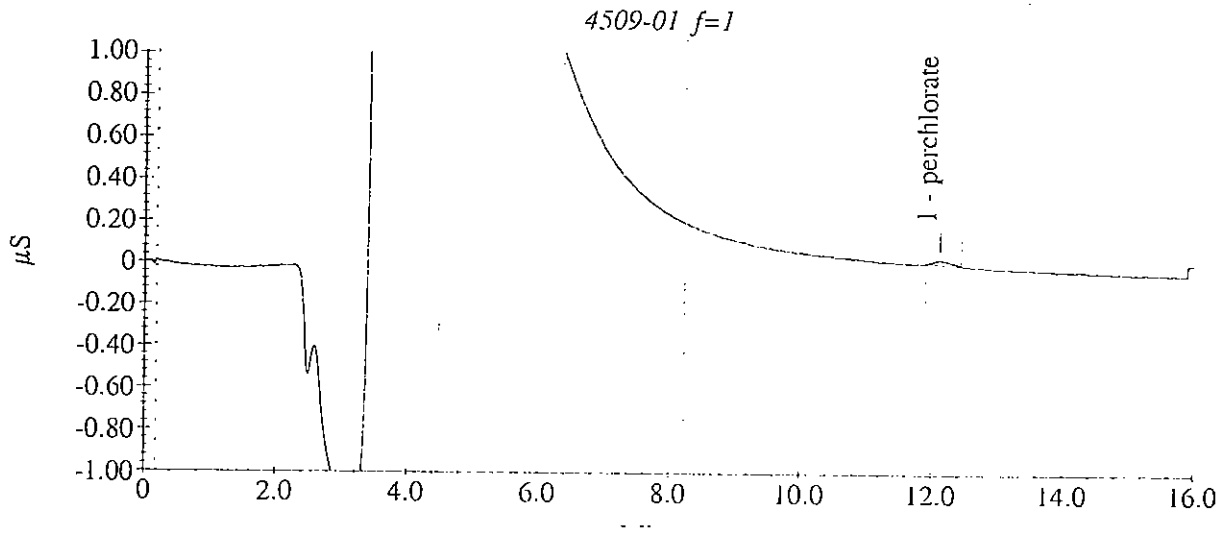
APCL Perchlorate Analysis Report

Sample Name : 4509-01 f=1
Data File Name : C:\DATA\03W3974K\4509-01_016.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 7:06:46 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.12	2.31	3919.30	232.19



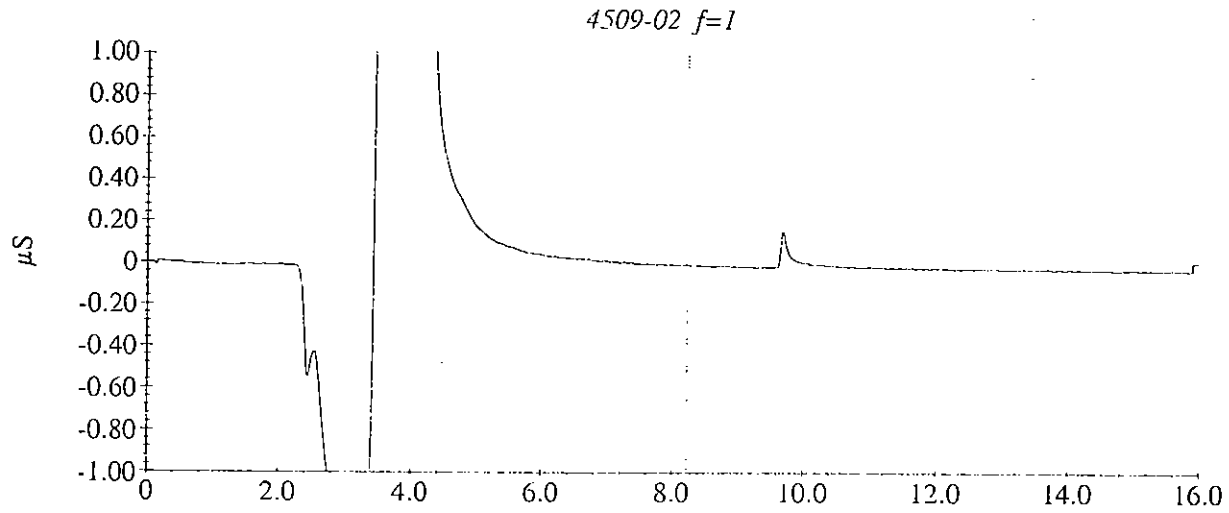
APCL Perchlorate Analysis Report

Sample Name : 4509-02 f=1
Data File Name : C:\DATA\03W3974K\4509-02_017.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 7:25:12 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height



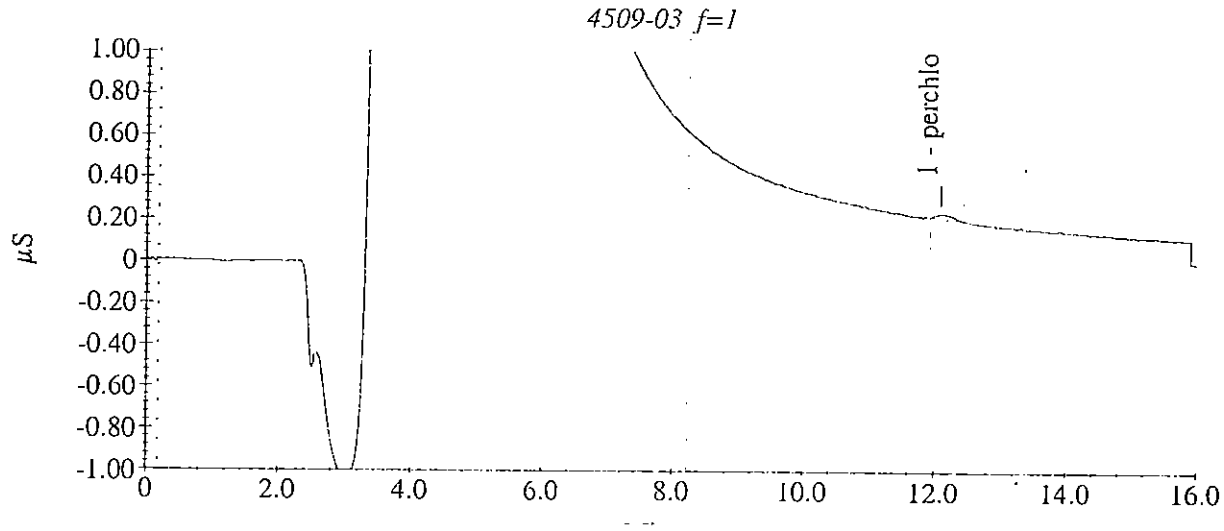
APCL Perchlorate Analysis Report

Sample Name : 4509-03 f=1
Data File Name : C:\DATA\03W3974K\4509-03_018.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 7:43:38 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.08	2.37	4027.25	215.87



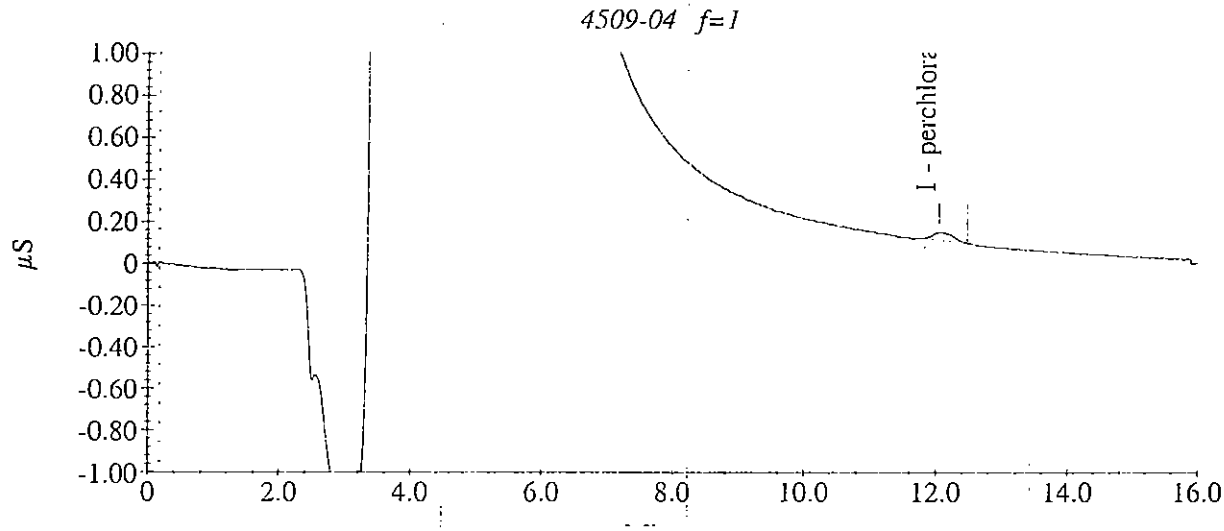
APCL Perchlorate Analysis Report

Sample Name : 4509-04 f=1
Data File Name : C:\DATA\03W3974K\4509-04_019.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 8:02:01 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.05	4.67	7922.25	361.32



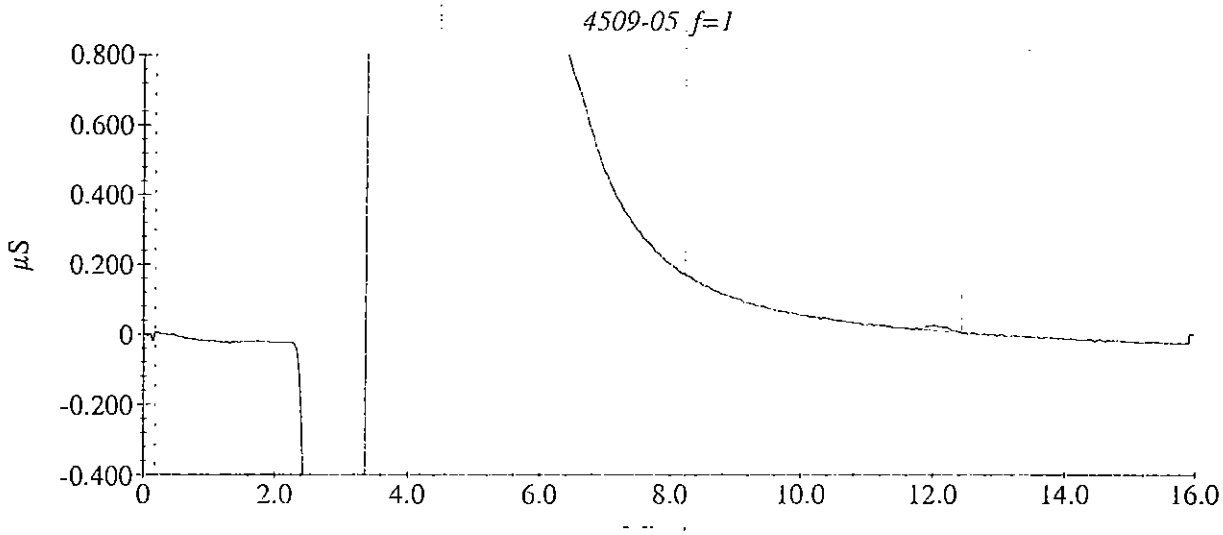
APCL Perchlorate Analysis Report

Sample Name : 4509-05 f=1
Data File Name : C:\DATA\03W3974K\4509-05_020.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 8:20:25 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.00	1.97	3350.30	143.26



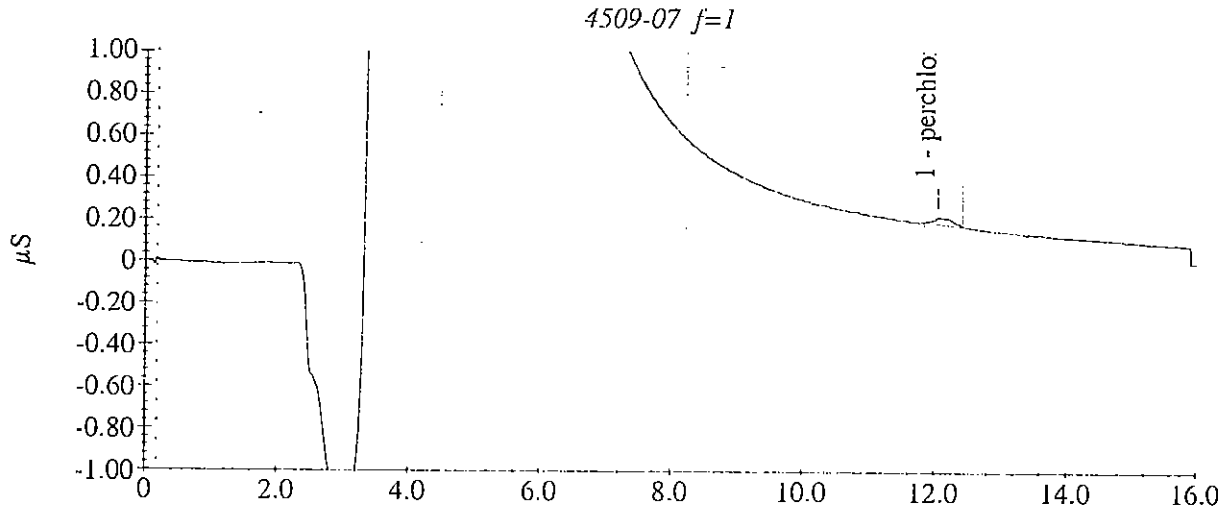
APCL Perchlorate Analysis Report

Sample Name : 4509-07 f=1
Data File Name : C:\DATA\03W3974K\4509-07_021.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 8:38:49 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.05	3.81	6473.30	316.10



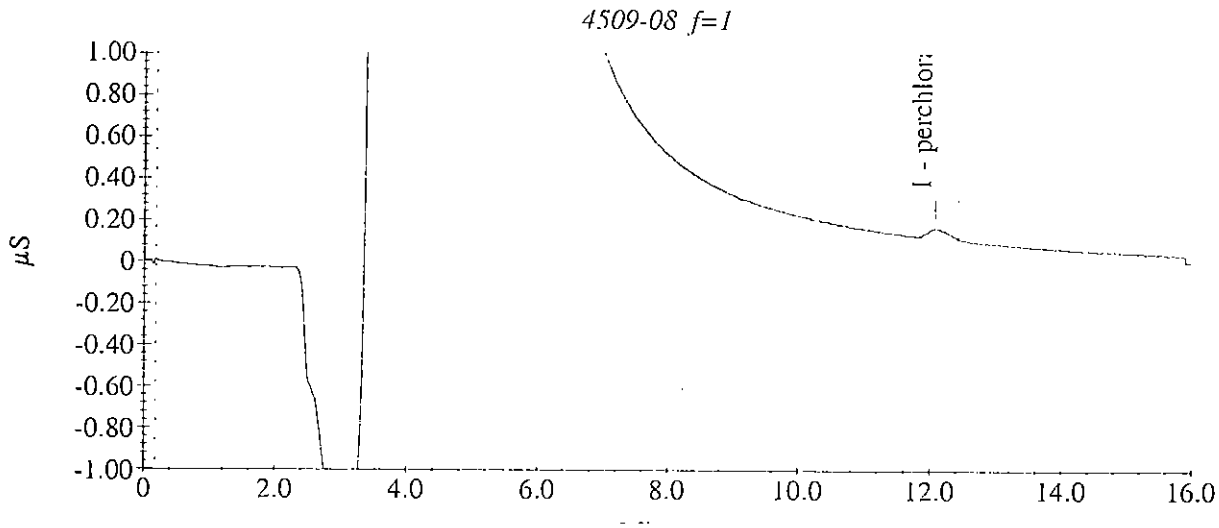
APCL Perchlorate Analysis Report

Sample Name : 4509-08 f=1
Data File Name : C:\DATA\03W3974K\4509-08_022.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 8:57:13 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.07	5.37	9111.40	446.90



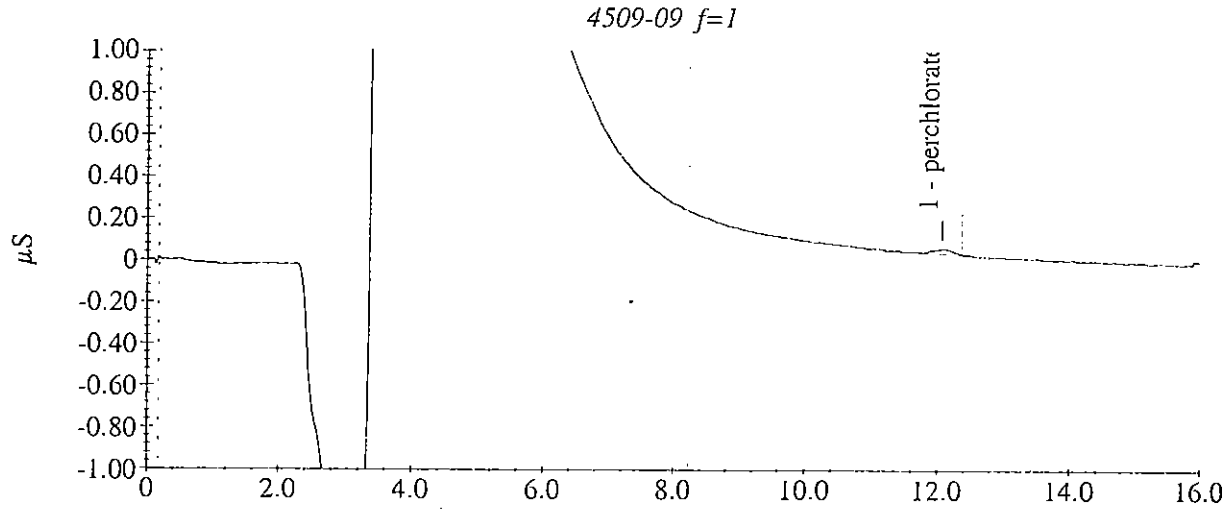
APCL Perchlorate Analysis Report

Sample Name : 4509-09 f=1
Data File Name : C:\DATA\03W3974K\4509-09_027.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 10:29:18 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.07	2.96	5017.45	255.36



Schedule File: C:\PeakNet\schedule\03w3974k.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
1	##03w3974kw ipc 25ppb w8032	Sample		e314-011.met	c:\data\03w3974k\w3974 ipc 25ppb	1	1	1
2	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w3974k\w3974 q01	1	1	1
3	lcs 25ppb w8087	Sample		e314-011.met	c:\data\03w3974k\w3974 l01	1	1	1
4	LCS 18PPB W8033a	Sample		e314-011.met	c:\data\03w3974k\w3974 j01	1	1	1
5	ICCS 4ppb w8088	Sample		e314-011.met	c:\data\03w3974k\w3974 iccs 4ppb	1	1	1
6	mb	Sample		e314-011.met	c:\data\03w3974k\w3974 k01	1	1	1
7	4480-01 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-01	1	1	1
8	4480-02 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-02	1	1	1
9	4480-03 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-03	1	1	1
10	4480-04 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-04	1	1	1
11	4480-07 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-07	1	1	1
12	4480-08 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-08	1	1	1
13	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w3974k\w3974 q02	1	1	1
14	ccb	Sample		e314-011.met	c:\data\03w3974k\w3974 k02	1	1	1
15	4480-09 f=1	Sample		e314-011.met	c:\data\03w3974k\4480-09			
16	4509-01 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-01	1	1	1
17	4509-02 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-02	1	1	1
18	4509-03 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-03	1	1	1
19	4509-04 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-04	1	1	1
20	4509-05 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-05	1	1	1
21	4509-07 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-07	1	1	1
22	4509-08 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-08	1	1	1
23	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w3974k\w3974 q03	1	1	1
24	ccb	Sample		e314-011.met	c:\data\03w3974k\w3974 k03	1	1	1
25	4509-08 ms 50ppb f=1 w8033b	Sample		e314-011.met	c:\data\03w3974k\w3974 m01	1	1	1
26	4509-08 msd 50ppb f=1 w8033b	Sample		e314-011.met	c:\data\03w3974k\w3974 n01	1	1	1
27	4509-09 f=1	Sample		e314-011.met	c:\data\03w3974k\4509-09	1	1	1
28	ccv 50ppb w8082	Sample		e314-011.met	c:\data\03w3974k\w3974 q04	1	1	1
29		Sample		aastopcl.met		1	1	1

Analyst Mei Wy

Date 8/6/03

Instrument IC-K

2361

Schedule File: C:\PeakNet\schedule\03w3974k.sch

Line	Int. Std.	Comment
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	
9	1	
10	1	
11	1	
12	1	
13	1	
14	1	
15		
16	1	
17	1	
18	1	
19	1	
20	1	
21	1	
22	1	
23	1	
24	1	
25	1	
26	1	
27	1	
28	1	
29	1	

Default Method Path: C:\PEAKNET\METHOD
Default Data Path: C:\DATA\03W3650K
Comment:

2362

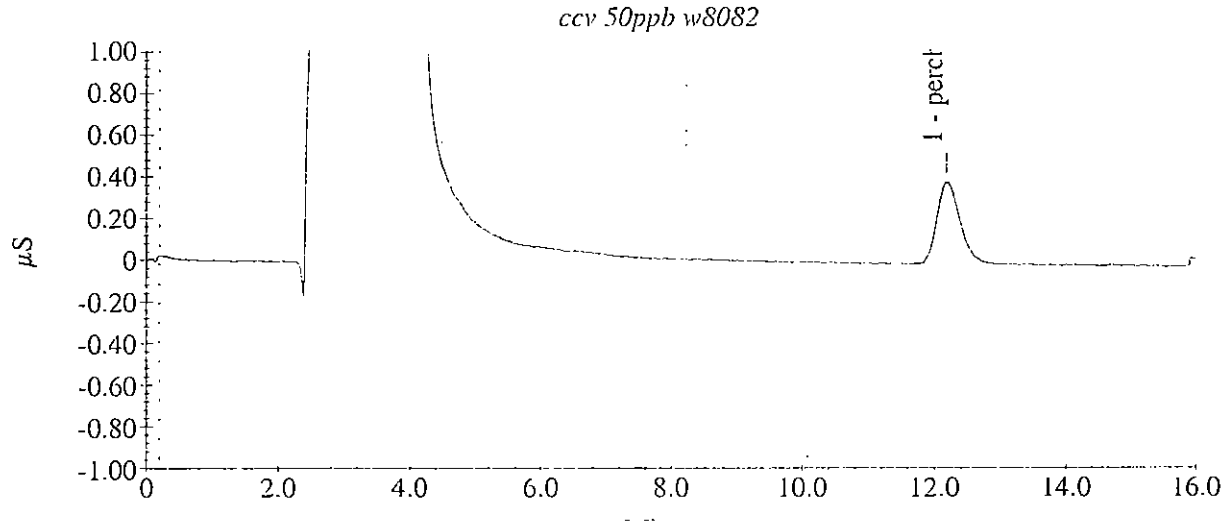
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w8082
Data File Name : C:\DATA\03W3974K\W3974 Q01_002.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 2:49:07 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.18	53.12	90155.00	3859.44



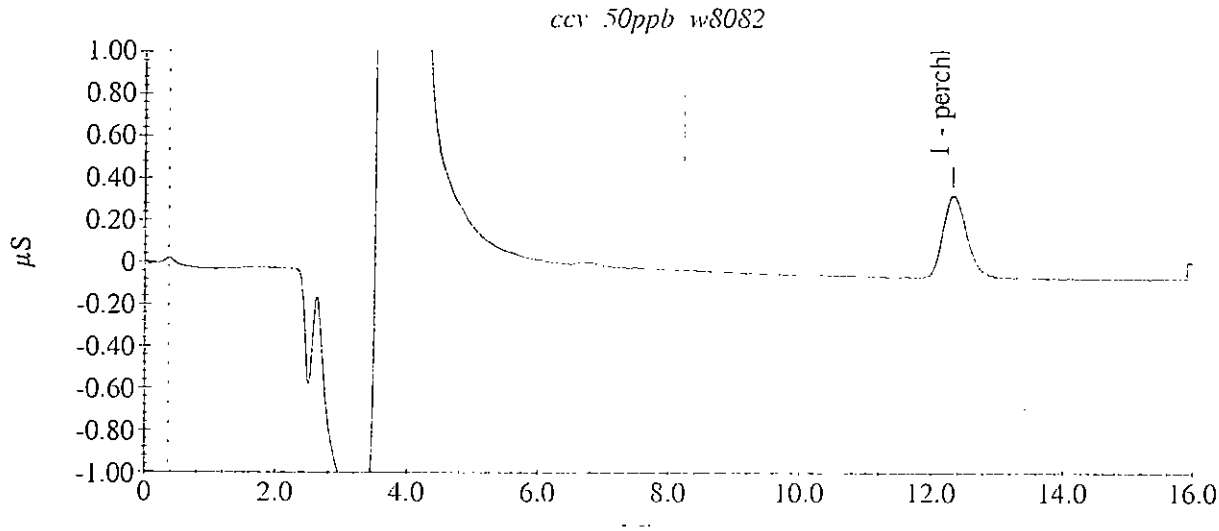
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w8082
Data File Name : C:\DATA\03W3974K\W3974 Q02_013.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 6:11:34 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.32	54.24	92051.70	3827.14



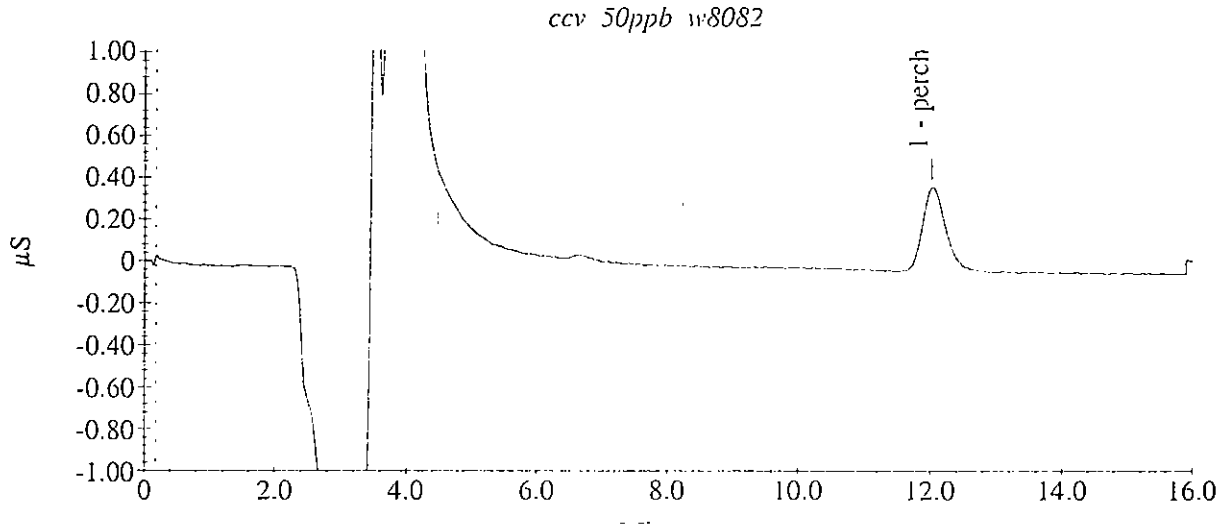
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w8082
Data File Name : C:\DATA\03W3974K\W3974 Q03_023.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 9:15:37 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.02	53.98	91611.40	3922.55



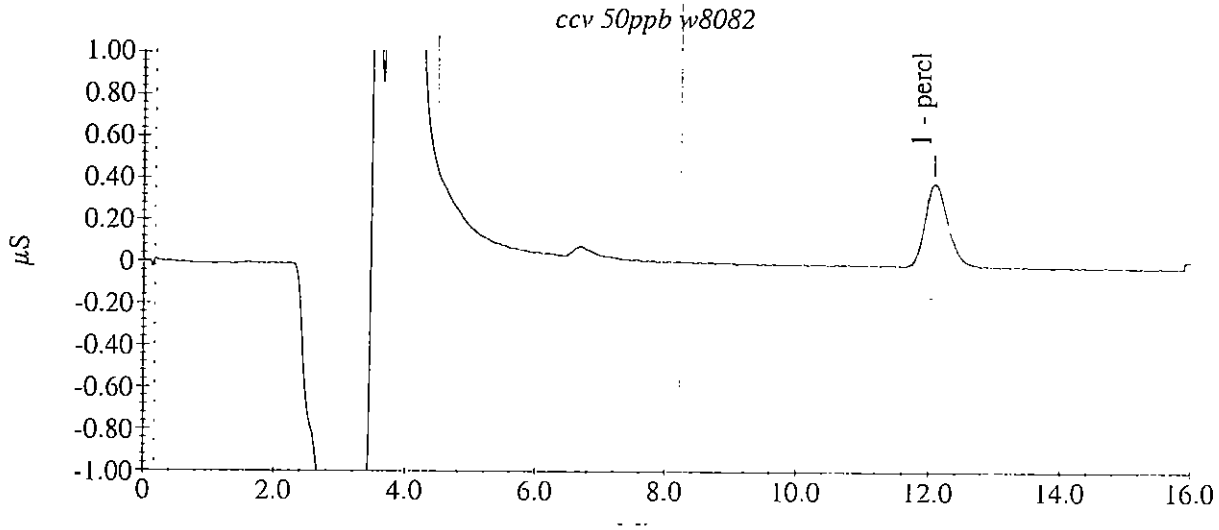
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w8082
Data File Name : C:\DATA\03W3974K\W3974 Q04_028.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 10:47:42 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.08	53.11	90125.30	3860.31



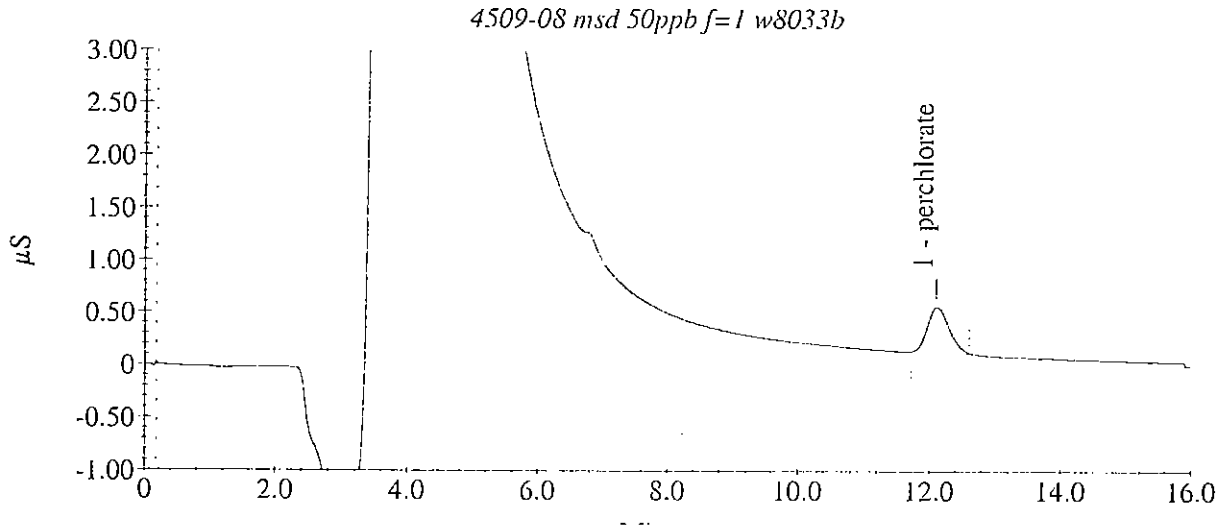
APCL Perchlorate Analysis Report

Sample Name : 4509-08 msd 50ppb f=1 w8033b
Data File Name : C:\DATA\03W3974K\W3974 N01_026.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 10:10:55 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.10	58.29	98914.80	4350.35



Rec 105.84%

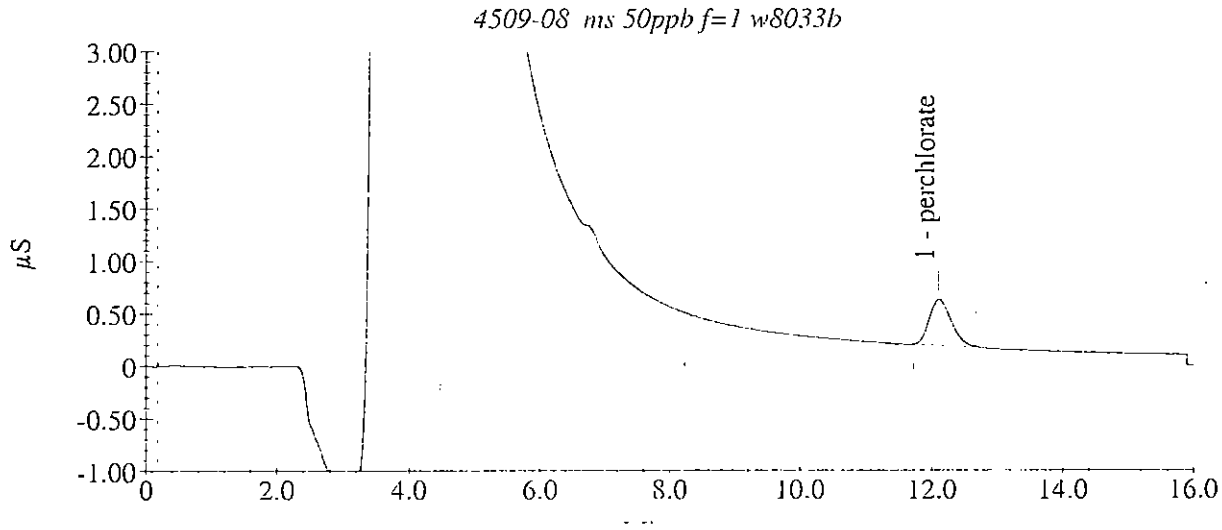
APCL Perchlorate Analysis Report

Sample Name : 4509-08 ms 50ppb f=1 w8033b
Data File Name : C:\DATA\03W3974K\W3974 M01_025.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 9:52:30 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.10	60.10	102000.80	4401.10



Rec 109.46%

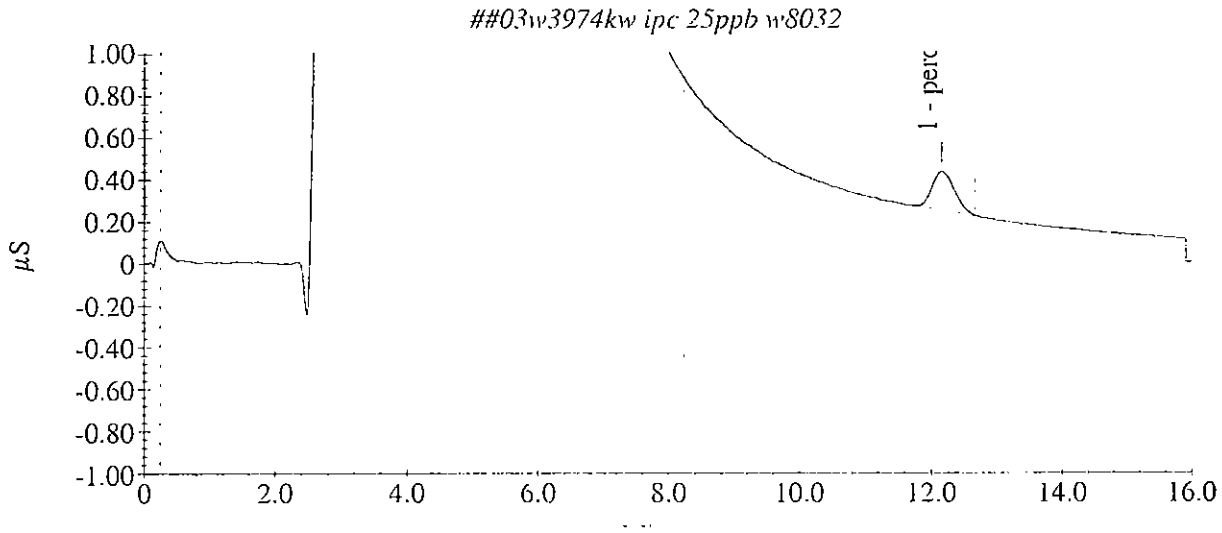
APCL Perchlorate Analysis Report

Sample Name : ##03w3974kw ipc 25ppb w8032
Data File Name : C:\DATA\03W3974K\W3974 IPC 25PPB_001.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 2:28:38 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.15	25.11	42613.70	1816.37



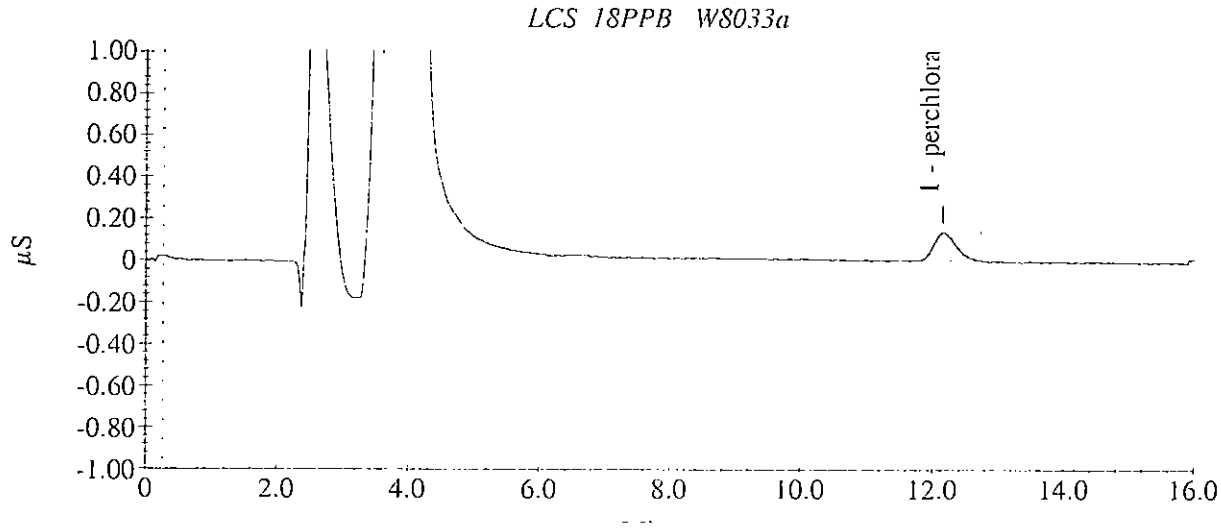
APCL Perchlorate Analysis Report

Sample Name : LCS 18PPB W8033a
Data File Name : C:\DATA\03W3974K\W3974 J01_004.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 3:25:57 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.15	17.72	30071.20	1319.69



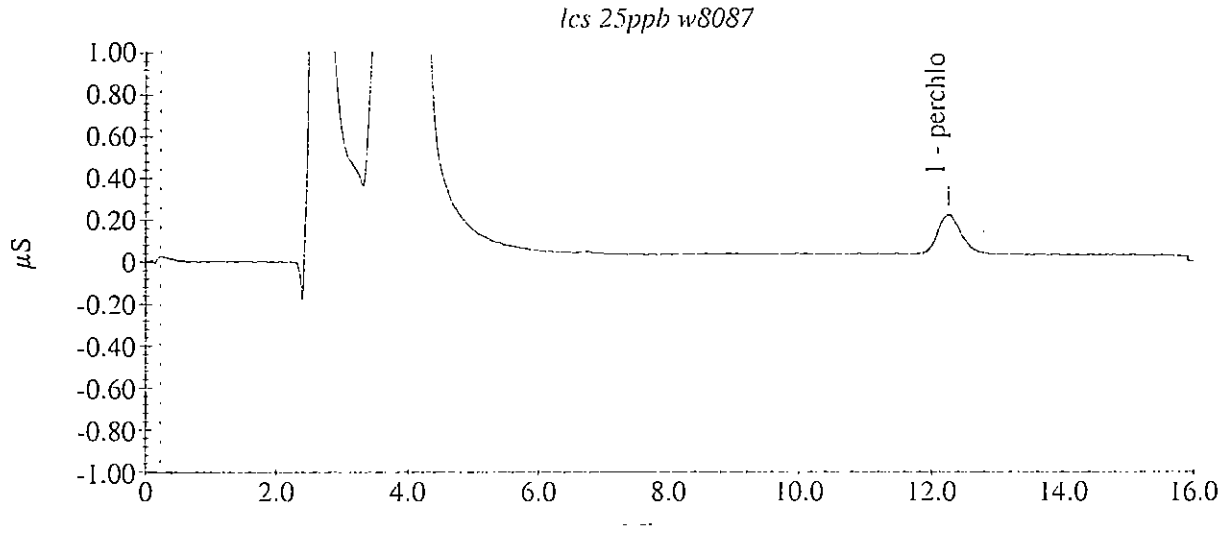
APCL Perchlorate Analysis Report

Sample Name : lcs 25ppb w8087
Data File Name : C:\DATA\03W3974K\W3974 L01_003.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 3:07:31 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.25	24.96	42359.70	1827.63



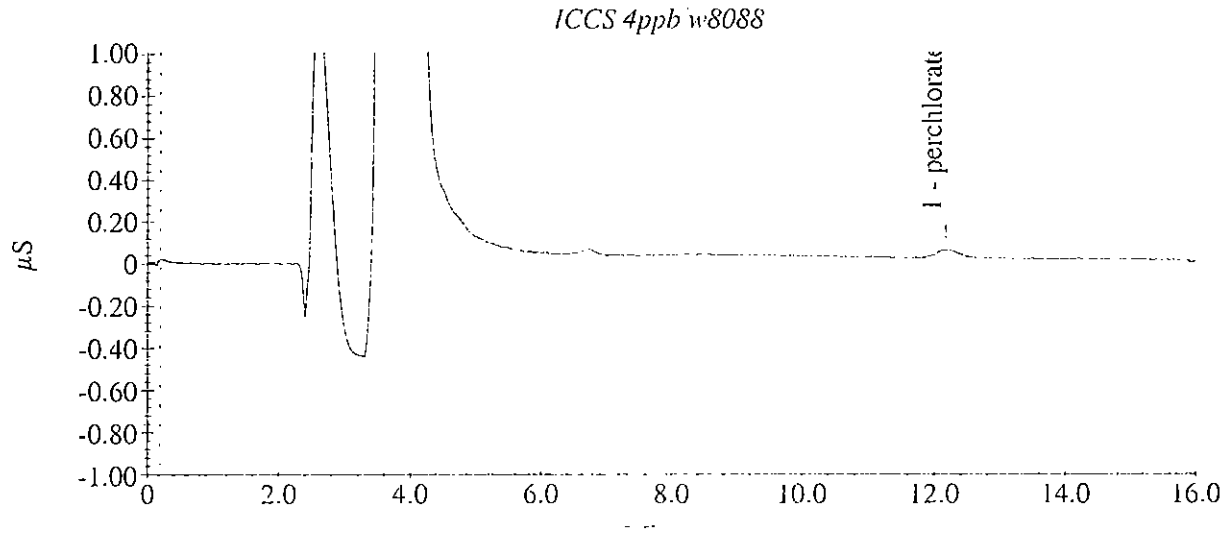
APCL Perchlorate Analysis Report

Sample Name : ICCS 4ppb w8088
Data File Name : C:\DATA\03W3974K\W3974 ICCS 4PPB_005.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 3:44:21 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
1	perchlorate	12.17	4.43	7510.50	334.46



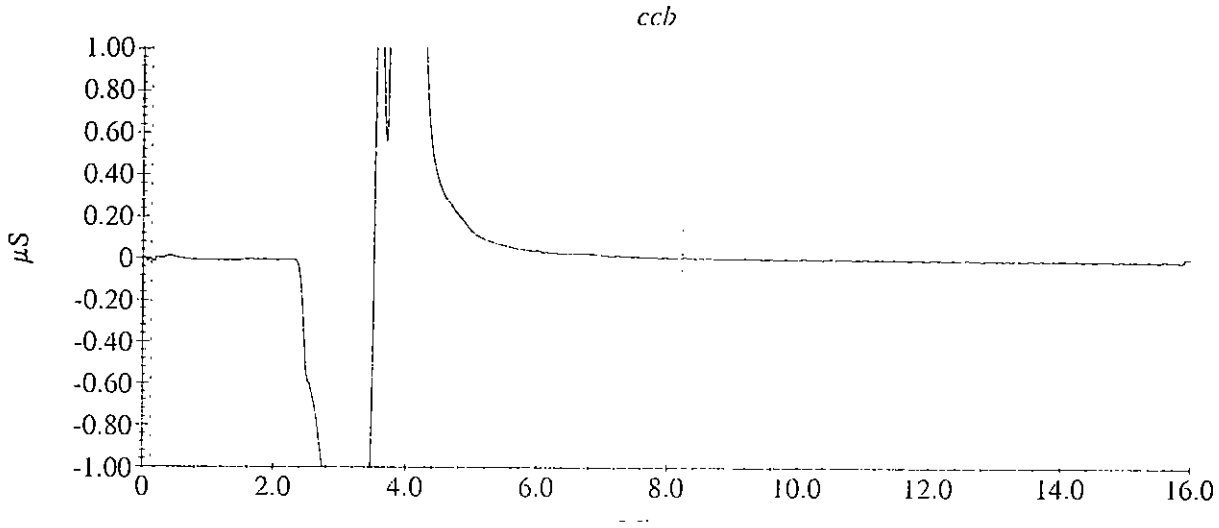
APCL Perchlorate Analysis Report

Sample Name : ccb
Data File Name : C:\DATA\03W3974K\W3974 K03_024.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 9:34:03 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height



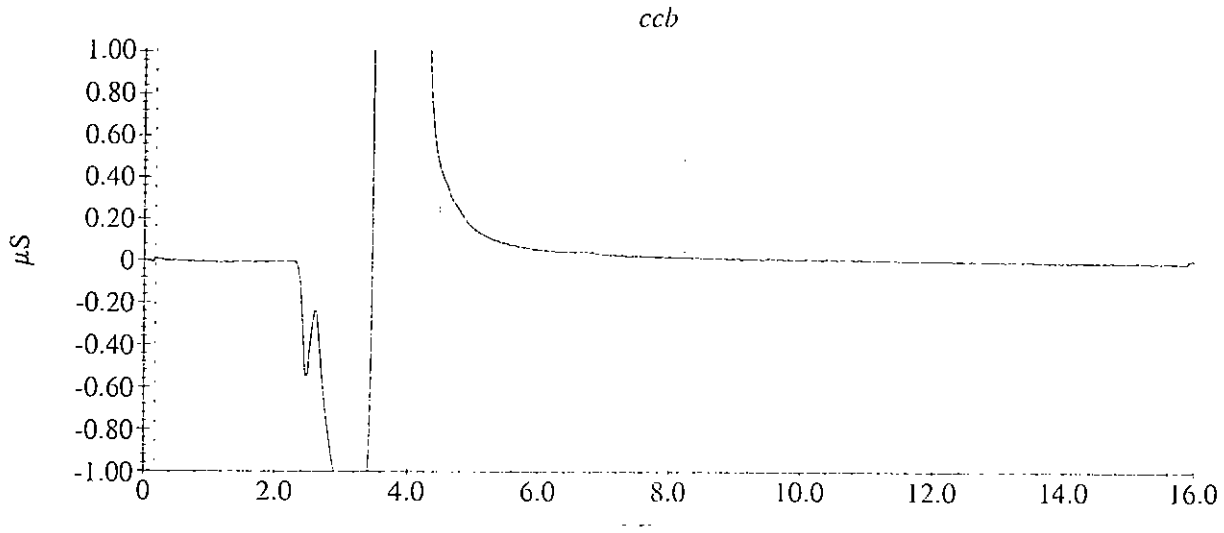
APCL Perchlorate Analysis Report

Sample Name : ccb
Data File Name : C:\DATA\03W3974K\W3974 K02_014.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 6:29:58 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height



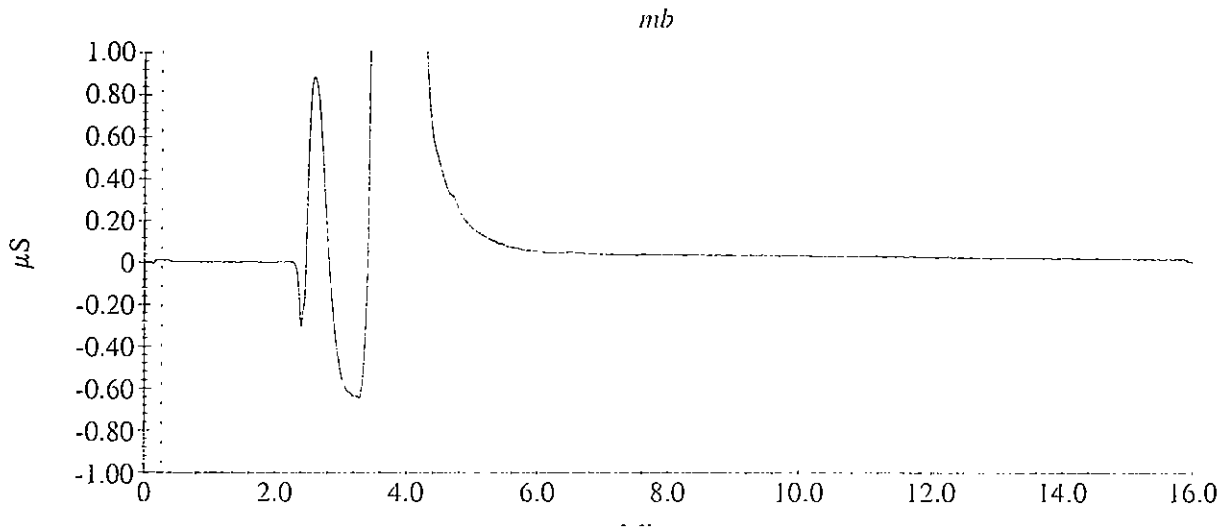
APCL Perchlorate Analysis Report

Sample Name : mb
Data File Name : C:\DATA\03W3974K\W3974 K01_006.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 08/06/2003 4:02:47 PM
System Operator : C.W and W.W
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height



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

Conductance (120.1) Worksheet

Batch # for reference Matrix: W

Test Date: 8/4/03 -6 Analyst: [illegible]

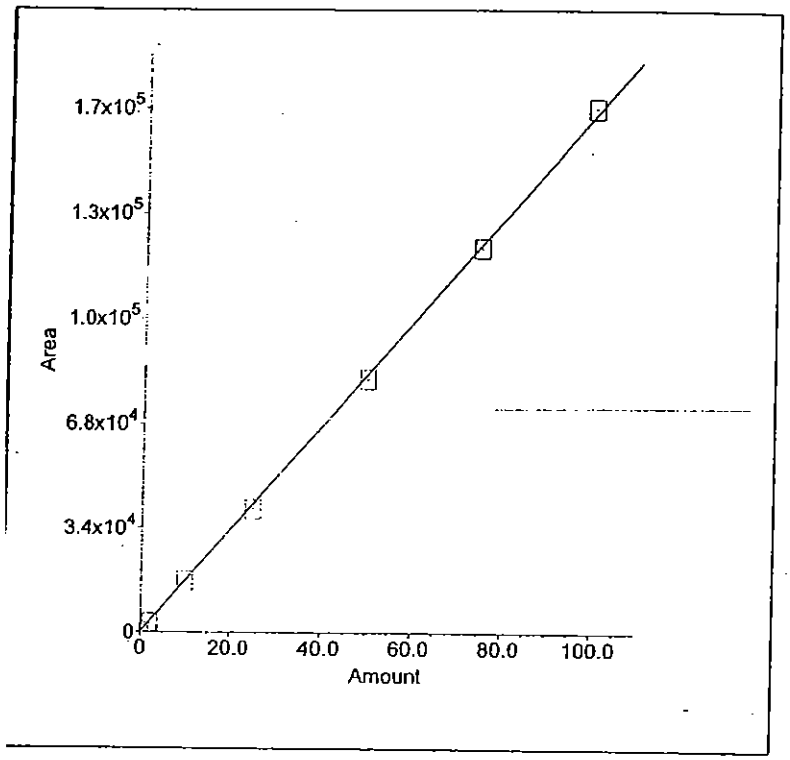
Cell Constant _____ Calibration STD: 0.0100M KCl

SOP: G-45

#	Sample ID	Treatment $V/X=f_0$	Dilution $V_f/V_i=f_1$	Temperature T, °C	$C_{25}=C_T f_1/[1-0.0191(25-T)]$ C_T, µmhos/cm	C_{25}, µmhos/cm	$\rho=1/C_{25}$ MΩ cm	Note & Anomaly
Cal.	Lot #:	-	-	25°C				C_{25}=1,413±20
MB		/ =	/ =					
1	4455-1	/ =	/ =			395		geofm for clay
2	-2	/ =	/ =			32.9		
3	-3	/ =	/ =			384		
4	-4	/ =	/ =			777		
5	-5	/ =	/ =			345		
6	-6	/ =	/ =			390		
7	-7	/ =	/ =			449		
8	-8	/ =	/ =			319		
9	-9	/ =	/ =			285		
10	4509-1	/ =	/ =			479		
11	-2	/ =	/ =			64.4		
12	-3	/ =	/ =			1030		
13	-4	/ =	/ =			1030		
14	-5	/ =	/ =			609		
15	-6	/ =	/ =			457		
16	-7	/ =	/ =			851		
17	-8	/ =	/ =			989		
18	-9	/ =	/ =			737		
19	-10	/ =	/ =			510		
20		/ =	/ =					
Dup.		/ =	/ =					

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

2377

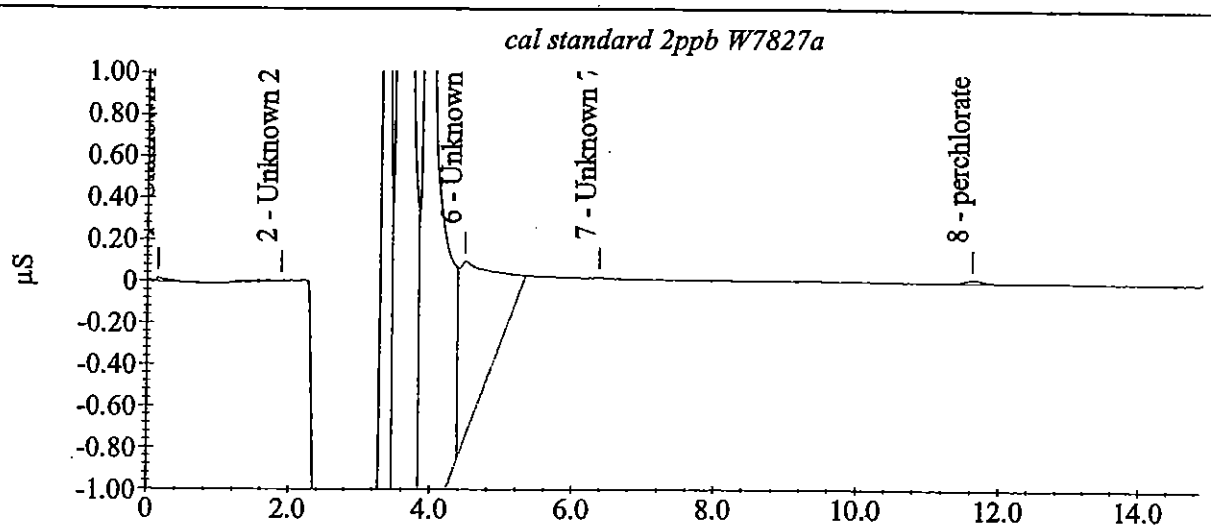
APCL Perchlorate Analysis Report

Sample Name : cal standard 2ppb W7827a
Data File Name : C:\DATA\E314-011\std-2pb_002.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 6:13:12 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
8	perchlorate	11.62	1.92	2910	164



APCL Perchlorate Analysis Report

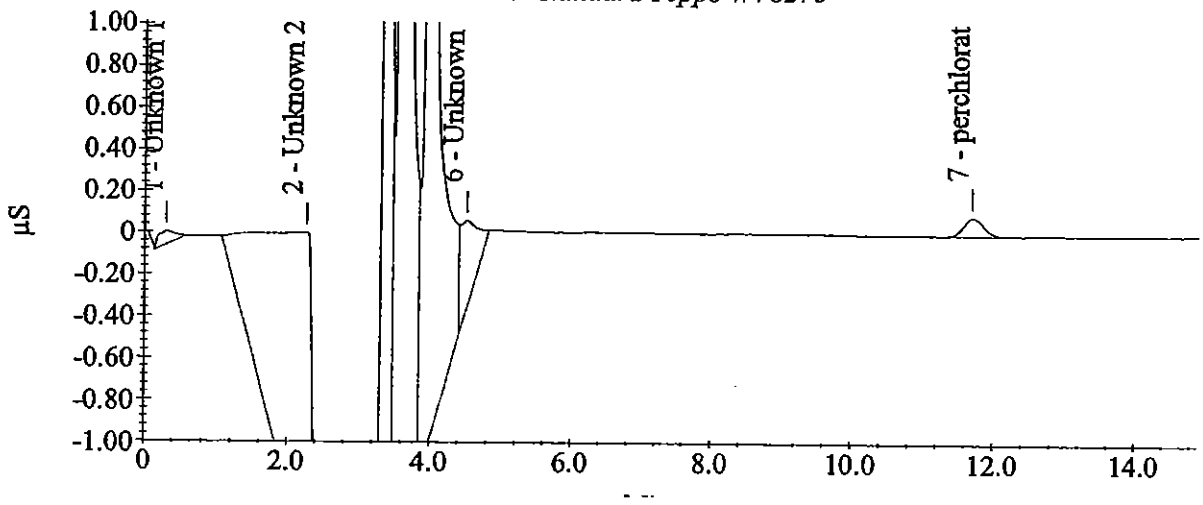
Sample Name : cal standard 10ppb W7827c
Data File Name : C:\DATA\E314-011\std-10pb_004.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 6:48:21 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
7	perchlorate	11.70	11.16	16917	879

cal standard 10ppb W7827c



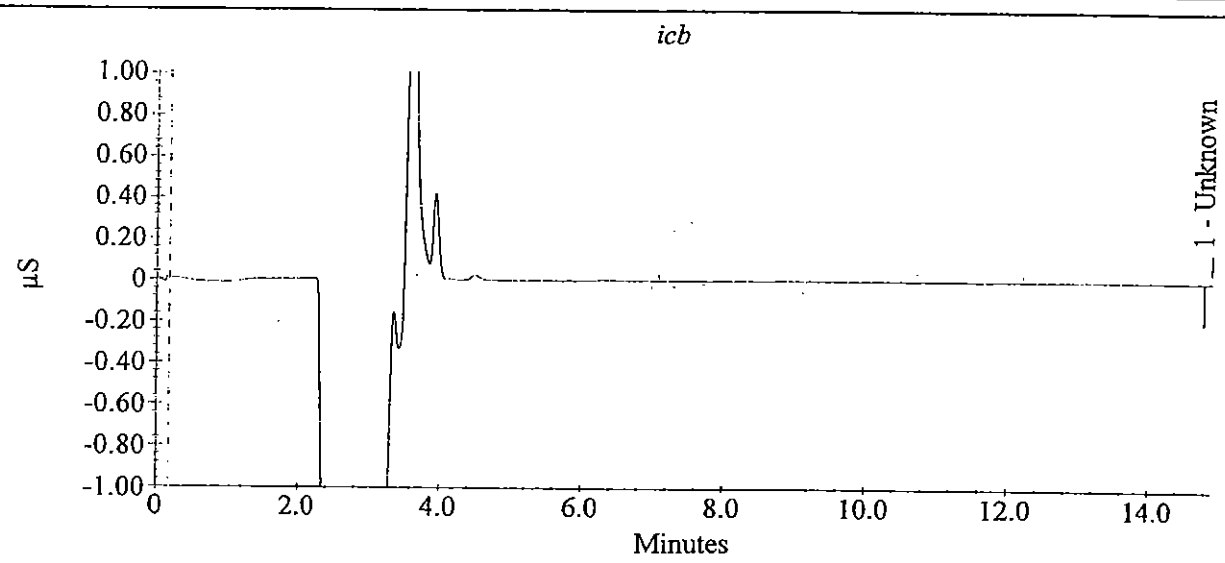
APCL Perchlorate Analysis Report

Sample Name : icb
Data File Name : C:\DATA\E314-011\ICB_010.DXD

Method File Name : c:\PeakNet\method\E314-011.met
Date Time Collected : 03/12/2003 8:33:51 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height



APCL Perchlorate Analysis Report

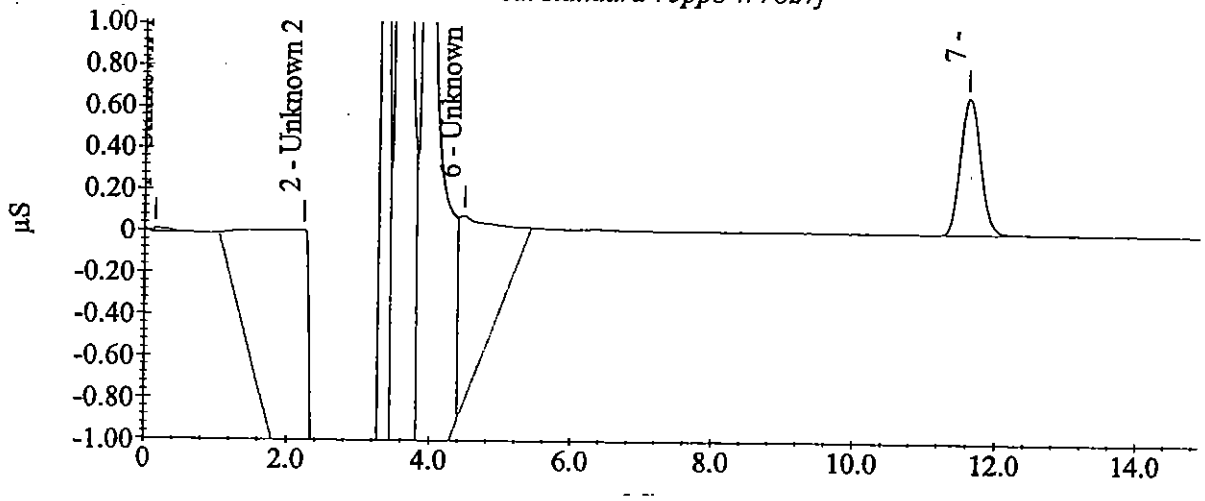
Sample Name : cal standard 75ppb W7827f
Data File Name : C:\DATA\E314-011\std-75pb_007.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 7:41:05 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
7	perchlorate	11.62	83.23	126224	6553

cal standard 75ppb W7827f



APCL Perchlorate Analysis Report

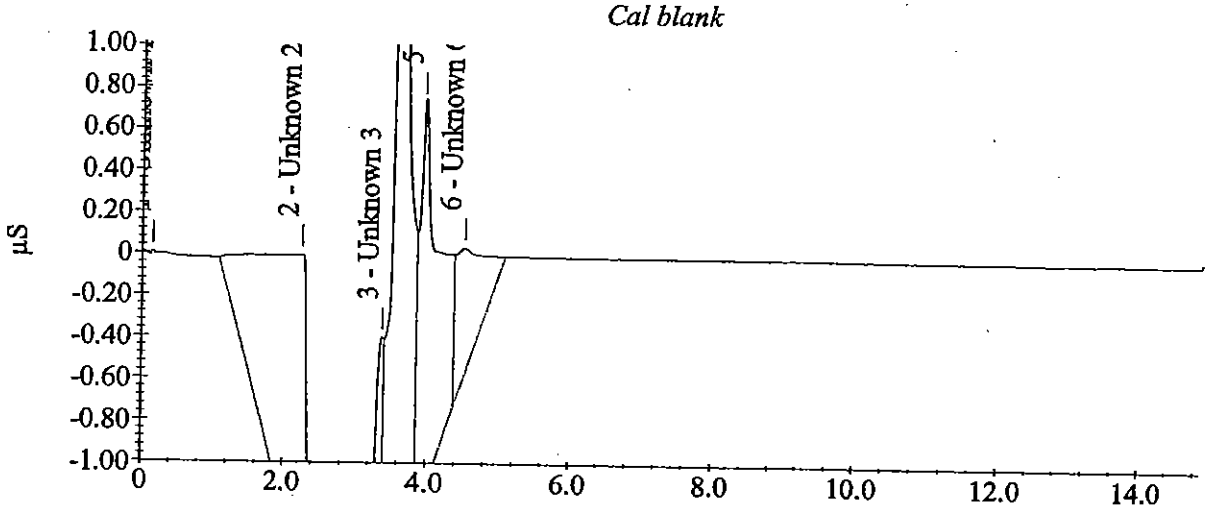
Sample Name : Cal blank
Data File Name : C:\data\E314-011\Mb_001.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 03/12/2003 5:55:39 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height

Cal blank



APCL Perchlorate Analysis Report

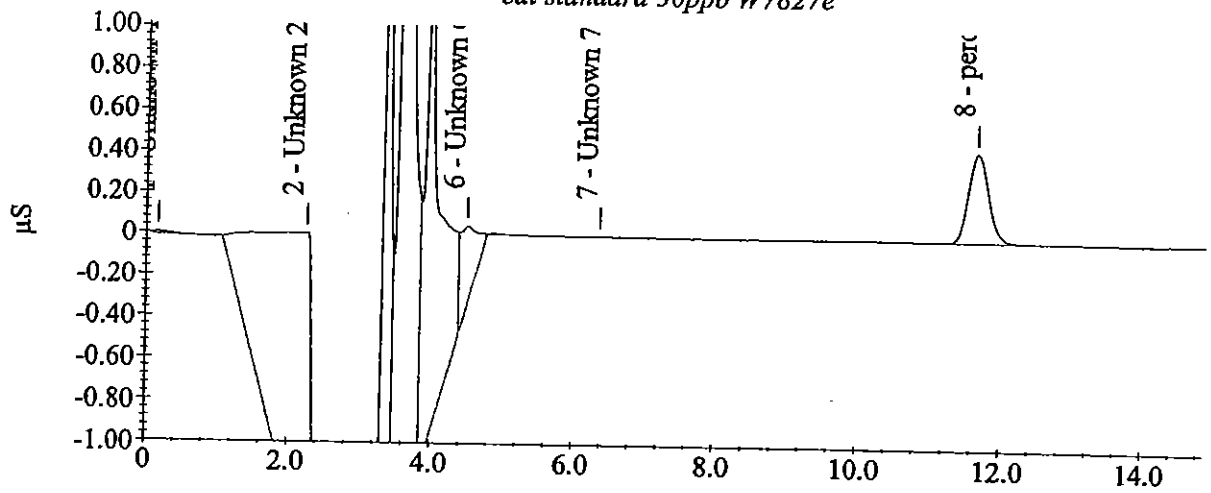
Sample Name : cal standard 50ppb W7827e
Data File Name : C:\DATA\E314-011\std-50pb_006.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 7:23:30 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
8	perchlorate	11.67	54.89	83240	4320

cal standard 50ppb W7827e



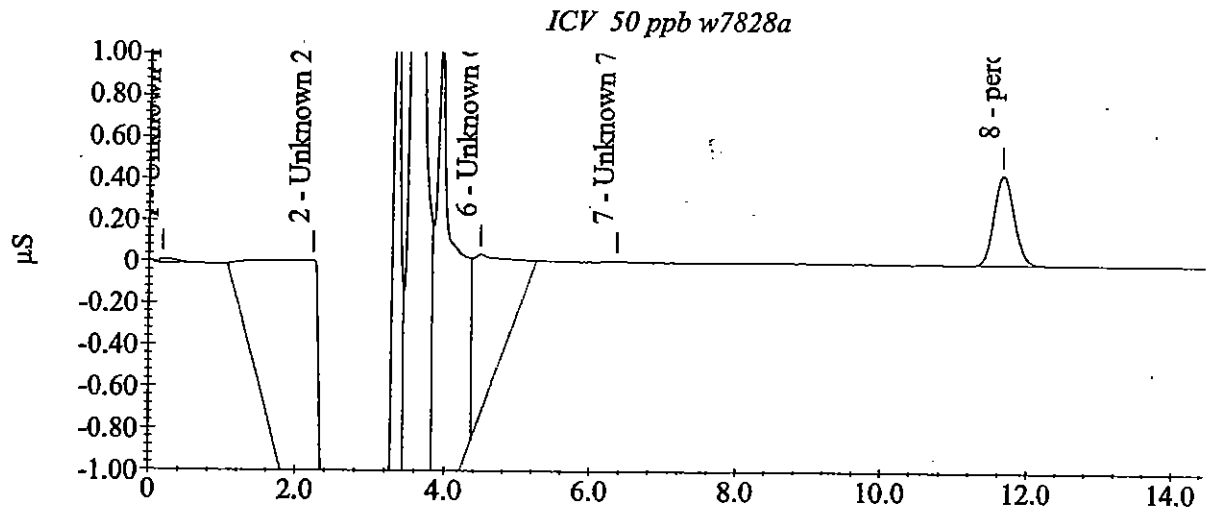
APCL Perchlorate Analysis Report

Sample Name : ICV 50 ppb w7828a
Data File Name : C:\DATA\E314-011\icv-50pb_009.DXD

Method File Name : C:\PEAKNET\METHOD\E314-011.met
Date Time Collected : 03/12/2003 8:16:15 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
8	perchlorate	11.65	49.49	83990	4321



APCL Perchlorate Analysis Report

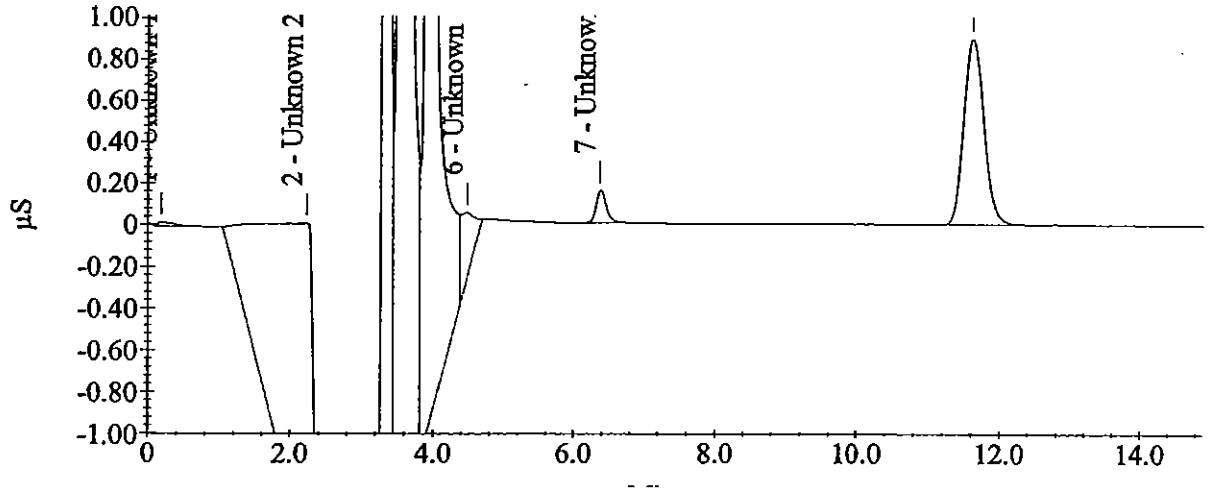
Sample Name : cal standard 100ppb W7827g
Data File Name : C:\DATA\E314-011\std-100pb_008.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 7:58:39 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
8	perchlorate	11.62	113.21	171686	89221

cal standard 100ppb W7827g



APCL Perchlorate Analysis Report

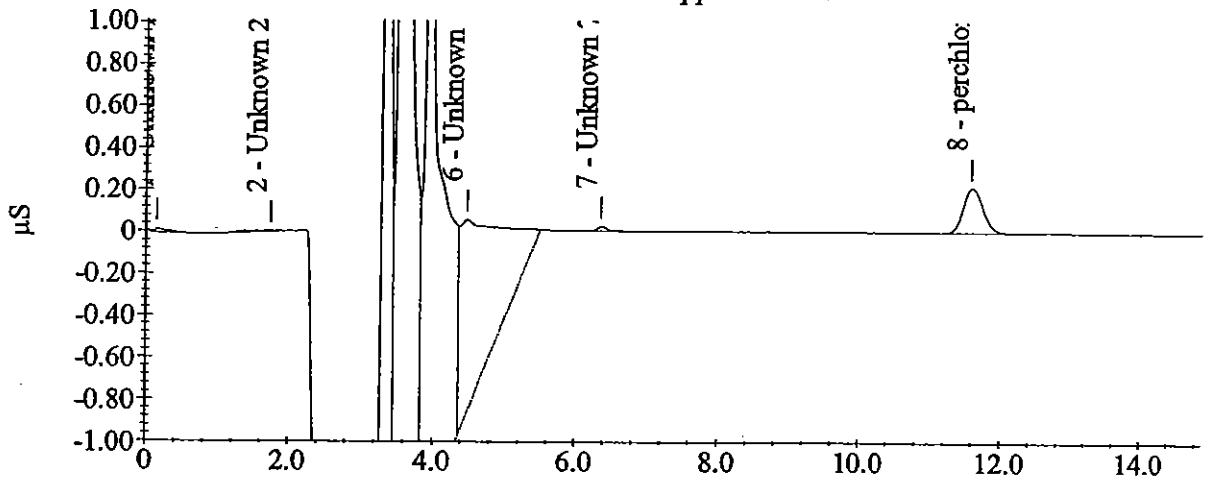
Sample Name : cal standard 25ppb W7827d
Data File Name : C:\DATA\E314-011\std-25pb_005.DXD

Method File Name : C:\PEAKNET\METHOD\e314-011.met
Date Time Collected : 03/12/2003 7:05:54 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

Peak #	Component Name	Retention Time	Amount (ppb)	Peak Area	Peak Height
8	perchlorate	11.60	26.84	40702	2125

cal standard 25ppb W7827d



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	Weight	Int. Std.	Comment
1	1	1	
2	1	1	
3	1	1	
4	1	1	
5	1	1	
6	1	1	
7	1	1	
8	1	1	
9	1	1	
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11	1	1	
12	1	1	
13	1	1	
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51	1	1	
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54	1	1	
55	1	1	
56	1	1	
57	1	1	
58	1	1	

Default Method Path: C:\PEAKNET\METHOD
Default Data Path: C:\DATA\03W1286K
Comment:
Remark:

Condition information:

. Column

Separator column: AS16 4mm

Guard column: AS16 4mm

. Eluent : NaOH 38mM

. Flow rate: 1.2mL/min

. Suppressor: ASRS-ULTRA 4mm

.Detector: CD20

.Analyst: Charles Wu and Wei Wang

.Date: 03 / 12 / 2003

.Instrument: IC-K DX-500 Dionex

APCL

Applied Physics & Chemistry Laboratory

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

Sep 02, 2003

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

Dear Brad,

This package contains samples in our Service ID 03-4425 and your project : 04-4428.10 JPL
Enclosed please find:

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

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

Respectfully submitted,

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

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

APCL Analytical Report

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

Service ID #: 801-034425
Collected by: Leo Williamson
Collected on: 07/31/03

Received: 07/31/03
Extracted: N/A
Tested: 08/01-07/03
Reported: 08/18/03

Sample Description: Water from MW-20.
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-2-3-Q03 03-04425-1	EB-3-7-31-03 03-04425-2	MW-20-1 03-04425-3	MW-20-2 03-04425-4
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	1.5J	<4
Dilution Factor				1	1	1	1
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
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
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
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
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	<0.5	<0.5	0.5J	2.2
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<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

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

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-2-3-Q03 03-04425-1	EB-3-7-31-03 03-04425-2	MW-20-1 03-04425-3	MW-20-2 03-04425-4
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<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	<0.5	<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

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-3 03-04425-5	MW-20-4 03-04425-6	MW-20-5 03-04425-7	TB-3-7-31-03 03-04425-8
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	<4	<4	<4	-
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
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
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
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	<0.5	<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	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<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

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

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-3 03-04425-5	MW-20-4 03-04425-6	MW-20-5 03-04425-7	TB-3-7-31-03 03-04425-8
ETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	3.1
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	2J
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	<0.5	<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

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: 03-4425

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

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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL/MW-20/04-4428.10

For GEOFON, Inc.

APCL Service No: 03-4425

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-20-5	03-04425-7
MW-20-4	03-04425-6
MW-20-3	03-04425-5
MW-20-2	03-04425-4
MW-20-1	03-04425-3
DUPE-2-3-Q03	03-04425-1
TB-3-7-31-03	03-04425-8
EB-3-7-31-03	03-04425-2

2. Analytical Methodology

Samples are analyzed by EPA methods

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

3. Holding Time

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

4. Preservation

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

5. Tele-log

None

6. Anomaly

None

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

Respectfully submitted,

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

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-20 0045

GEOFON'S LAB COORDINATOR: Brad Shojaee	LAB COORDINATOR'S PHONE: (909) 396-7662	LAB COORDINATOR'S FAX: (909) 396-1455	LABORATORY SERVICE ID: –	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON, INC.
PROJECT NAME: JPL GW MON. 3Q03	PROJECT LOCATION: MW-20 (Linden & Mt. View)	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. Robinson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave		ADDRESS: 22632 Golden Springs Dr. #270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA.	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA. 91765
PROJECT MANAGER: Asgar Faheem	PROJECT MANAGER'S PHONE: (909) 396-7662	PROJECT MANAGER'S FAX: (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorate)	7196 (Hex Chrome)	200.8 (Total Chrome)					Comments
1	MW-20-5	H_2O	7/31/03	0832	HCl HNO_3 None	3/1/1	III	NORMAL	X	X	X	X					
2	MW-20-4			0935					X	X	X	X					2nd MS/MSD
3	MW-20-3			1113					X	X	X	X					4125
4	MW-20-2			1203					X	X	X	X					
5	MW-20-1			1230					X	X	X	X					314.0+7196 bottle 3/4 full
6	~~MW-20~~ Dupe-2-3-Q03			1138			VI		X	X	X	X					
7	TB-3-7-31-03			–		3	III		X								
8	EB-3-7-31-03			0849		5			X	X	X	X					
9																	
10									7.31.03								

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

SAMPLE'S CONDITION UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME
Leo W. Williamson	[signature]	7-31-03	17:51
[signature]	[signature]	7-31-03	17:55

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

Applied P & Ch Laboratory
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Sample Receiving Checklist

APCL ServiceID: 4425 **Client Name/Project:** Geolon

1. Sample Arrival

Date/Time Received 7/31/03 1855 Date/Time Opened 7/31/03 1855 By (name): Kenny Chen

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl Scott B.

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 3.7

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

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

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

5. Holding-time Requirements

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

6. Sample Container Condition

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

7. Turn Around Time

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

8. Sample Matrix

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

9. Pre-Login Check List Completed & OK?

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

Received/Checked by: Kenny Chen Printed: 31 Jul 2003 7:31 a.m.

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

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
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Sample Login: Check List

03-04425 (0470_ 158) (2202777_ 158)

08/01/03

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:	*07/31/03 1855*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.7 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-20-5	VOC	03-04425-7-α	W	V	C	40	3	G	073103	N	0	7	☐
	MW-20-5	CRVI/Perch	03-04425-7-β	W	P		500	1	G	073103	N	0	7	☐
2	MW-20-4	VOC	03-04425-6-α	W	V	C	40	6	G	073103	N	0	7	☐
	MW-20-4	CRVI/Perch	03-04425-6-β	W	P		500	2	G	073103	N	0	7	☐
3	MW-20-3	VOC	03-04425-5-α	W	V	C	40	3	G	073103	N	0	7	☐
	MW-20-3	CRVI/Perch	03-04425-5-β	W	P		500	1	G	073103	N	0	7	☐
4	MW-20-2	VOC	03-04425-4-α	W	V	C	40	3	G	073103	N	0	7	☐
	MW-20-2	CRVI/Perch	03-04425-4-β	W	P		500	1	G	073103	N	0	7	☐
5	MW-20-1	VOC	03-04425-3-α	W	V	C	40	3	G	073103	N	0	7	☐
	MW-20-1	CRVI/Perch	03-04425-3-β	W	P		500	1	G	073103	N	0	7	☐
6	DUPE-2-3-Q03	VOC	03-04425-1-α	W	V	C	40	3	G	073103	N	0	7	☐
	DUPE-2-3-Q03	CRVI/Perch	03-04425-1-β	W	P		500	1	G	073103	N	0	7	☐
7	TB-3-7-31-03	VOC	03-04425-8	W	V	C	40	3	G	073103	N	0	7	☐
8	EB-3-7-31-03	VOC	03-04425-2-α	W	V	C	40	3	G	073103	N	0	7	☐
	EB-3-7-31-03	CRVI/Perch	03-04425-2-β	W	P		500	1	G	073103	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
- ☐ *200.7/6010B* Potassium, K, by ICP
- ☐ *200.7/6010B* Magnesium, Mg, by ICP
- ☐ *200.7/6010B* Iron, Fe, by ICP
- ☐ *206.2/7060A* Arsenic, As, by GFAA
- ☐ *8270-SIM* 1,4-Dioxane

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

2005

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	08/07/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03G3595-MB-01	Received Date:	08/07/2003
Sample ID:	**03G3595-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	13:17
Data File Name:	G3595K01	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	110
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	105
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	98
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	96
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

2007

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

2008

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595K01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 13:17 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:12 2003
Print Time : Fri Aug 08 13:12 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	719.160	10.00		0.02	
47	47	Chlorobezene-d5	11.55	11.54	0.000	117	82	584.637	10.00		0.00	
62	62	1,4-Dichlorobenze	13.84	13.84	0.000	152	150	301.712	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	376.521	21.01	21.0	105.04%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	319.939	22.04	22.0	110.21%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1433.527	19.46	19.5	97.28%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	478.479	19.17	19.2	95.87%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
91	91	Acetonitrile X10	4.08	4.04	0.005	41	40	1.150	0.36	0.4	6	#
95	95	Tert butyl alcoho	4.48	4.47	0.002	59	57	0.101	24.27	24.3	100	#
<<< I2 : ISTD ID = 47 >>>												
54	54	MIBK	9.91	9.76	0.013	43	58	4.438	0.52	0.5	1	#
57	57	2-hexanone X5	10.77	10.75	0.002	43	58	2.469	0.43	0.4	88	

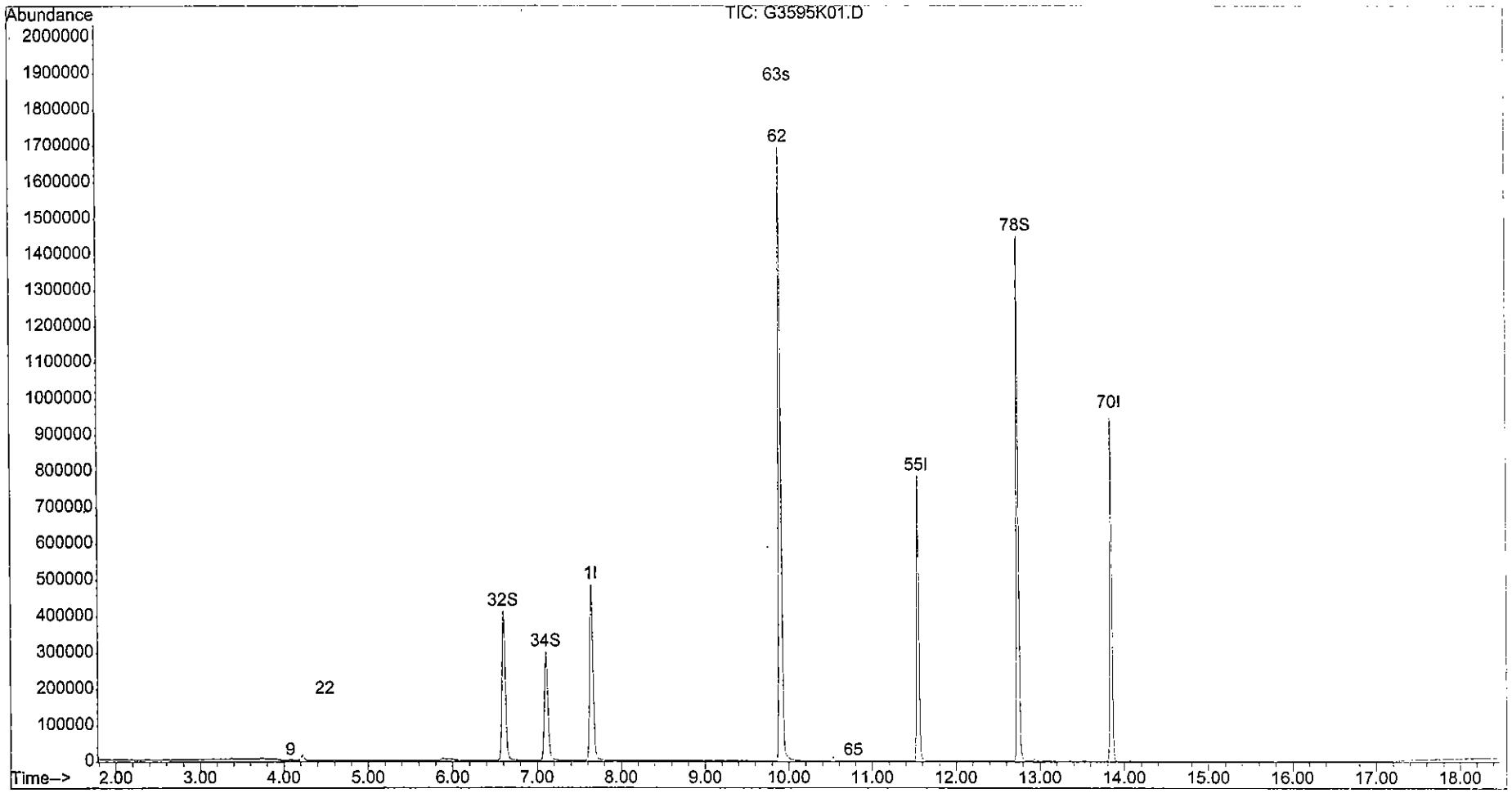
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

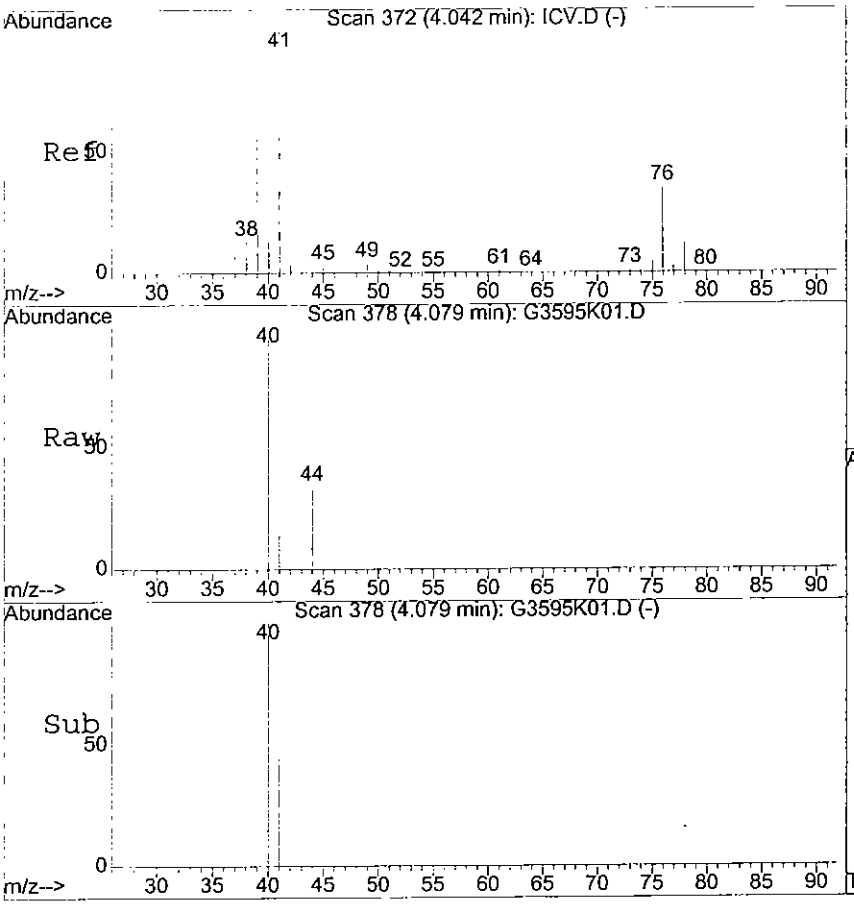
Quantitation Report: **Applied P &Ch Lab** EPA 524.2

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595K01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 13:17 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:12 2003
Print Time : Fri Aug 08 13:12 2003
Miscleneous :

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

2009

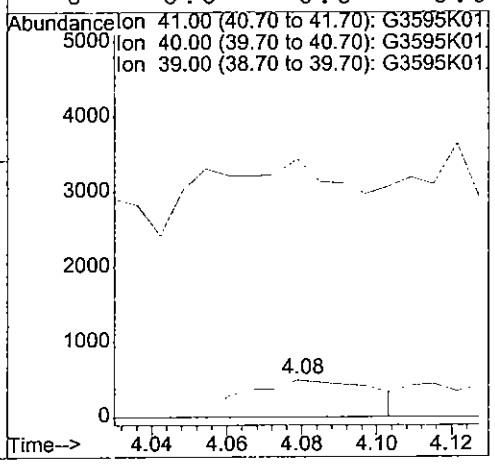


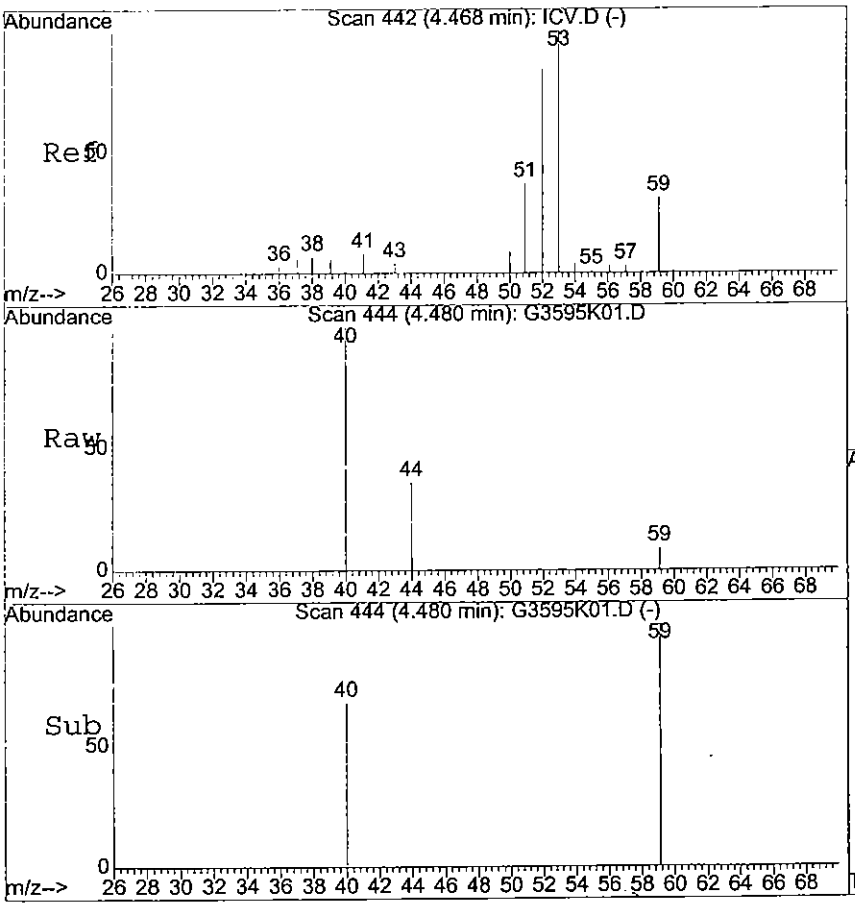


#9
91 Acetonitrile X10
Concen: 0.36 ppb
RT: 4.08 min Scan# 378
Delta R.T. 0.04 min
Lab File: G3595K01.D
Acq: 7 Aug 2003 1:17 pm

Tgt Ion:41 Resp: 1150

Ion	Ratio	Lower	Upper
41	100		
40	74.7	0.0	33.0#
39	0.0	44.6	84.6#
0	0.0	0.0	0.0

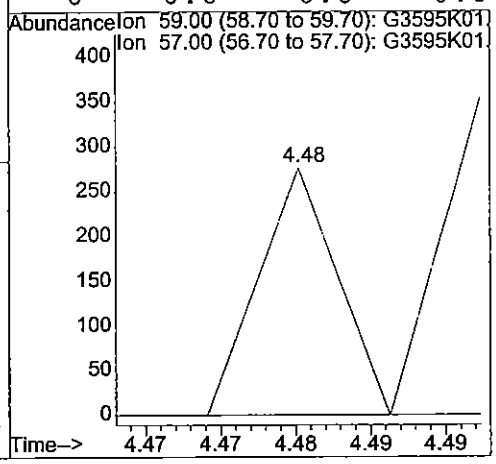


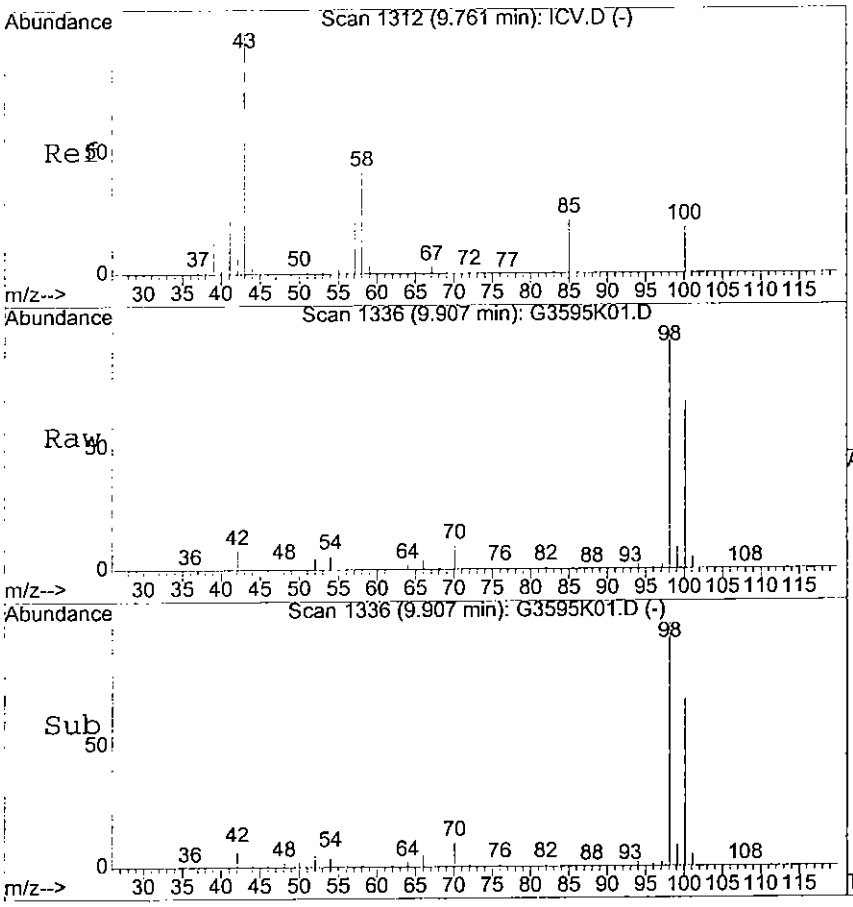


#22
95 Tert butyl alcoholx10
Concen: 24.27 ppb
RT: 4.48 min Scan# 444
Delta R.T. 0.01 min
Lab File: G3595K01.D
Acq: 7 Aug 2003 1:17 pm

Tgt Ion:59 Resp: 101

Ion	Ratio	Lower	Upper
59	100		
57	0.0	0.0	0.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

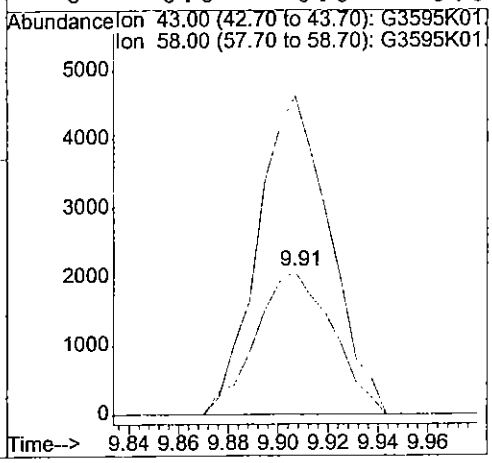


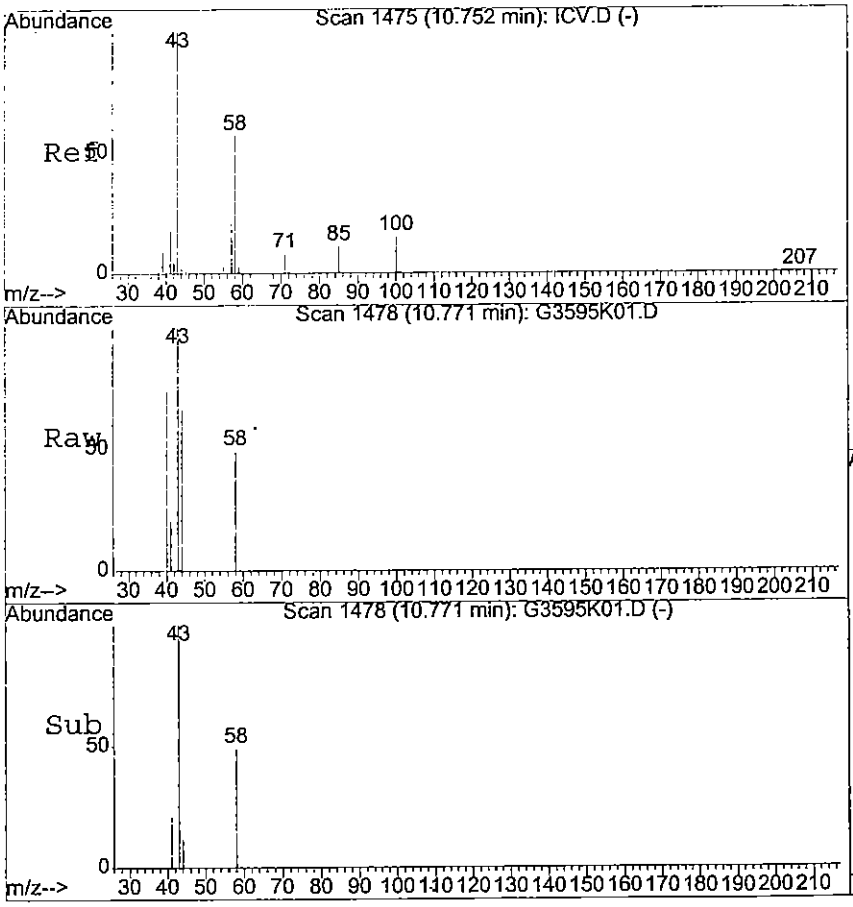


#62
54 MIBK
Concen: 0.52 ppb
RT: 9.91 min Scan# 1336
Delta R.T. 0.15 min
Lab File: G3595K01.D
Acq: 7 Aug 2003 1:17 pm

Tgt Ion:43 Resp: 4438

Ion	Ratio	Lower	Upper
43	100		
58	222.8	20.1	60.1#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

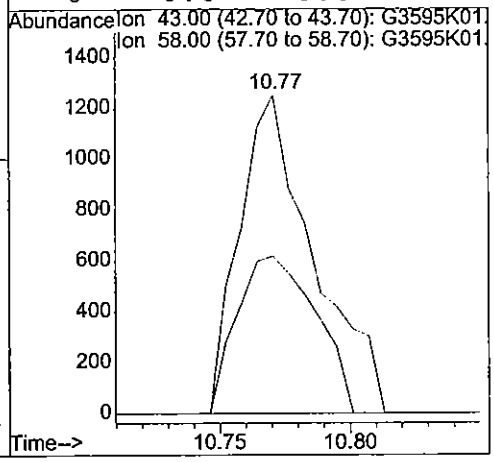




#65
57 2-hexanone X5
Concen: 0.43 ppb
RT: 10.77 min Scan# 1478
Delta R.T. 0.02 min
Lab File: G3595K01.D
Acq: 7 Aug 2003 1:17 pm

Tgt Ion:43 Resp: 2469

Ion	Ratio	Lower	Upper
43	100		
58	49.4	38.4	78.4
0	0.0	0.0	0.0
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:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-1	Received Date:	07/31/2003
Sample ID:	**DUPE-2-3-Q03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	16:49
Data File Name:	4425-01	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N) N	

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	112
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	109
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	94
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	95
3	FLUOROBENZENE	462-06-6	50-200	91
# 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

2014

Data Filename: C:\MSDCHEM\1\DATA\03G3595\4425-01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 16:49 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 11:34 2003
Print Time : Fri Aug 08 11:34 2003
Miscleneous :

Sample : f=1 dup
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	694.166	10.00		0.02	
47	47	Chlorobezene-d5	11.55	11.54	0.000	117	82	563.772	10.00		0.00	
62	62	1,4-Dichlorobenze	13.85	13.84	0.000	152	150	296.621	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	375.583	21.71	21.7	108.55%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	313.800	22.40	22.4	111.98%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1397.217	19.66	19.7	98.32%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	469.795	19.15	19.1	95.74%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
95	95	Tert butyl alcoho	4.50	4.47	0.005	59	57	0.326	24.51	~~24.5~~	~~100~~	#
92	92	Nitro Methane(x10	5.89	5.80	0.011	61	46	4.543	11.78	~~11.8~~	~~33~~	#
<<< I2 : ISTD ID = 47 >>>												
54	54	MIBK	9.91	9.76	0.013	43	58	3.948	0.48	~~0.5~~	~~1~~	#

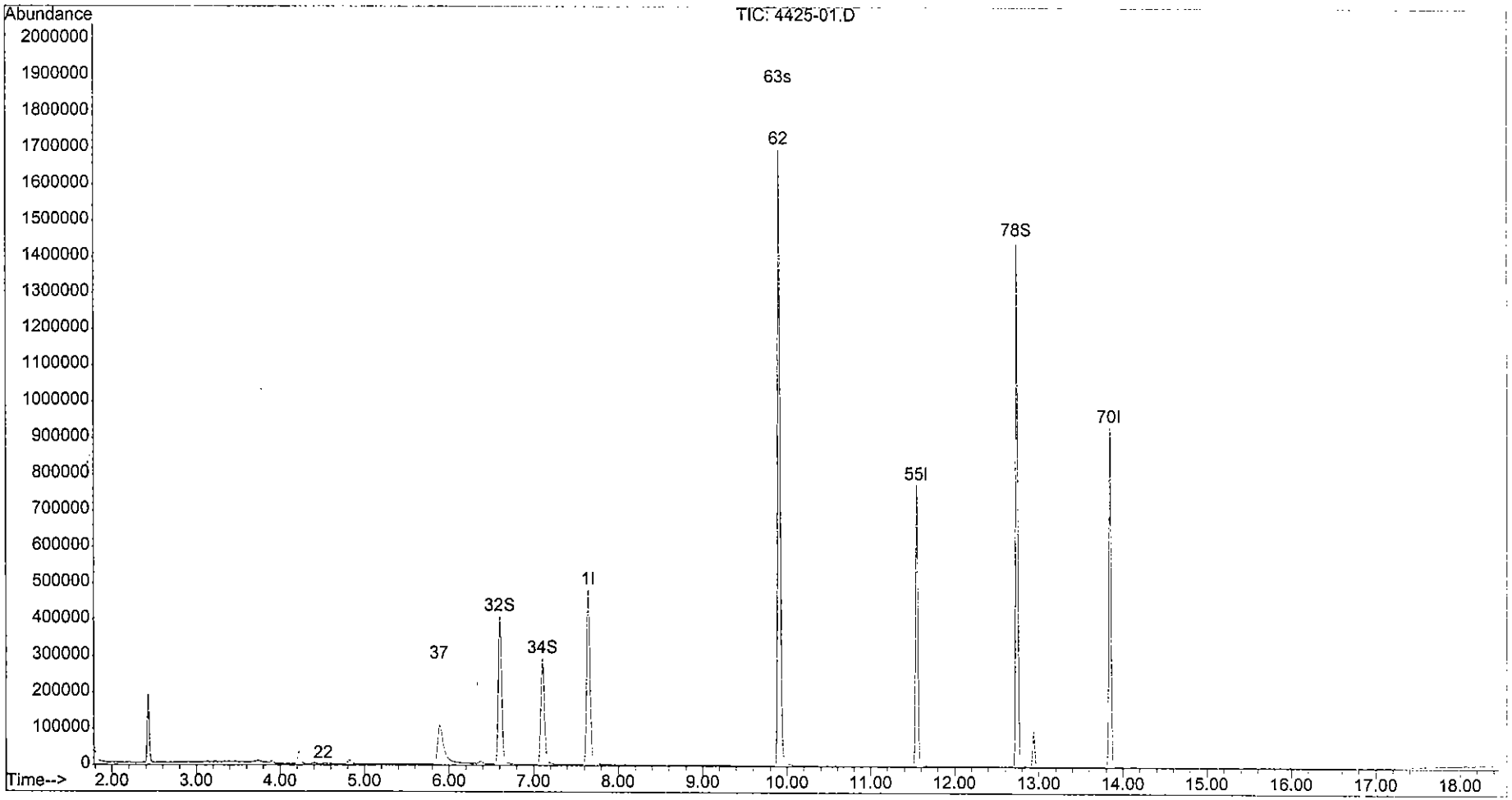
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

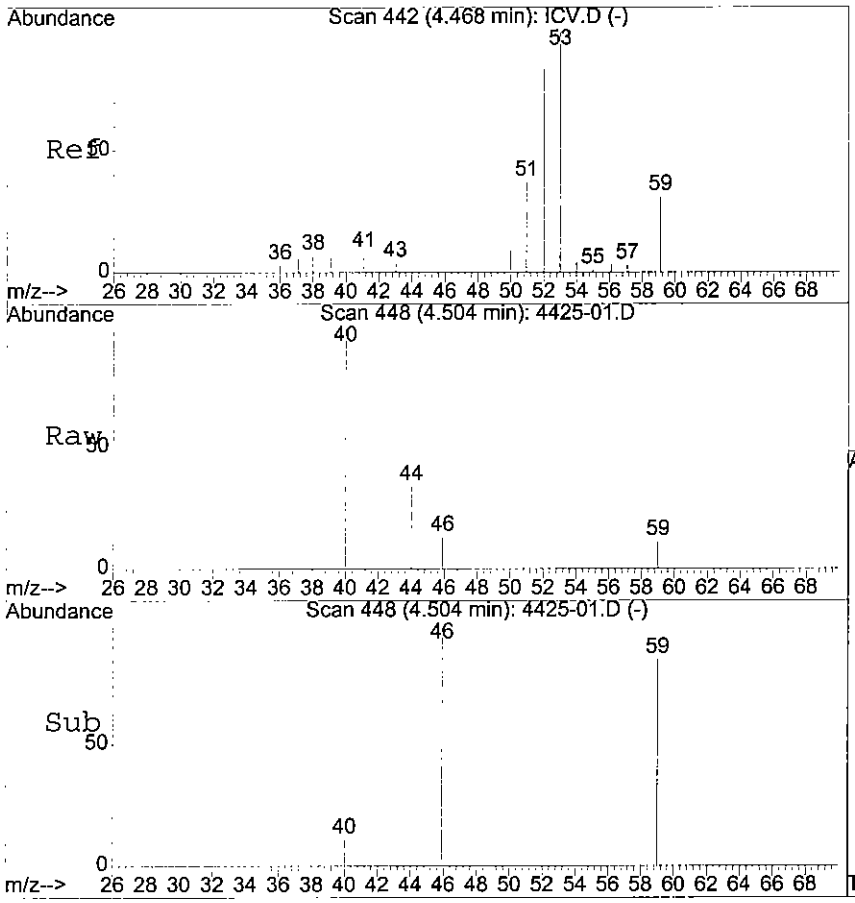
Quantitation Report: **Applied P &Ch Lab** EPA 524.2

Data Filename: C:\MSDCHEM\1\DATA\03G3595\4425-01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 16:49 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 11:34 2003
Print Time : Fri Aug 08 11:34 2003
Miscleneous :

Sample : f=1 dup
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

2015

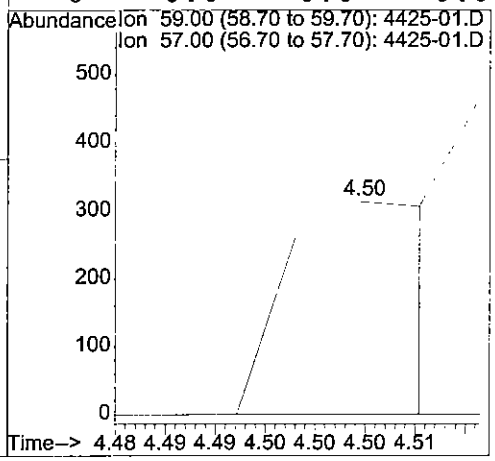


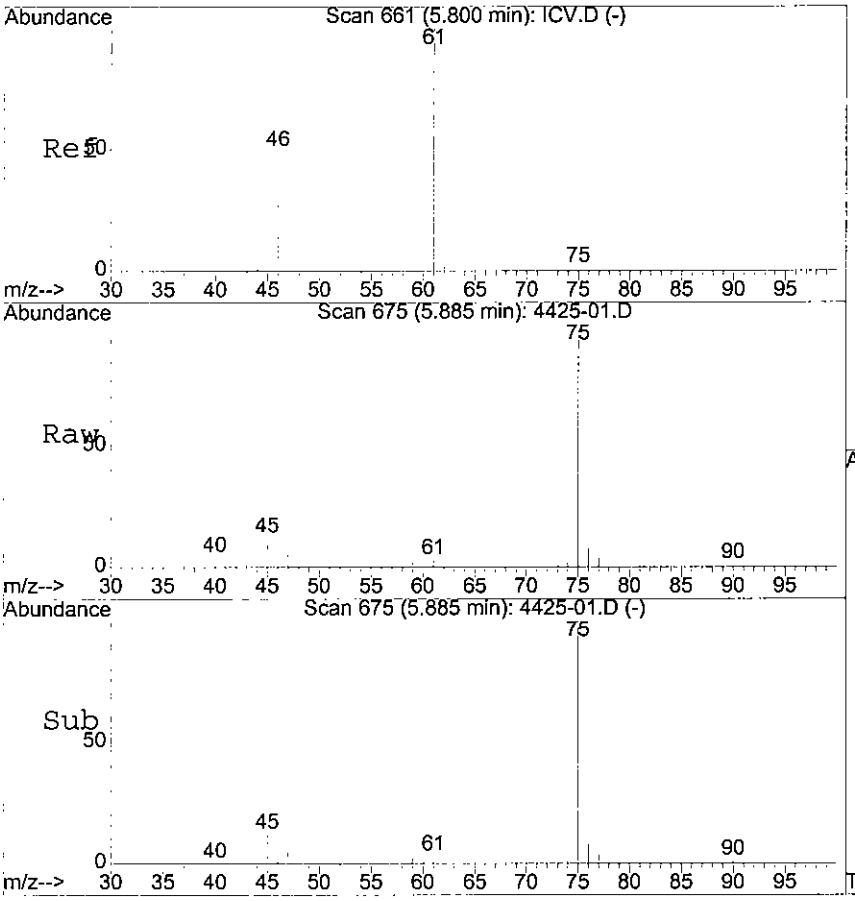


#22
95 Tert butyl alcoholx10
Concen: 24.51 ppb
RT: 4.50 min Scan# 448
Delta R.T. 0.04 min
Lab File: 4425-01.D
Acq: 7 Aug 2003 4:49 pm

Tgt Ion:59 Resp: 326

Ion	Ratio	Lower	Upper
59	100		
57	0.0	0.0	0.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

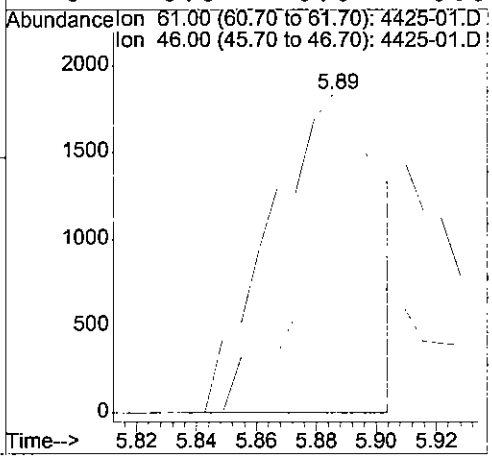


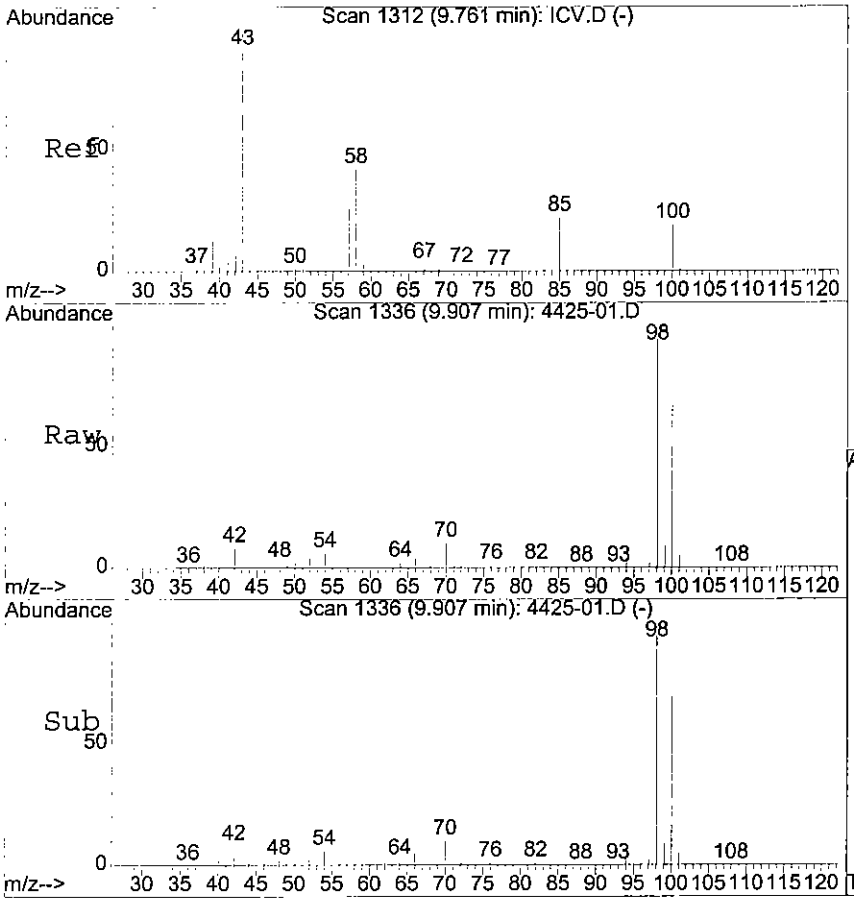


#37
92 Nitro Methane(x10)
Concen: 11.78 ppb
RT: 5.89 min Scan# 675
Delta R.T. 0.08 min
Lab File: 4425-01.D
Acq: 7 Aug 2003 4:49 pm

Tgt Ion:61 Resp: 4543

Ion	Ratio	Lower	Upper
61	100		
46	14.2	48.0	88.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

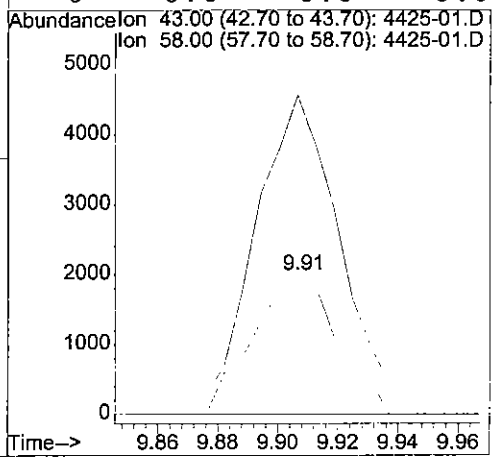




#62
54 MIBK
Concen: 0.48 ppb
RT: 9.91 min Scan# 1336
Delta R.T. 0.15 min
Lab File: 4425-01.D
Acq: 7 Aug 2003 4:49 pm

Tgt Ion:43 Resp: 3948

Ion	Ratio	Lower	Upper
43	100		
58	217.6	20.1	60.1#
0	0.0	0.0	0.0
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:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-2	Received Date:	07/31/2003
Sample ID:	**EB-3-7-31-03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	15:02
Data File Name:	4425-02	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	95
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	111
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	107
4	TOLUENE-D8	2037-26-5	73-129	97
# 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	98
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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-3	Received Date:	07/31/2003
Sample ID:	**MW-20-1**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	17:15
Data File Name:	4425-03	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N) N	

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	112
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	109
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	94
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	94
3	FLUOROBENZENE	462-06-6	50-200	90
# of out-of-control				0

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

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-4	Received Date:	07/31/2003
Sample ID:	**MW-20-2**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	17:42
Data File Name:	4425-04	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	95
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	115
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	108
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	94
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	95
3	FLUOROBENZENE	462-06-6	50-200	90
# 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

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Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-5	Received Date:	07/31/2003
Sample ID:	**MW-20-3**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	18:08
Data File Name:	4425-05	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N) N	

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	114
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	109
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	94
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	95
3	FLUOROBENZENE	462-06-6	50-200	90
# 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

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Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-6	Received Date:	07/31/2003
Sample ID:	**MW-20-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	16:22
Data File Name:	4425-06	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N) N	

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	111
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	108
4	TOLUENE-D8	2037-26-5	73-129	97
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	96
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	95
3	FLUOROBENZENE	462-06-6	50-200	92
# 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

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Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-7	Received Date:	07/31/2003
Sample ID:	**MW-20-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	18:35
Data File Name:	4425-07	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N) N	

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

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

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	96
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	112
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	109
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	93
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	94
3	FLUOROBENZENE	462-06-6	50-200	90
# of out-of-control				0

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

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	07/31/2003
Project ID:	JPL	Service ID:	34425	Collected by:	
		Lab Sample ID:	03-4425-8	Received Date:	07/31/2003
Sample ID:	**TB-3-7-31-03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: A
Anal. Method:	524.2	Prep. Date:	08/07/03	Anal. Date:	08/07/03
Batch No:	03G3595	Prep. No:	–	Anal. Time:	14:36
Data File Name:	4425-08	Sample Amount:	25.0 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

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

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	μg/L	0.5	<0.5	U
41	METHYLENE CHLORIDE	75-09-2	μg/L	0.5	3.1	
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	2	J
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	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	111
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	108
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	98
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	97
3	FLUOROBENZENE	462-06-6	50-200	93
# of out-of-control				0

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

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

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	034425
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G3595		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	S4 % #	TOT OUT
1	03G3595-LCS-01	03G3595-LCS-01	91	95	97	95	0
2	MW-20-4MS	03-4425-6MS	99	95	98	98	0
3	MW-20-4MSD	03-4425-6MSD	96	97	98	96	0
4	03G3595-MB-01	03G3595-MB-01	96	110	105	98	0
5	TB-3-7-31-03	03-4425-8	97	111	108	99	0
6	EB-3-7-31-03	03-4425-2	95	111	107	97	0
7	MW-20-4	03-4425-6	97	111	108	97	0
8	DUPE-2-3-Q03	03-4425-1	96	112	109	99	0
9	MW-20-1	03-4425-3	96	112	109	99	0
10	MW-20-2	03-4425-4	95	115	108	98	0
11	MW-20-3	03-4425-5	96	114	109	98	0
12	MW-20-5	03-4425-7	96	112	109	98	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:	34425
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G3595		
LCS Filename:	G3595L01	Date Analyzed:	080703	Time Analyzed:	11:06
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	μg/L	20	0	18.6	93	65-120
CHLOROBENZENE	μg/L	20	0	20.1	101	65-134
1,1-DICHLOROETHENE	μg/L	20	0	19.4	97	65-127
TOLUENE	μg/L	20	0	19.1	96	65-134
TRICHLOROETHENE	μg/L	20	0	19.5	98	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

2034

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595L01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:06 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:02 2003
Print Time : Fri Aug 08 13:02 2003
Miscleneous :

Sample : f=1
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	793.930	10.00		0.02	
47	47	Chlorobezene-d5	11.55	11.54	0.000	117	82	618.724	10.00		0.00	
62	62	1,4-Dichlorobenze	13.84	13.84	0.000	152	150	326.278	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	382.390	19.33	19.3	96.63%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	305.597	19.07	19.1	95.35%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1484.506	19.04	19.0	95.19%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	493.594	18.29	18.3	91.45%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	1.89	1.85	0.005	85	87	369.276	18.53	18.5	99	m
4	4	Chloromethane	2.11	2.07	0.006	50	52	304.199	18.07	18.1	98	
2	2	F114	2.04	2.00	0.006	85	135	207.161	19.88	19.9	60	m 08/08/03
5	5	vinyl chloride	2.23	2.19	0.005	62	64	359.079	18.66	18.7	99	
6	6	bromomethane	2.61	2.58	0.005	94	96	194.910	21.08	21.1	97	
7	7	chloroethane	2.73	2.70	0.004	64	66	218.671	19.09	19.1	99	
8	8	tri-Cl-F-methane	3.03	3.00	0.005	101	103	546.331	19.16	19.2	100	
91	91	Acetonitrile X10	4.07	4.04	0.004	41	40	631.430	181.28	181.3	90	?
9	9	acrolein X10	3.51	3.48	0.005	56	55	400.955	212.92	212.9	99	
11	11	acetone X10	3.73	3.69	0.005	43	58	650.146	363.67	363.7	0	m
12	12	ethyl ether X5	3.37	3.34	0.005	59	74	918.938	107.82	107.8	92	08/08/03
13	13	11-dichloroethene	3.64	3.60	0.005	61	96	442.380	19.44	19.4	96	?
14	14	Iodomethane	3.82	3.78	0.005	142	127	283.922	14.11	14.1	95	
15	15	F-113	3.65	3.62	0.005	101	151	337.835	21.61	21.6	89	?
16	16	acrylonitrile X10	4.52	4.49	0.004	53	52	619.965	174.68	174.7	98	?
17	17	carbon disulfide	3.90	3.87	0.004	76	78	1085.914	18.77	18.8	100	
94	94	Isopropyl Alcohol	4.10	4.01	0.012	45	43	87.466	175.76	175.8	100	m
18	18	methylene chlorid	4.22	4.19	0.004	84	49	373.497	18.49	18.5	99	08/08/03
19	19	t-12-di-Cl-ethene	4.58	4.55	0.004	96	61	403.208	18.80	18.8	93	?

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

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

2035

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595L01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:06 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:02 2003
Print Time : Fri Aug 08 13:03 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
20	20	t-Bu-Me-ether	4.60	4.56	0.005	73	57	679.306	19.03	19.0	95	?
95	95	Tert butyl alcoho	4.50	4.47	0.004	59	57	178.587	190.90	190.9	100	m?
94	94	allyl chloride	4.07	4.04	0.004	41	76	631.430	20.22	20.2	87	#?
21	21	11-dichloroethane	5.12	5.09	0.004	63	83	619.320	18.00	18.0	99	
97	97	propionitrile	6.03	5.99	0.004	54	51	24.827	18.64	18.6	100	#?
22	22	c-12-di-Cl-ethene	5.92	5.89	0.003	96	61	410.531	18.99	19.0	86	?
23	23	22-Dichloropropan	5.92	5.89	0.004	77	97	545.825	25.22	25.2	99	?
24	24	Br-Cl-methane	6.25	6.23	0.003	128	130	192.595	18.37	18.4	100	
25	25	chloroform	6.38	6.35	0.003	83	85	651.929	20.10	20.1	100	
26	26	tetrahydrofuranX5	6.35	6.32	0.003	42	72	233.474	89.54	89.5	95	
98	98	Diisopropyl ether	5.24	5.22	0.003	45	87	993.491	18.75	18.7	98	
99	99	ETBE	5.74	5.72	0.003	59	87	816.157	20.15	20.1	98	
30	30	12-dichloroethane	7.22	7.20	0.003	64	62	114.311	20.42	20.4	93	?
32	32	vinyl acetate X5	5.20	5.17	0.004	43	86	2461.337	99.36	99.4	99	
92	92	Nitro Methane(x10	5.83	5.80	0.004	61	46	82.946	188.13	188.1	84	
33	33	2-butanoneMEK X10	5.95	5.92	0.003	43	72	822.173	246.70	246.7	97	?
93	93	Ethyl Acetate x2	6.04	6.02	0.002	43	61	321.252	37.07	37.1	89	#?
34	34	111-trichloroetha	6.65	6.63	0.002	97	99	617.465	19.30	19.3	98	
35	35	11-Di-Cl-propene	6.91	6.88	0.003	75	110	503.514	20.83	20.8	91	?
36	36	benzene	7.21	7.19	0.003	78	52	1502.217	18.64	18.6	98	?
37	37	CCl4	6.91	6.89	0.003	117	119	592.977	20.11	20.1	100	?
100	100	Isobutyl alcohol	7.17	7.39	-0.030	43	42	67.268	183.84	183.8	92	m
38	38	thiophene	7.53	7.51	0.003	84	58	779.187	19.45	19.5	98	
39	39	12-di-Cl-propane	8.56	8.54	0.002	63	76	333.738	18.51	18.5	95	
40	40	trichloroethene	8.24	8.23	0.002	130	132	488.601	19.45	19.5	100	
41	41	dibromomethane	8.73	8.71	0.002	174	172	209.626	18.33	18.3	100	
101	101	TAME	7.41	7.39	0.002	73	43	714.381	20.34	20.3	97	
42	42	Br-di-Cl-methane	8.96	8.95	0.002	83	85	467.835	19.81	19.8	99	
43	43	Me-methacrylate	8.76	8.75	0.002	69	100	165.240	18.01	18.0	92	
44	44	2-ClEt-Vi-ether10	9.38	9.37	0.000	63	43	237.296	118.57	118.6	96	
45	45	c-13-di-Cl-propen	9.56	9.55	0.002	75	110	534.067	20.38	20.4	92	
46	46	t-1,3-dichloropro	10.25	10.24	0.000	75	110	434.279	20.84	20.8	92	

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

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

2036

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595L01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:06 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:02 2003
Print Time : Fri Aug 08 13:03 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
<<< I2 : ISTD ID = 47 >>>												
48	48	112-tri-Cl-Et	10.46	10.45	0.000	97	83	266.282	17.83	17.8	96	
49	49	13-di-Cl-propane	10.65	10.64	0.000	76	78	425.025	18.05	18.0	100	?
50	50	Et methacrylate	10.37	10.37	0.000	69	99	352.814	18.85	18.8	93	
51	51	di-Br-Cl-methane	10.91	10.90	0.000	129	127	360.265	19.22	19.2	100	
52	52	bromoform	12.42	12.41	0.000	173	174	206.684	18.03	18.0	100	
53	53	1,4-dichlorobutan	12.68	12.67	0.000	55	41	385.529	17.58	17.6	96	
54	54	MIBK	9.77	9.76	0.000	43	58	167.522	18.59	18.6	93	
56	56	toluene	9.99	9.98	0.000	91	92	1713.697	19.12	19.1	98	
57	57	2-hexanone X5	10.76	10.75	0.000	43	58	638.973	104.47	104.5	94	
58	58	12-dibromoethane	11.03	11.03	0.000	107	109	264.841	17.98	18.0	98	
59	59	tetra-Cl-ethene	10.64	10.64	0.000	166	168	514.519	19.22	19.2	98	?
60	60	chlorobenzene	11.57	11.57	0.000	112	77	1169.530	20.06	20.1	92	?
61	61	1112-tetra-Cl-Et	11.66	11.66	0.000	131	133	418.584	18.35	18.4	99	
<<< I3 : ISTD ID = 62 >>>												
63	63	1-chlorohexane	11.56	11.56	0.000	93	55	220.620	20.73	20.7	97	?
64	64	Et-Bz	11.70	11.69	0.000	91	106	1969.836	19.29	19.3	97	
65	65	m/p-Xylenes X2	11.82	11.82	0.000	91	106	3028.780	39.24	39.2	98	
66	66	styrene	12.24	12.23	0.000	104	78	1168.041	19.91	19.9	93	?
67	67	o-xylene	12.22	12.22	0.000	91	106	1557.202	20.11	20.1	96	?
68	68	1122-Tetra-Cl-Et	12.87	12.87	0.000	83	85	286.399	16.62	16.6	99	
69	69	123-tri-Cl-Pr	12.91	12.91	0.000	110	97	89.557	17.36	17.4	98	?
71	71	isopropylbenzene	12.60	12.59	0.000	105	120	2074.435	20.91	20.9	98	
72	72	bromobenzene	12.89	12.89	0.000	156	158	504.142	18.92	18.9	99	?
92	92	t-1,4-dichloro-2-	12.92	12.92	0.000	89	53	53.051	18.16	18.2	89	?
73	73	n-propylbenzene	13.00	12.99	0.000	120	78	638.876	20.56	20.6	92	
74	74	2-Cl-Toluene	13.08	13.08	0.000	126	128	542.111	19.74	19.7	98	
75	75	4-Cl-Toluene	13.19	13.18	0.000	126	128	540.239	19.34	19.3	99	?
76	76	135-tri-Me-Benzen	13.16	13.16	0.000	105	120	1765.629	20.68	20.7	98	?
77	77	4-iso-Pr-toluene	13.81	13.81	0.000	119	134	1999.950	20.97	21.0	98	?
78	78	124-tri-Me-Benzen	13.52	13.51	0.000	105	120	1791.811	20.15	20.1	96	
79	79	tert-butylbenzene	13.47	13.47	0.000	119	91	1659.210	20.35	20.3	94	

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

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

2037

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595L01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:06 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:02 2003
Print Time : Fri Aug 08 13:03 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-DCB	13.79	13.78	0.000	146	148	1042.667	18.62	18.6	100	?
81	81	sec-butylbenzene	13.68	13.68	0.000	105	134	2413.449	21.03	21.0	97	
82	82	14-DCB	13.87	13.87	0.000	146	148	1033.426	19.40	19.4	98	
83	83	Cl-benzyl	13.98	13.98	0.000	126	91	140.844	26.10	26.1	75	#
84	84	12-DCB	14.21	14.21	0.000	146	148	923.354	18.51	18.5	100	?
85	85	n-butylbenzene	14.18	14.18	0.000	134	91	564.528	20.19	20.2	87	#?
86	86	12-diBr-2-Cl-Pra	14.88	14.88	0.000	157	155	62.189	17.71	17.7	97	
87	87	124-tri-Cl-Bz	15.58	15.58	0.000	180	182	689.242	21.34	21.3	100	
88	88	naphthalene	15.79	15.78	0.000	128	129	1114.456	19.02	19.0	99	
89	89	hx-Cl-butadiene	15.72	15.72	0.000	225	258	388.066	19.85	19.8	97	
90	90	123-Tri-Cl-Bz	15.98	15.98	0.000	180	182	586.574	20.24	20.2	100	

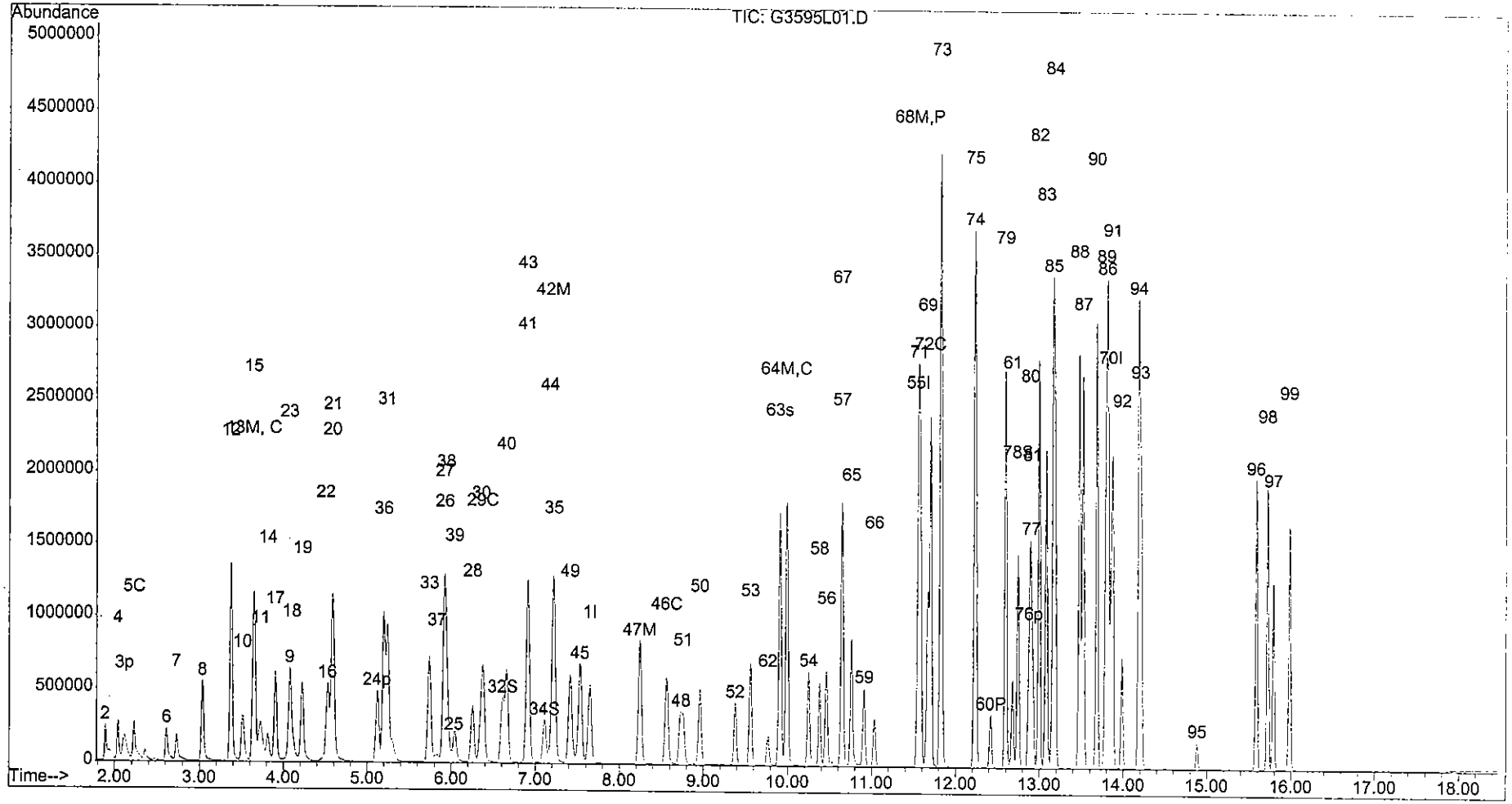
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

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

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595L01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:06 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:02 2003
Print Time : Fri Aug 08 13:03 2003
Miscleneous :

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

2038



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:	34425
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G3595		
MS Filename:	G3595M01	Date Analyzed:	080703	Time Analyzed:	11:32
MSD Filename:	G3595N01	Date Analyzed:	080703	Time Analyzed:	11:58
MS Sample No:	**MW-20-4**	Sample Lab ID:	03-4425-6		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	μg/L	20	0	18.8	94	65-121
CHLOROBENZENE	μg/L	20	0	20.5	103	65-134
1,1-DICHLOROETHENE	μg/L	20	0	19.5	98	65-127
TOLUENE	μg/L	20	0	19.4	97	65-134
TRICHLOROETHENE	μg/L	20	0	19.8	99	65-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	μg/L	20	18.9	95	1	28	65-121
CHLOROBENZENE	μg/L	20	20.3	102	1	35	65-134
1,1-DICHLOROETHENE	μg/L	20	19.2	96	2	31	65-127
TOLUENE	μg/L	20	19.3	97	0	35	65-134
TRICHLOROETHENE	μg/L	20	19.7	99	0	30	65-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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

2040

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595M01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:32 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:06 2003
Print Time : Fri Aug 08 13:06 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	813.408	10.00		0.02	
47	47	Chlorobezene-d5	11.54	11.54	0.000	117	82	623.673	10.00		0.00	
62	62	1,4-Dichlorobenze	13.84	13.84	0.000	152	150	310.405	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	395.218	19.50	19.5	97.48%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	311.505	18.97	19.0	94.87%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1535.715	19.54	19.5	97.69%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	510.658	19.89	19.9	99.45%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	1.89	1.85	0.005	85	87	381.912	18.70	18.7	100	m
4	4	Chloromethane	2.12	2.07	0.006	50	52	299.727	17.35	17.3	100	08/08/03
2	2	F114	2.04	2.00	0.006	85	135	217.241	20.35	20.3	59	m
5	5	vinyl chloride	2.23	2.19	0.005	62	64	371.362	18.83	18.8	98	
6	6	bromomethane	2.61	2.58	0.005	94	96	132.682	14.01	14.0	99	
7	7	chloroethane	2.73	2.70	0.004	64	66	225.408	19.21	19.2	99	
8	8	tri-Cl-F-methane	3.03	3.00	0.005	101	103	573.102	19.62	19.6	100	
91	91	Acetonitrile X10	4.07	4.04	0.004	41	40	647.925	181.56	181.6	90	?
9	9	acrolein X10	3.51	3.48	0.005	56	55	332.192	169.55	169.6	98	
11	11	acetone X10	3.72	3.69	0.004	43	58	375.738	192.11	192.1	100	
12	12	ethyl ether X5	3.37	3.34	0.005	59	74	935.434	107.07	107.1	91	
13	13	11-dichloroethene	3.64	3.60	0.005	61	96	454.299	19.48	19.5	98	?
14	14	Iodomethane	3.82	3.78	0.005	142	127	483.819	23.47	23.5	94	m
15	15	F-113	3.65	3.62	0.005	101	151	348.580	21.77	21.8	89	? 08/08/03
16	16	acrylonitrile X10	4.52	4.49	0.004	53	52	639.436	175.85	175.9	97	
17	17	carbon disulfide	3.91	3.87	0.005	76	78	1191.042	20.09	20.1	100	
94	94	Isopropyl Alcohol	4.07	4.01	0.008	45	43	93.168	182.56	182.6	100	m?
18	18	methylene chlorid	4.22	4.19	0.005	84	49	394.484	19.10	19.1	100	08/08/03
19	19	t-12-di-Cl-ethene	4.58	4.55	0.004	96	61	418.205	19.03	19.0	93	?

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

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

2041

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595M01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:32 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:06 2003
Print Time : Fri Aug 08 13:06 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
20	20	t-Bu-Me-ether	4.60	4.56	0.005	73	57	708.053	19.36	19.4	96	?
95	95	Tert butyl alcoho	4.49	4.47	0.003	59	57	200.206	206.61	206.6	100	m
94	94	allyl chloride	4.07	4.04	0.004	41	76	647.925	20.25	20.2	86	#?
21	21	11-dichloroethane	5.12	5.09	0.004	63	83	644.781	18.29	18.3	100	
97	97	propionitrile	6.01	5.99	0.002	54	51	27.591	20.22	20.2	100	#
22	22	c-12-di-Cl-ethene	5.92	5.89	0.003	96	61	425.635	19.21	19.2	91	?
23	23	22-Dichloropropan	5.92	5.89	0.003	77	97	587.004	26.52	26.5	98	?
24	24	Br-Cl-methane	6.25	6.23	0.003	128	130	198.167	18.45	18.4	94	
25	25	chloroform	6.37	6.35	0.003	83	85	676.723	20.37	20.4	98	?
26	26	tetrahydrofuranX5	6.35	6.32	0.003	42	72	241.522	90.41	90.4	96	?
98	98	Diisopropyl ether	5.24	5.22	0.003	45	87	1021.207	18.81	18.8	99	
99	99	ETBE	5.74	5.72	0.003	59	87	843.058	20.31	20.3	98	
30	30	12-dichloroethane	7.22	7.20	0.003	64	62	117.841	20.55	20.5	94	?
32	32	vinyl acetate X5	5.20	5.17	0.004	43	86	2484.946	97.91	97.9	100	
92	92	Nitro Methane(x10	5.82	5.80	0.003	61	46	95.645	211.74	211.7	82	
33	33	2-butanoneMEK X10	5.95	5.92	0.003	43	72	650.570	188.62	188.6	97	
93	93	Ethyl Acetate x2	6.04	6.02	0.003	43	61	334.180	37.64	37.6	90	#
34	34	111-trichloroetha	6.65	6.63	0.002	97	99	638.865	19.50	19.5	99	
35	35	11-Di-Cl-propene	6.91	6.88	0.003	75	110	527.807	21.32	21.3	90	?
36	36	benzene	7.21	7.19	0.003	78	52	1554.235	18.83	18.8	98	?
37	37	CCl4	6.91	6.89	0.003	117	119	610.151	20.19	20.2	100	?
100	100	Isobutyl alcohol	7.17	7.39	-0.030	43	42	67.710	180.79	180.8	96	m
38	38	thiophene	7.53	7.51	0.002	84	58	807.069	19.66	19.7	98	
39	39	12-di-Cl-propane	8.56	8.54	0.002	63	76	345.921	18.73	18.7	97	
40	40	trichloroethene	8.24	8.23	0.002	130	132	509.410	19.80	19.8	99	
41	41	dibromomethane	8.73	8.71	0.002	174	172	216.661	18.49	18.5	99	
101	101	TAME	7.41	7.39	0.002	73	43	747.246	20.76	20.8	97	
42	42	Br-di-Cl-methane	8.96	8.95	0.002	83	85	476.893	19.71	19.7	100	
43	43	Me-methacrylate	8.76	8.75	0.002	69	100	170.901	18.18	18.2	92	
44	44	2-ClEt-Vi-ether10	9.57	9.37	0.026	63	43	2.421	16.44	16.4	28	#?
45	45	c-13-di-Cl-propen	9.56	9.55	0.002	75	110	545.702	20.33	20.3	93	?
46	46	t-1,3-dichloropro	10.25	10.24	0.000	75	110	446.469	20.91	20.9	93	

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

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

2042

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595M01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:32 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:06 2003
Print Time : Fri Aug 08 13:06 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
<<< I2 : ISTD ID = 47 >>>												
48	48	112-tri-Cl-Et	10.46	10.45	0.000	97	83	268.579	17.84	17.8	96	
49	49	13-di-Cl-propane	10.65	10.64	0.001	76	78	430.303	18.12	18.1	100	?
50	50	Et methacrylate	10.38	10.37	0.000	69	99	364.301	19.28	19.3	94	
51	51	di-Br-Cl-methane	10.91	10.90	0.000	129	127	368.083	19.48	19.5	99	
52	52	bromoform	12.42	12.41	0.000	173	174	209.966	18.17	18.2	100	
53	53	1,4-dichlorobutan	12.68	12.67	0.000	55	41	387.686	17.54	17.5	95	
54	54	MIBK	9.77	9.76	0.000	43	58	170.391	18.76	18.8	92	
56	56	toluene	9.99	9.98	0.001	91	92	1749.406	19.37	19.4	99	
57	57	2-hexanone X5	10.76	10.75	0.000	43	58	574.987	93.27	93.3	95	
58	58	12-dibromoethane	11.03	11.03	0.000	107	109	271.410	18.28	18.3	98	
59	59	tetra-Cl-ethene	10.65	10.64	0.001	166	168	531.592	19.70	19.7	98	?
60	60	chlorobenzene	11.58	11.57	0.000	112	77	1202.279	20.46	20.5	91	?
61	61	1112-tetra-Cl-Et	11.66	11.66	0.000	131	133	425.717	18.52	18.5	98	
<<< I3 : ISTD ID = 62 >>>												
63	63	1-chlorohexane	11.56	11.56	0.000	93	55	226.646	22.39	22.4	96	?
64	64	Et-Bz	11.70	11.69	0.000	91	106	2026.841	20.87	20.9	96	
65	65	m/p-Xylenes X2	11.82	11.82	0.000	91	106	3115.832	42.44	42.4	97	
66	66	styrene	12.24	12.23	0.000	104	78	1208.705	21.65	21.7	93	?
67	67	o-xylene	12.22	12.22	0.000	91	106	1605.946	21.80	21.8	97	?
68	68	1122-Tetra-Cl-Et	12.87	12.87	0.000	83	85	290.212	17.70	17.7	98	
69	69	123-tri-Cl-Pr	12.91	12.91	0.000	110	97	88.445	18.02	18.0	100	?
71	71	isopropylbenzene	12.60	12.59	0.000	105	120	2124.998	22.52	22.5	98	
72	72	bromobenzene	12.89	12.89	0.000	156	158	515.846	20.35	20.4	98	?
92	92	t-1,4-dichloro-2-	12.92	12.92	0.000	89	53	55.583	19.87	19.9	83	#?
73	73	n-propylbenzene	13.00	12.99	0.000	120	78	656.002	22.19	22.2	91	
74	74	2-Cl-Toluene	13.08	13.08	0.000	126	128	555.051	21.25	21.2	98	
75	75	4-Cl-Toluene	13.19	13.18	0.000	126	128	552.258	20.78	20.8	99	?
76	76	135-tri-Me-Benzen	13.16	13.16	0.000	105	120	1814.924	22.34	22.3	97	?
77	77	4-iso-Pr-toluene	13.81	13.81	0.000	119	134	2053.468	22.63	22.6	98	?
78	78	124-tri-Me-Benzen	13.52	13.51	0.000	105	120	1831.600	21.65	21.6	96	
79	79	tert-butylbenzene	13.47	13.47	0.000	119	91	1702.030	21.94	21.9	94	

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

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

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595M01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:32 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:06 2003
Print Time : Fri Aug 08 13:06 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

2043

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-DCB	13.79	13.78	0.000	146	148	1067.975	20.04	20.0	100	?
81	81	sec-butylbenzene	13.68	13.68	0.000	105	134	2471.219	22.63	22.6	97	
82	82	14-DCB	13.87	13.87	0.000	146	148	1052.303	20.77	20.8	99	
83	83	Cl-benzyl	13.98	13.98	0.000	126	91	146.524	28.54	28.5	74	#
84	84	12-DCB	14.21	14.21	0.000	146	148	935.960	19.73	19.7	100	?
85	85	n-butylbenzene	14.18	14.18	0.000	134	91	578.129	21.71	21.7	84	#?
86	86	12-diBr-2-Cl-Pra	14.88	14.88	0.000	157	155	65.296	19.54	19.5	100	
87	87	124-tri-Cl-Bz	15.58	15.58	0.000	180	182	706.807	23.01	23.0	100	
88	88	naphthalene	15.79	15.78	0.000	128	129	1132.987	20.32	20.3	100	
89	89	hx-Cl-butadiene	15.72	15.72	0.000	225	258	391.640	21.06	21.1	97	
90	90	123-Tri-Cl-Bz	15.98	15.98	0.000	180	182	589.534	21.38	21.4	99	

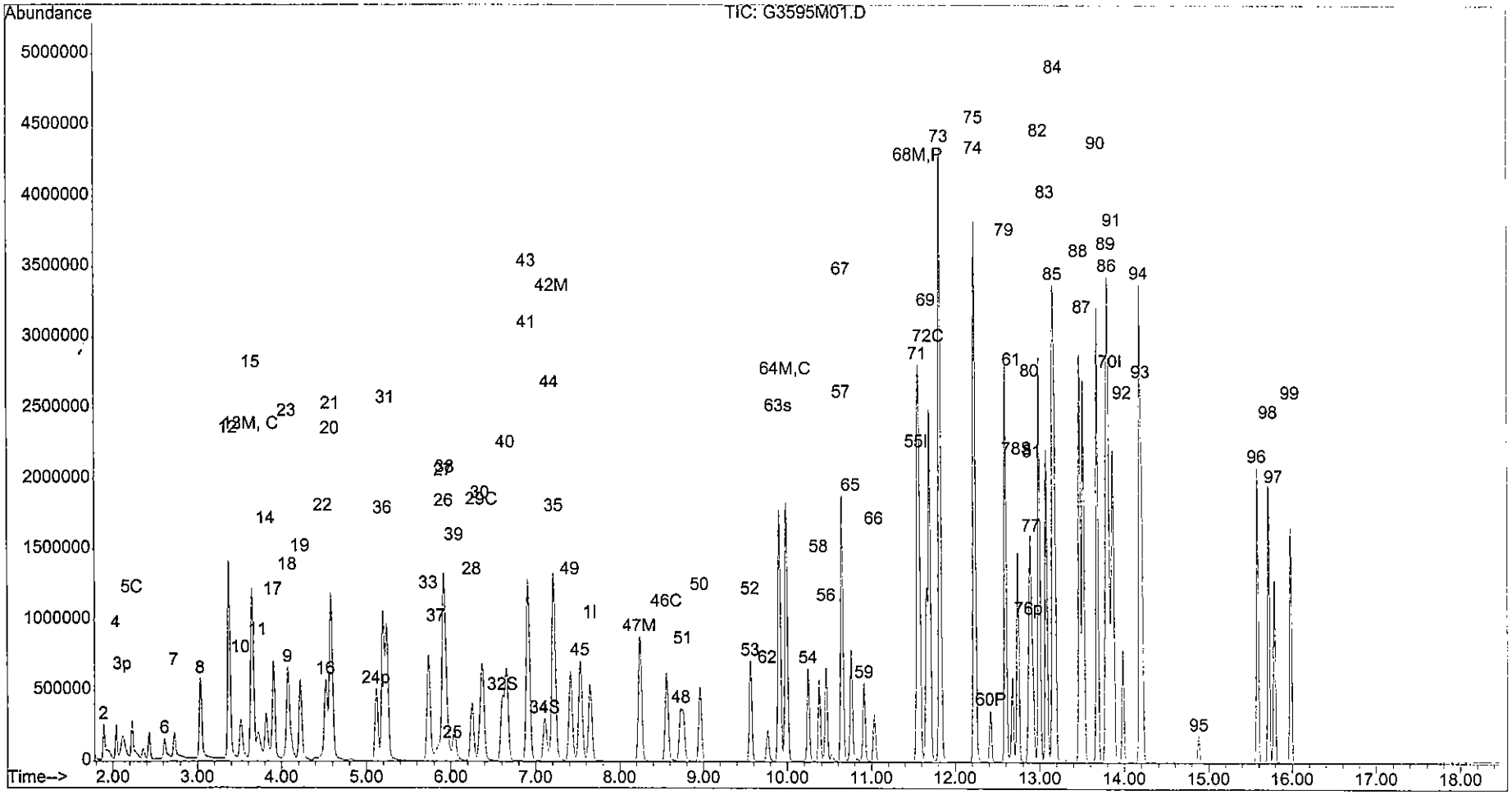
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

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

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595M01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:32 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:06 2003
Print Time : Fri Aug 08 13:06 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

2044



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

2045

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595N01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:58 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:11 2003
Print Time : Fri Aug 08 13:11 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	820.159	10.00		0.02	
47	47	Chlorobezene-d5	11.54	11.54	0.000	117	82	638.486	10.00		0.00	
62	62	1,4-Dichlorobenze	13.84	13.84	0.000	152	150	325.382	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	402.153	19.68	19.7	98.38%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	321.734	19.44	19.4	97.18%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1548.367	19.24	19.2	96.21%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	518.985	19.28	19.3	96.42%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	1.89	1.85	0.005	85	87	376.871	18.30	18.3	100	m
4	4	Chloromethane	2.11	2.07	0.006	50	52	295.515	16.94	16.9	98	08/08/03
2	2	F114	2.03	2.00	0.005	85	135	205.820	19.12	19.1	58	m
5	5	vinyl chloride	2.23	2.19	0.005	62	64	368.118	18.52	18.5	99	
6	6	bromomethane	2.61	2.58	0.005	94	96	140.576	14.72	14.7	100	
7	7	chloroethane	2.73	2.70	0.004	64	66	235.356	19.89	19.9	98	
8	8	tri-Cl-F-methane	3.03	3.00	0.005	101	103	565.453	19.20	19.2	99	
91	91	Acetonitrile X10	4.07	4.04	0.004	41	40	663.719	184.46	184.5	89	?
9	9	acrolein X10	3.51	3.48	0.005	56	55	349.561	177.55	177.5	0	m
11	11	acetone X10	3.73	3.69	0.005	43	58	426.576	220.08	220.1	0	m
12	12	ethyl ether X5	3.37	3.34	0.005	59	74	970.749	110.46	110.5	90	
13	13	11-dichloroethene	3.64	3.60	0.005	61	96	451.733	19.21	19.2	0	m 08/08/03
14	14	Iodomethane	3.82	3.78	0.005	142	127	454.882	21.89	21.9	95	m
15	15	F-113	3.65	3.62	0.005	101	151	349.566	21.65	21.6	88	?
16	16	acrylonitrile X10	4.52	4.49	0.004	53	52	686.656	187.28	187.3	98	?
17	17	carbon disulfide	3.90	3.87	0.004	76	78	1205.241	20.16	20.2	99	
94	94	Isopropyl Alcohol	4.11	4.01	0.013	45	43	100.238	194.51	194.5	100	m
18	18	methylene chlorid	4.22	4.19	0.004	84	49	399.729	19.20	19.2	98	08/08/03
19	19	t-12-di-Cl-ethene	4.58	4.55	0.004	96	61	414.958	18.73	18.7	93	?

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

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

2046

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595N01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:58 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:11 2003
Print Time : Fri Aug 08 13:11 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
20	20	t-Bu-Me-ether	4.60	4.56	0.005	73	57	753.421	20.43	20.4	95	?
95	95	Tert butyl alcoho	4.51	4.47	0.006	59	57	215.385	218.83	218.8	100	m
94	94	allyl chloride	4.07	4.04	0.004	41	76	663.719	20.57	20.6	85	#?
21	21	11-dichloroethane	5.12	5.09	0.004	63	83	653.135	18.37	18.4	99	
97	97	propionitrile	6.03	5.99	0.004	54	51	28.168	20.47	20.5	100	#?
22	22	c-12-di-Cl-ethene	5.92	5.89	0.003	96	61	429.744	19.24	19.2	94	?
23	23	22-Dichloropropan	5.92	5.89	0.004	77	97	576.534	25.81	25.8	96	?
24	24	Br-Cl-methane	6.25	6.23	0.003	128	130	204.795	18.91	18.9	96	
25	25	chloroform	6.37	6.35	0.002	83	85	686.182	20.49	20.5	99	?
26	26	tetrahydrofuranX5	6.35	6.32	0.003	42	72	262.264	97.37	97.4	98	?
98	98	Diisopropyl ether	5.24	5.22	0.003	45	87	1041.256	19.02	19.0	99	
99	99	ETBE	5.74	5.72	0.003	59	87	889.082	21.25	21.2	97	
30	30	12-dichloroethane	7.22	7.20	0.003	64	62	119.758	20.71	20.7	98	?
32	32	vinyl acetate X5	5.20	5.17	0.004	43	86	2594.186	101.38	101.4	99	
92	92	Nitro Methane(x10	5.82	5.80	0.003	61	46	98.539	216.35	216.4	78	
33	33	2-butanoneMEK X10	5.95	5.92	0.003	43	72	700.851	202.10	202.1	98	?
93	93	Ethyl Acetate x2	6.04	6.02	0.003	43	61	368.573	41.18	41.2	93	#?
34	34	111-trichloroetha	6.65	6.63	0.002	97	99	638.649	19.33	19.3	99	
35	35	11-Di-Cl-propene	6.90	6.88	0.002	75	110	530.655	21.25	21.3	91	?
36	36	benzene	7.21	7.19	0.003	78	52	1572.880	18.89	18.9	99	?
37	37	CCl4	6.91	6.89	0.003	117	119	611.152	20.06	20.1	98	?
100	100	Isobutyl alcohol	7.18	7.39	-0.029	43	42	73.697	194.37	194.4	96	m
38	38	thiophene	7.53	7.51	0.002	84	58	821.203	19.84	19.8	99	
39	39	12-di-Cl-propane	8.56	8.54	0.002	63	76	350.588	18.82	18.8	96	
40	40	trichloroethene	8.24	8.23	0.002	130	132	511.760	19.72	19.7	100	
41	41	dibromomethane	8.73	8.71	0.002	174	172	227.281	19.24	19.2	98	
101	101	TAME	7.41	7.39	0.002	73	43	787.712	21.71	21.7	97	
42	42	Br-di-Cl-methane	8.96	8.95	0.002	83	85	488.256	20.02	20.0	99	
43	43	Me-methacrylate	8.76	8.75	0.002	69	100	184.494	19.39	19.4	92	
44	44	2-ClEt-Vi-ether10	9.57	9.37	0.026	63	43	2.385	16.41	16.4	28	#?
45	45	c-13-di-Cl-propen	9.56	9.55	0.002	75	110	559.203	20.66	20.7	93	?
46	46	t-1,3-dichloropro	10.25	10.24	0.000	75	110	464.859	21.60	21.6	92	

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

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

2047

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595N01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:58 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:11 2003
Print Time : Fri Aug 08 13:11 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
<<< I2 : ISTD ID = 47 >>>												
48	48	112-tri-Cl-Et	10.46	10.45	0.000	97	83	285.102	18.50	18.5	94	
49	49	13-di-Cl-propane	10.65	10.64	0.000	76	78	452.321	18.61	18.6	99	?
50	50	Et methacrylate	10.38	10.37	0.000	69	99	391.052	20.17	20.2	94	
51	51	di-Br-Cl-methane	10.91	10.90	0.000	129	127	380.853	19.68	19.7	99	
52	52	bromoform	12.42	12.41	0.000	173	174	221.249	18.71	18.7	99	
53	53	1,4-dichlorobutan	12.68	12.67	0.000	55	41	412.254	18.22	18.2	95	
54	54	MIBK	9.77	9.76	0.000	43	58	189.992	20.43	20.4	94	
56	56	toluene	9.99	9.98	0.000	91	92	1779.849	19.25	19.2	98	
57	57	2-hexanone X5	10.76	10.75	0.000	43	58	634.630	100.55	100.6	94	
58	58	12-dibromoethane	11.03	11.03	0.000	107	109	287.036	18.88	18.9	98	
59	59	tetra-Cl-ethene	10.64	10.64	0.000	166	168	533.355	19.30	19.3	98	?
60	60	chlorobenzene	11.57	11.57	0.000	112	77	1218.144	20.25	20.2	92	?
61	61	1112-tetra-Cl-Et	11.66	11.66	0.000	131	133	440.606	18.72	18.7	99	
<<< I3 : ISTD ID = 62 >>>												
63	63	1-chlorohexane	11.56	11.56	0.000	93	55	231.400	21.81	21.8	95	?
64	64	Et-Bz	11.70	11.69	0.000	91	106	2045.202	20.09	20.1	96	
65	65	m/p-Xylenes X2	11.82	11.82	0.000	91	106	3149.058	40.91	40.9	95	
66	66	styrene	12.24	12.23	0.000	104	78	1231.281	21.04	21.0	92	?
67	67	o-xylene	12.22	12.22	0.000	91	106	1631.513	21.13	21.1	96	?
68	68	1122-Tetra-Cl-Et	12.87	12.87	0.000	83	85	308.178	17.93	17.9	99	
69	69	123-tri-Cl-Pr	12.91	12.91	0.000	110	97	96.138	18.68	18.7	98	?
71	71	isopropylbenzene	12.60	12.59	0.000	105	120	2159.861	21.83	21.8	97	
72	72	bromobenzene	12.89	12.89	0.000	156	158	527.990	19.87	19.9	99	?
92	92	t-1,4-dichloro-2-	12.92	12.92	0.000	89	53	59.319	20.21	20.2	82	#?
73	73	n-propylbenzene	13.00	12.99	0.000	120	78	660.240	21.31	21.3	92	
74	74	2-Cl-Toluene	13.08	13.08	0.000	126	128	560.793	20.48	20.5	98	
75	75	4-Cl-Toluene	13.19	13.18	0.000	126	128	557.665	20.02	20.0	98	?
76	76	135-tri-Me-Benzen	13.16	13.16	0.000	105	120	1818.466	21.35	21.4	96	?
77	77	4-iso-Pr-toluene	13.81	13.81	0.000	119	134	2090.132	21.98	22.0	98	?
78	78	124-tri-Me-Benzen	13.51	13.51	0.000	105	120	1856.326	20.93	20.9	97	
79	79	tert-butylbenzene	13.47	13.47	0.000	119	91	1722.730	21.18	21.2	95	

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

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

2048

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595N01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:58 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:11 2003
Print Time : Fri Aug 08 13:11 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-DCB	13.79	13.78	0.000	146	148	1088.428	19.49	19.5	100	?
81	81	sec-butylbenzene	13.68	13.68	0.000	105	134	2493.990	21.79	21.8	96	
82	82	14-DCB	13.87	13.87	0.000	146	148	1076.495	20.27	20.3	97	
83	83	Cl-benzyl	13.98	13.98	0.000	126	91	153.423	28.50	28.5	73	#
84	84	12-DCB	14.21	14.21	0.000	146	148	957.896	19.26	19.3	99	?
85	85	n-butylbenzene	14.18	14.18	0.000	134	91	582.965	20.89	20.9	87	#?
86	86	12-diBr-2-Cl-Pra	14.88	14.88	0.000	157	155	70.819	20.22	20.2	99	
87	87	124-tri-Cl-Bz	15.58	15.58	0.000	180	182	728.613	22.62	22.6	100	
88	88	naphthalene	15.79	15.78	0.000	128	129	1213.693	20.77	20.8	99	
89	89	hx-Cl-butadiene	15.72	15.72	0.000	225	258	399.169	20.47	20.5	98	
90	90	123-Tri-Cl-Bz	15.98	15.98	0.000	180	182	623.335	21.57	21.6	98	

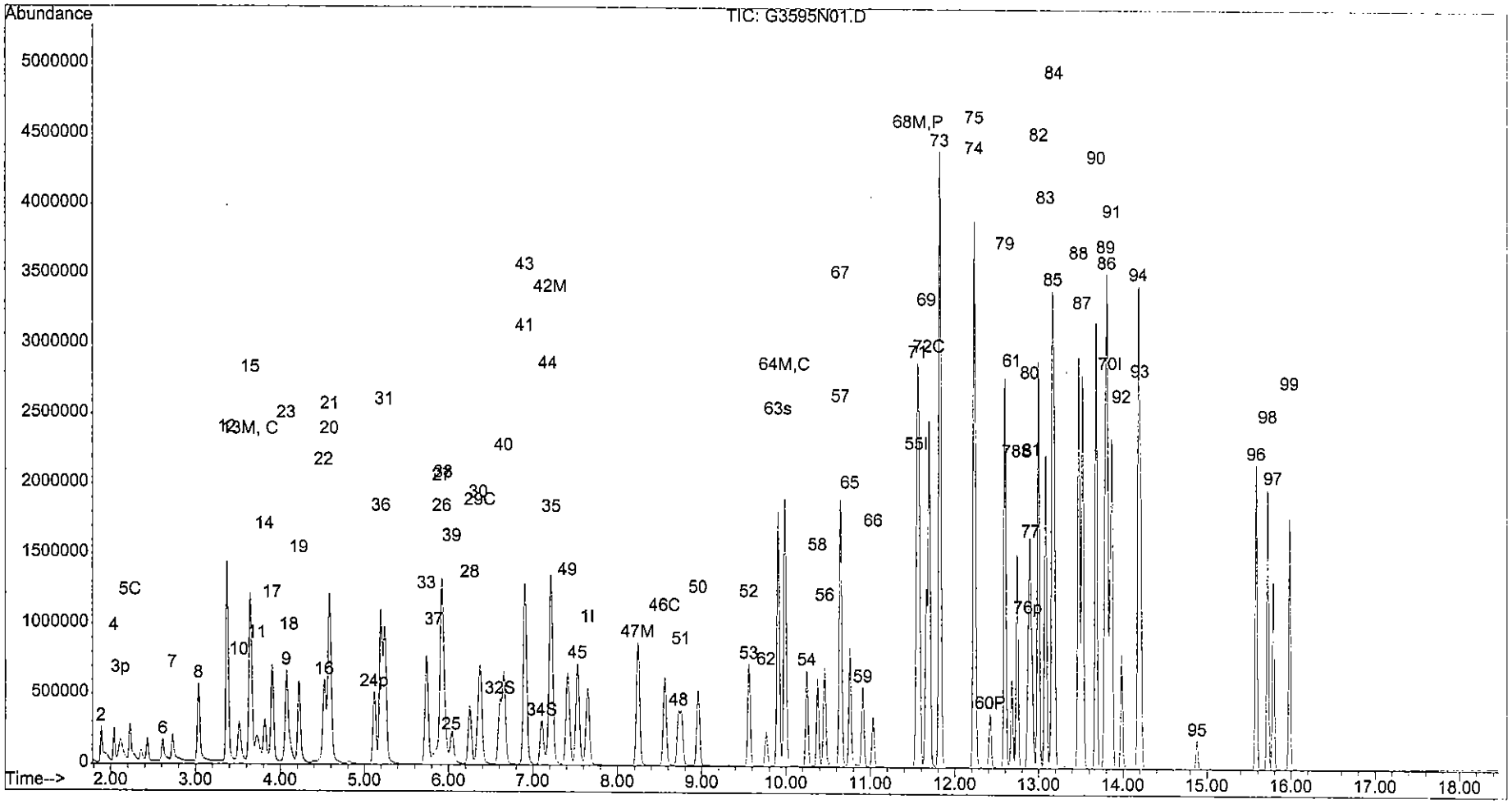
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

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

2049

Data Filename: C:\MSDCHEM\1\DATA\03G3595\G3595N01.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 11:58 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 13:11 2003
Print Time : Fri Aug 08 13:11 2003
Miscleneous :

Sample : f=1 $4425-06
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
Multiplr: 1.000000



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

2050

Data Filename: C:\MSDCHEM\1\DATA\03G3595\4425-06.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
Acq. Time : Aug 7 16:22 2003
Method Update: Thu Jul 24 12:40 2003
Quant. Time : Aug 08 11:35 2003
Print Time : Fri Aug 08 13:12 2003
Miscleneous :

Sample : f=1 ms
Inst. : GCMS-A
RF via : Multiple Level Calibration
Operator: zou
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	7.65	7.63	0.003	96	70	704.743	10.00		0.02	
47	47	Chlorobezene-d5	11.54	11.54	0.000	117	82	574.822	10.00		0.00	
62	62	1,4-Dichlorobenze	13.84	13.84	0.000	152	150	298.518	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Me (surr)	6.60	6.58	0.002	111	113	377.276	21.48	21.5	107.41%	
29	29	1,2-Di-Cl-Et-d4 (	7.11	7.08	0.002	65	102	315.939	22.21	22.2	111.05%	
55	55	toluene-d8	9.91	9.89	0.000	98	100	1394.529	19.25	19.2	96.25%	
70	70	4-Br-1-F-Bz (S3)	12.74	12.74	0.000	174	95	476.109	19.28	19.3	96.41%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
5	5	vinyl chloride	2.43	2.19	0.031	62	64	6.684	0.39	~~0.4~~	~~95~~	
95	95	Tert butyl alcoho	4.41	4.47	-0.007	59	57	1.525	25.77	~~25.8~~	~~100~~	#
92	92	Nitro Methane(x10	5.89	5.80	0.012	61	46	6.502	16.61	~~16.6~~	~~35~~	#
<<< I2 : ISTD ID = 47 >>>												
54	54	MIBK	9.91	9.76	0.013	43	58	3.977	0.48	~~0.5~~	~~1~~	#

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

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

Data Filename: C:\MSDCHEM\1\DATA\03G3595\4425-06.D
Method : C:\MSDCHEM\1\METHODS\E524A002.M
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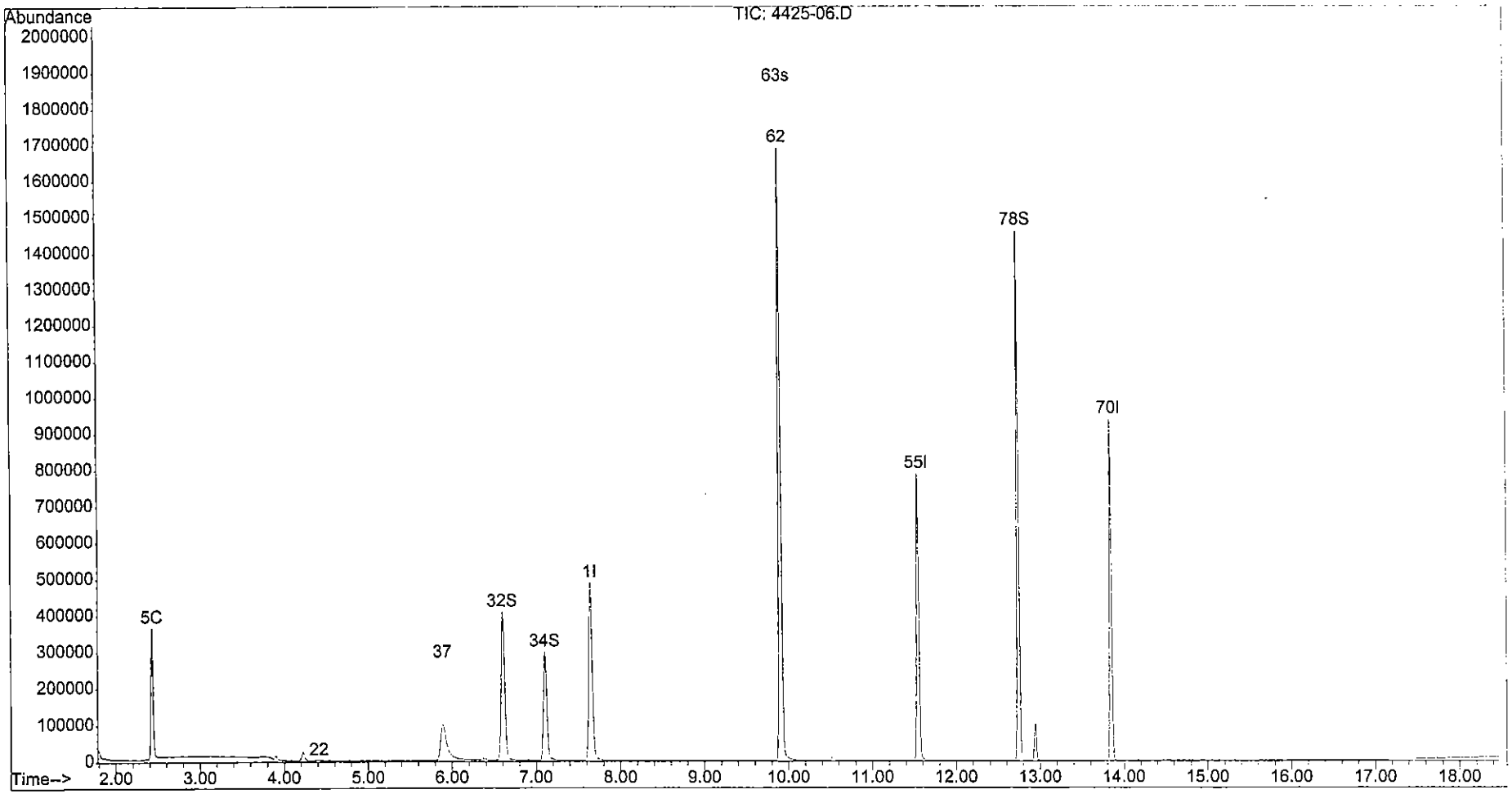
2051