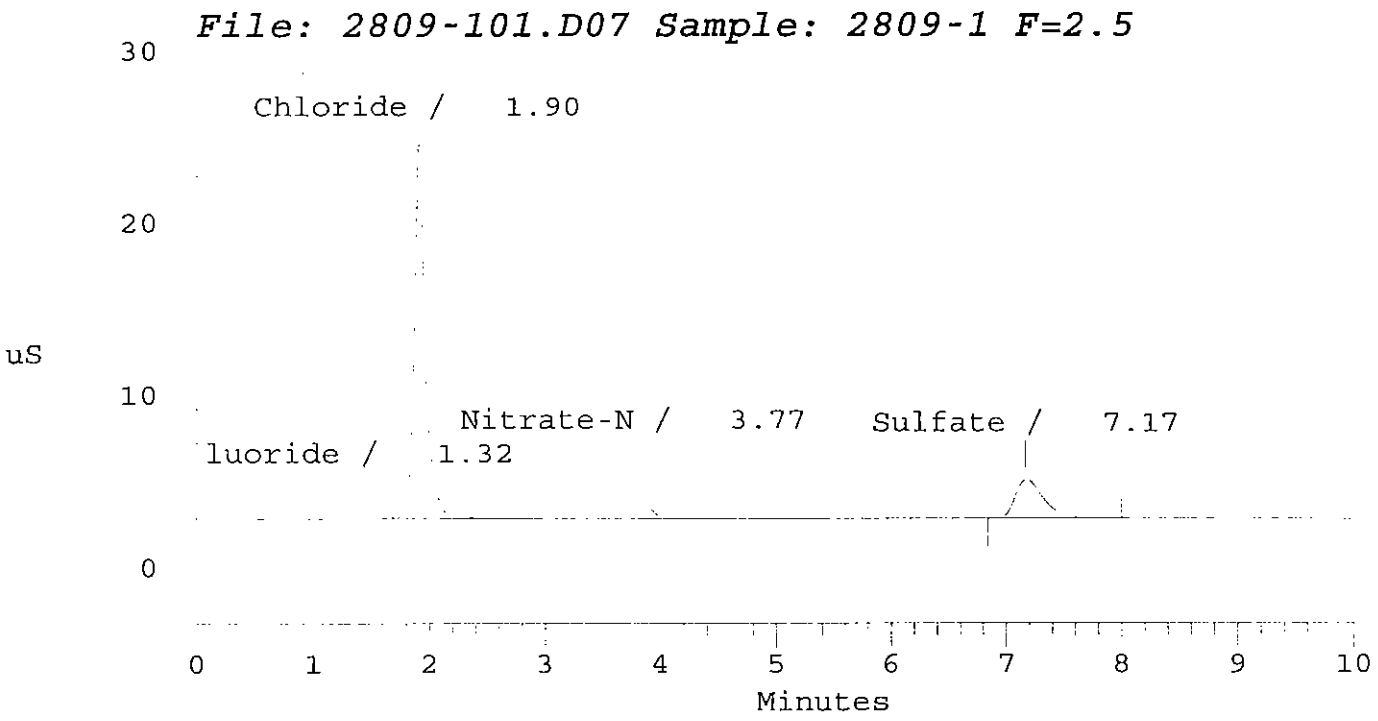
```
==========================================================================
| Sample Name: 2809-1 F=2.5                    Date: 04/22/2003 11:58:39   |
| Data File  : C:\DX\DATA\03W2479\2809-101.D07                            |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 7                  Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2.5	3000	5Hz	0.00	10.00	1000	

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	0.728	16910	212174	2	0.00
2	1.90	Chloride	24.191	686962	4889400	2	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
3	3.77	Nitrate-N	1.746	80734	814055	1	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
4	7.17	Sulfate	9.537	75701	1296160	1	0.00
		Totals	36.202	860307	7211789		



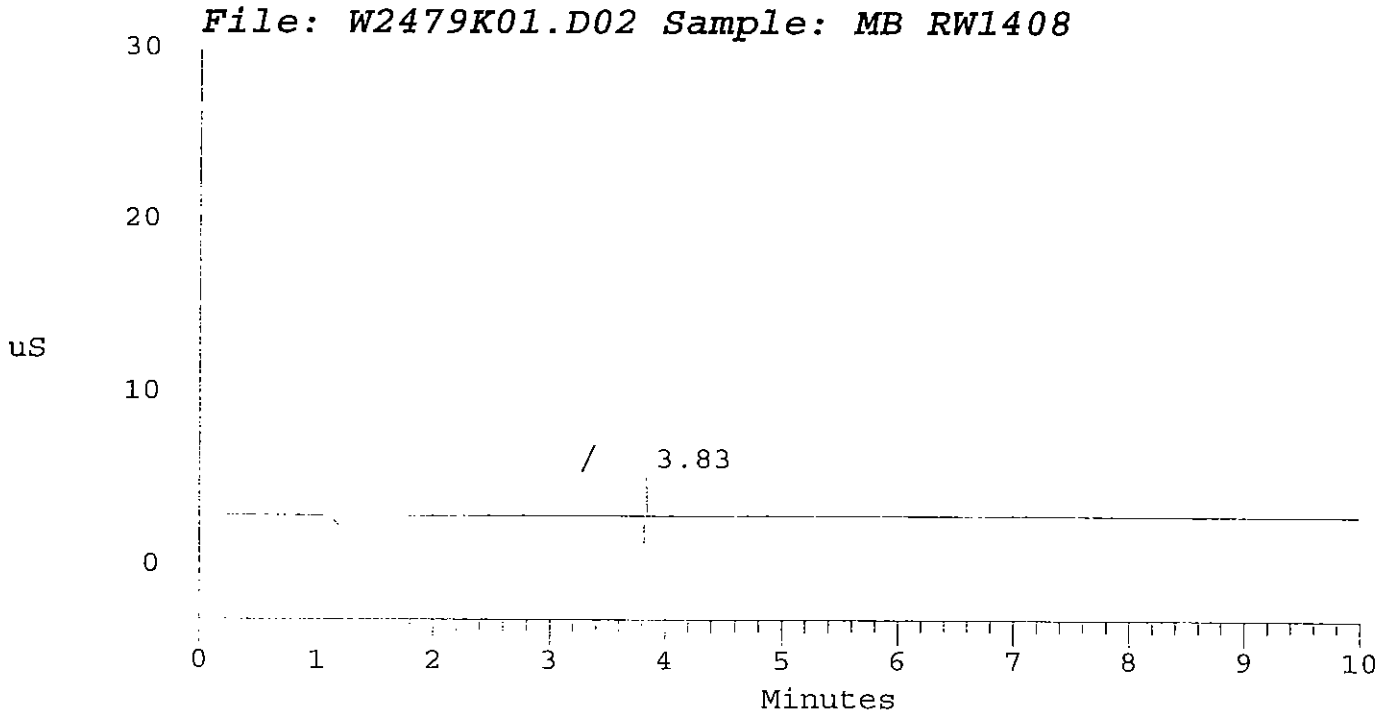
Data Reprocessed On 04/22/2003 10:27:27

Sample Name: MB RW1408	Date: 04/22/2003 10:25:06
Data File : C:\DX\DATA\03W2479\W2479K01.D02	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector:COND
Analyst : David Column: Dionex AS4A-SC	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	0	0		



After
4/22/03 DV
reason: 3.✓

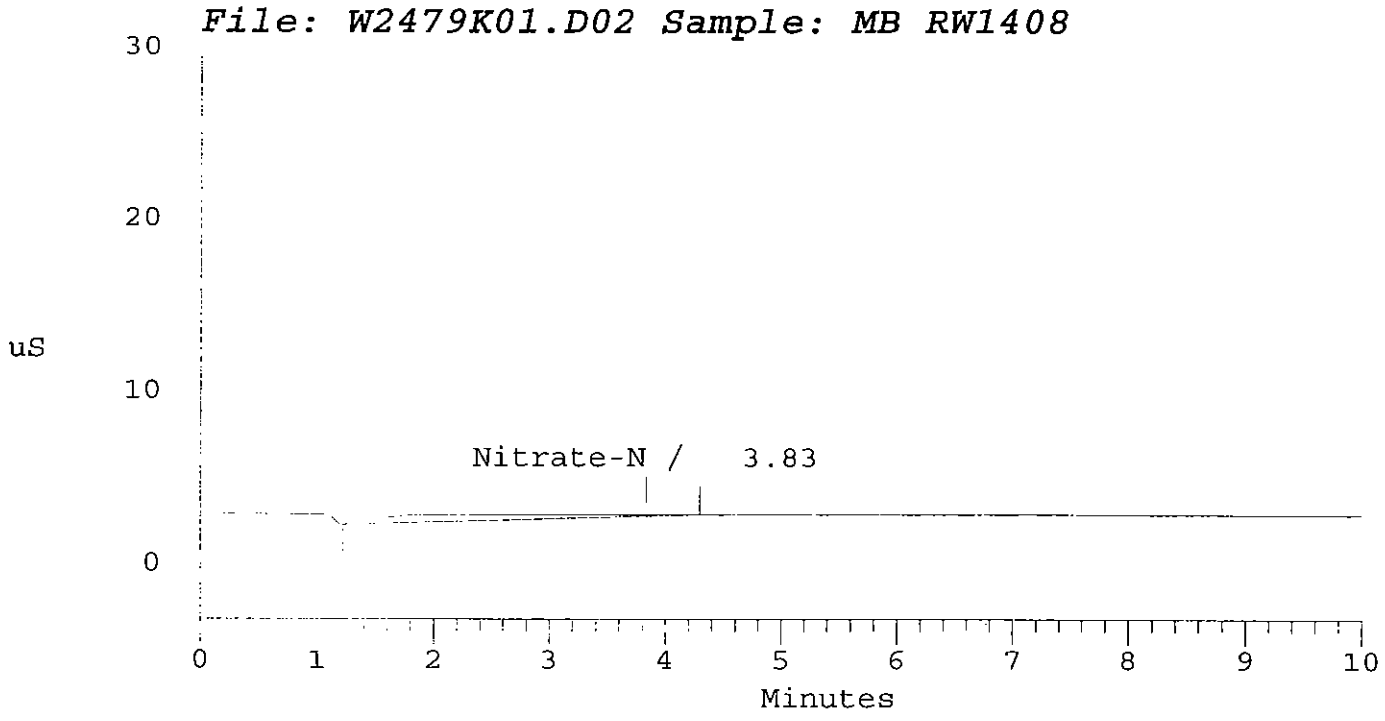
4578

Sample Name: MB RW1408	Date: 04/22/2003 10:25:06
Data File : C:\DX\DATA\03W2479\W2479K01.D02	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector:COND
Analyst : David	Column: Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
1	3.83	Nitrate-N	1.307	3121	1570052	1	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	1.307	3121	1570052		



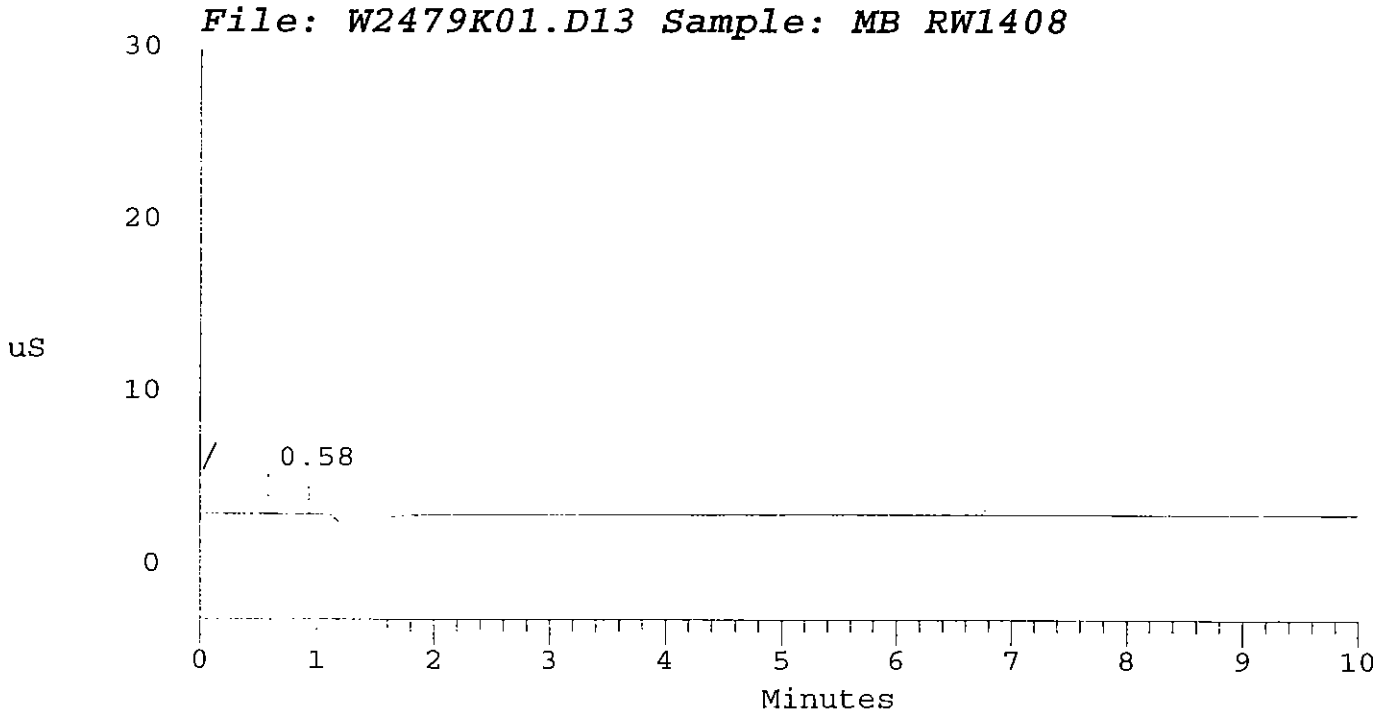
before

```
==========================================================================
| Sample Name: MB RW1408                      Date: 04/22/2003 14:06:15   |
| Data File  : C:\DX\DATA\03W2479\W2479K01.D13                            |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 13                 Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	0	0		

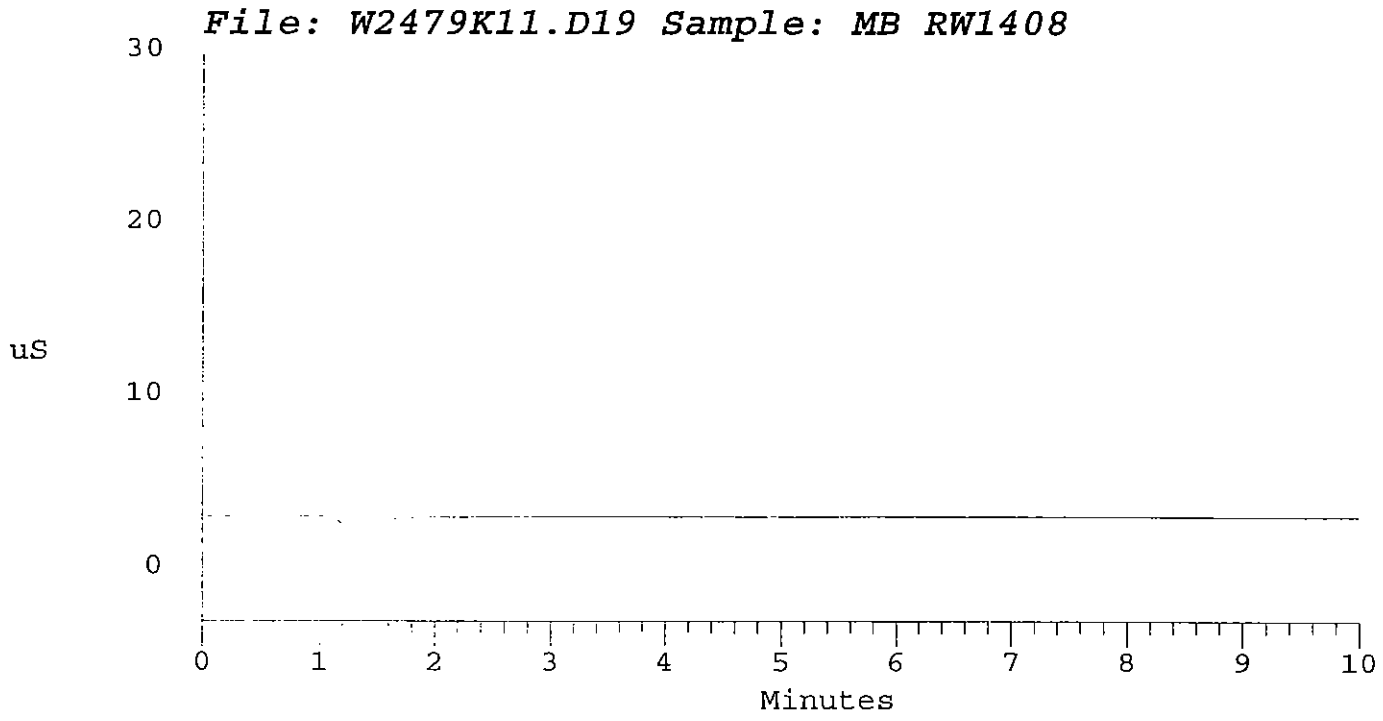


```
==========================================================================
| Sample Name: MB RW1408                      Date: 04/22/2003 16:46:10   |
| Data File  : C:\DX\DATA\03W2479\W2479K11.D19                            |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 19                 Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	0	0		



FORM-3

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2479		
LCS Filename:	-	Date Analyzed:	042203	Time Analyzed:	10:43
LCSD Filename:	-	Date Analyzed:	042203	Time Analyzed:	10:56

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	0	3.96	99	80-120
NITRATE AS N	mg/L	1.5	0	1.51	101	80-120
SULFATE SO_4^{--}	mg/L	15	0	14.8	99	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	3.93	98	1	20	80-120
NITRATE AS N	mg/L	1.5	1.50	100	1	20	80-120
SULFATE SO_4^{--}	mg/L	15	14.7	98	1	25	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

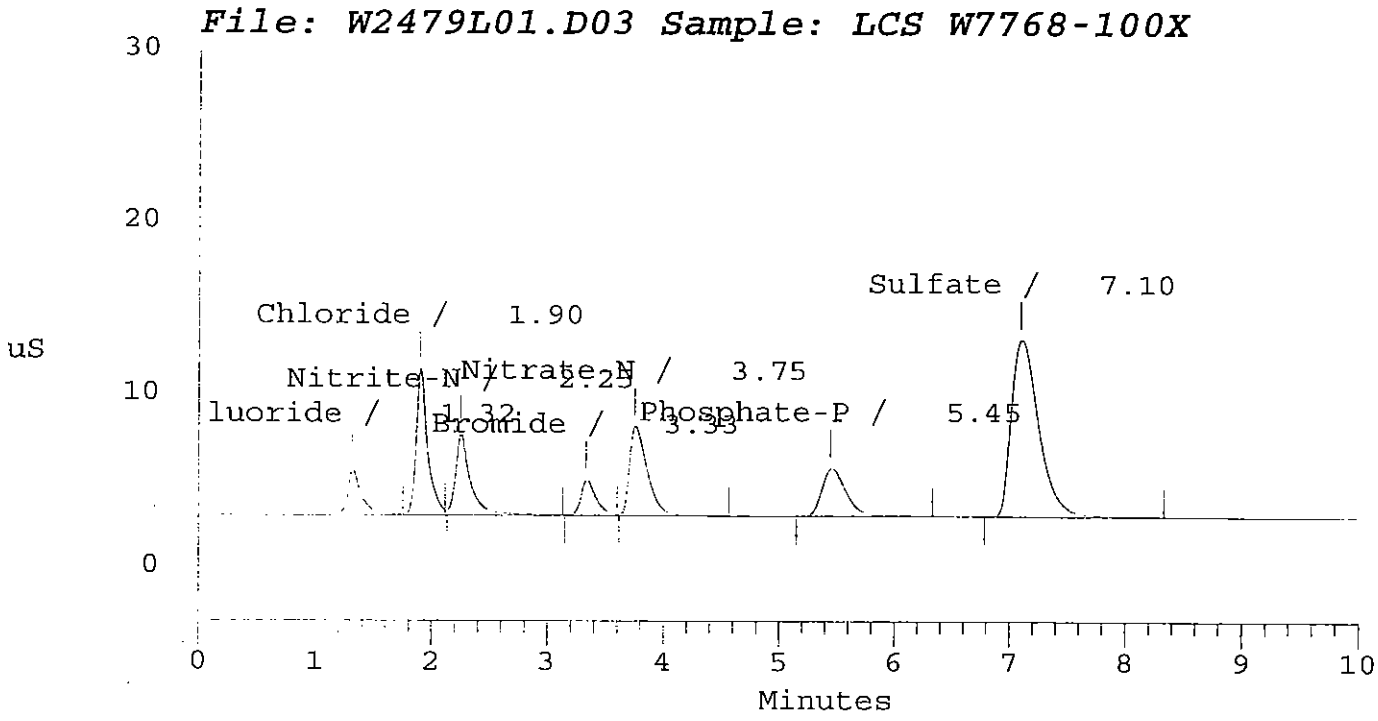
Comments: _____

Sample Name: LCS W7768-100X	Date: 04/22/2003 10:43:49
Data File : C:\DX\DATA\03W2479\W2479L01.D03	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 3	Detector:COND
Analyst : David	Column: Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	1.025	87568	745302	2	0.00
2	1.90	Chloride	3.956	277396	1960299	2	0.00
3	2.25	Nitrite-N	1.438	154386	1448414	2	0.00
4	3.33	Bromide	3.034	66690	618380	2	0.37
5	3.75	Nitrate-N	1.514	170870	1826336	2	0.00
6	5.45	Phosphate-P	2.928	90756	1338642	1	0.00
7	7.10	Sulfate	14.753	338834	5615256	1	0.00
		Totals	28.648	1186501	13552630		

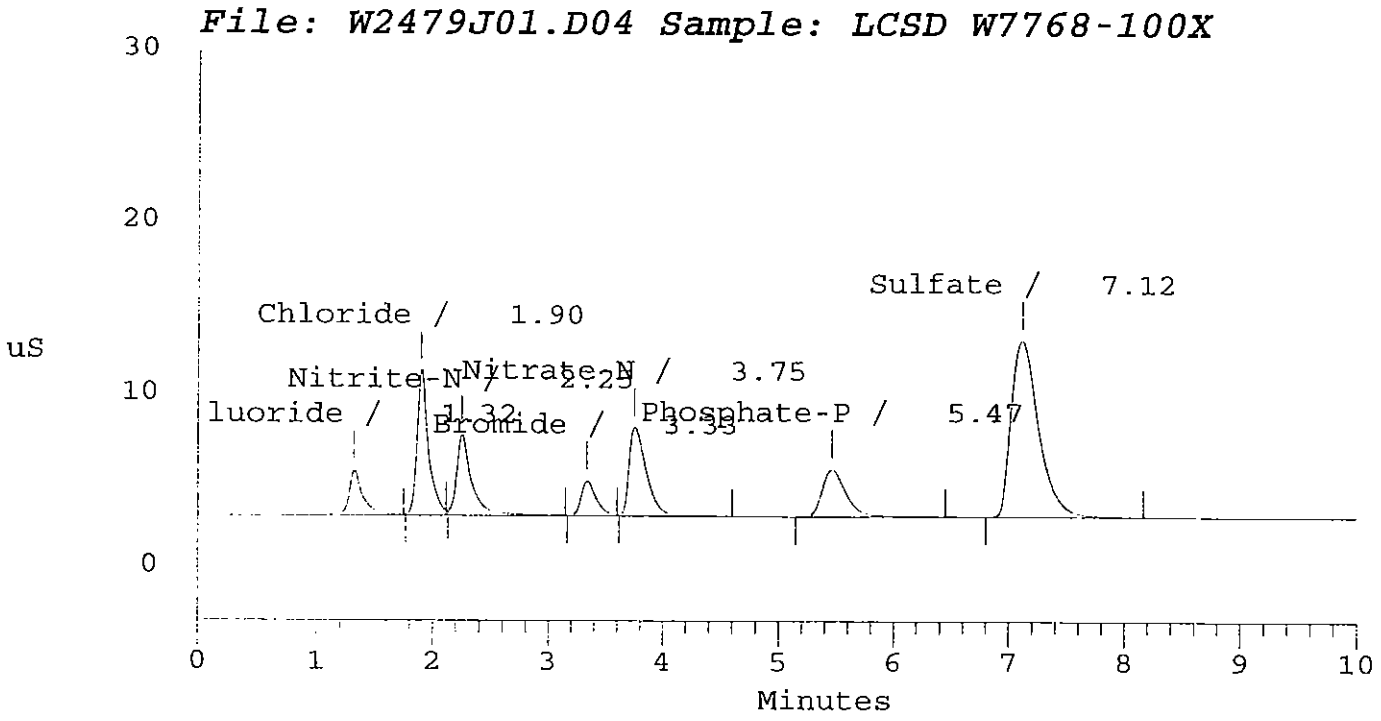


Sample Name: LCSD W7768-100X	Date: 04/22/2003 10:56:32
Data File : C:\DX\DATA\03W2479\W2479J01.D04	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 4	Detector:COND
Analyst : David	Column: Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	1.020	86862	741871	2	0.00
2	1.90	Chloride	3.930	277914	1946867	2	0.00
3	2.25	Nitrite-N	1.442	154917	1453082	2	0.00
4	3.33	Bromide	3.022	67290	615743	2	0.37
5	3.75	Nitrate-N	1.502	170692	1812154	2	0.00
6	5.47	Phosphate-P	2.919	91574	1334304	1	0.00
7	7.12	Sulfate	14.659	339223	5578007	1	0.00
		Totals	28.494	1188472	13482030		



FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 300.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2479		
MS Filename:	-	Date Analyzed:	042203	Time Analyzed:	14:22
MSD Filename:	-	Date Analyzed:	042203	Time Analyzed:	14:35
MS Sample No:	**MW-4-2**	Sample Lab ID:	03-2809-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	MS	MS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	160	95.4	257	101	75-125
NITRATE AS N	mg/L	60.0	10.0	69.3	99	75-125
SULFATE SO_4^{--}	mg/L	600	124	719	99	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	REC
CHLORIDE CL^-	mg/L	160	256	100	1	20	75-125
NITRATE AS N	mg/L	60.0	70.1	100	1	20	75-125
SULFATE SO_4^{--}	mg/L	600	713	98	1	25	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

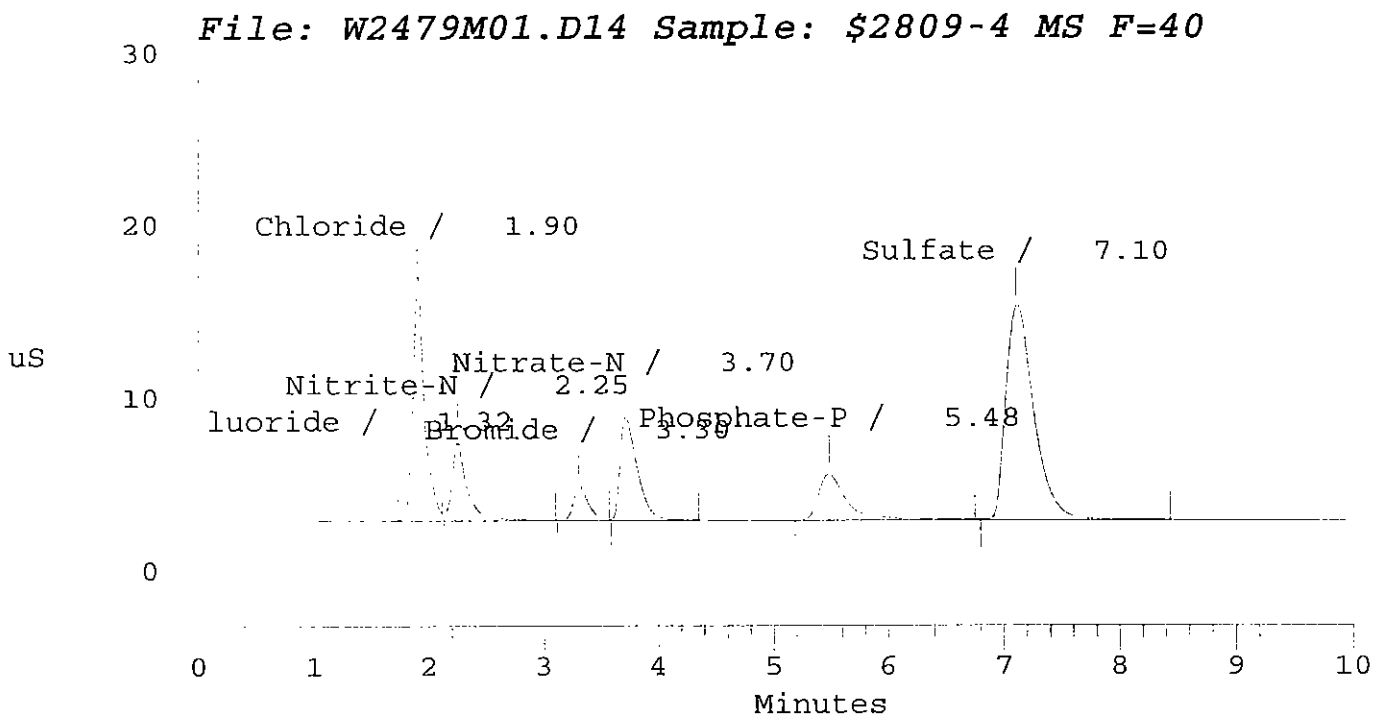
Comments: _____

```
==============================================================================
| Sample Name: $2809-4 MS F=40                Date: 04/22/2003 14:22:48       |
| Data File  : C:\DX\DATA\03W2479\W2479M01.D14                                |
| Method     : C:\DX\METHOD\E300-063.MET                                      |
| ACI Address: 1  System: 1  Inject#: 14                  Detector:COND       |
| Analyst    : David          Column: Dionex AS4A-SC                          |
==============================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	40	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	41.825	82701	760523	2	0.00
2	1.90	Chloride	256.662	459912	3220066	2	0.00
3	2.25	Nitrite-N	56.934	152454	1433599	2	0.00
4	3.30	Bromide	120.216	66386	612379	2	0.71
5	3.70	Nitrate-N	69.326	195629	2098781	2	0.00
6	5.48	Phosphate-P	136.572	88842	1567853	2	0.00
7	7.10	Sulfate	719.313	410163	6890583	2	0.00
		Totals	1400.848	1456087	16583784		

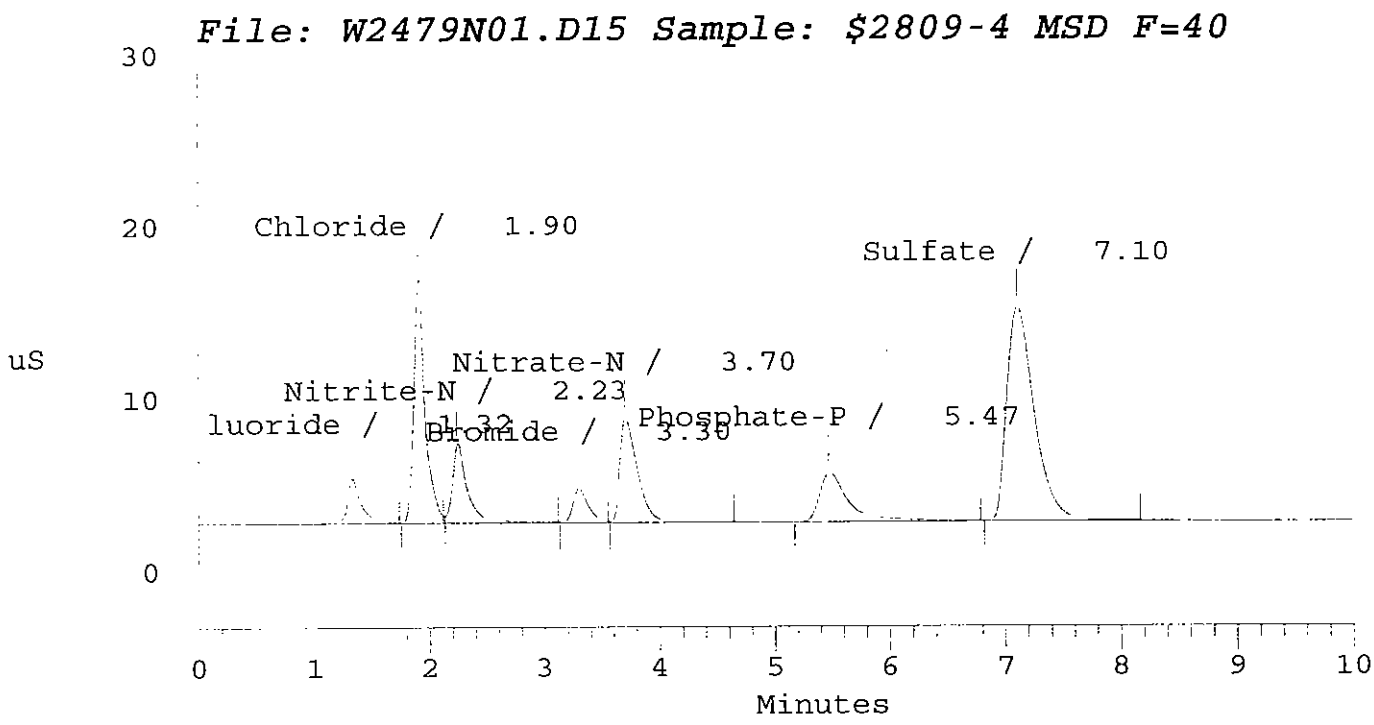


Sample Name: $2809-4 MSD F=40	Date: 04/22/2003 14:35:30
Data File : C:\DX\DATA\03W2479\W2479N01.D15	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 15	Detector:COND
Analyst : David Column: Dionex AS4A-SC	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	40	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	41.597	82508	756379	2	0.00
2	1.90	Chloride	255.602	464903	3206498	2	0.00
3	2.23	Nitrite-N	57.448	145928	1446758	2	-0.74
4	3.30	Bromide	120.209	66738	612341	2	0.71
5	3.70	Nitrate-N	70.064	199598	2121675	2	0.00
6	5.47	Phosphate-P	149.479	93590	1719897	2	0.00
7	7.10	Sulfate	713.046	410183	6828718	2	0.00
		Totals	1407.444	1463449	16692266		



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:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2496		
LCS Filename:	-	Date Analyzed:	042203	Time Analyzed:	18:49
LCSD Filename:	-	Date Analyzed:	042203	Time Analyzed:	19:07

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	25	0	20.8	83	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PERCHLORATE	μg/L	25	20.4	82	1	20	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

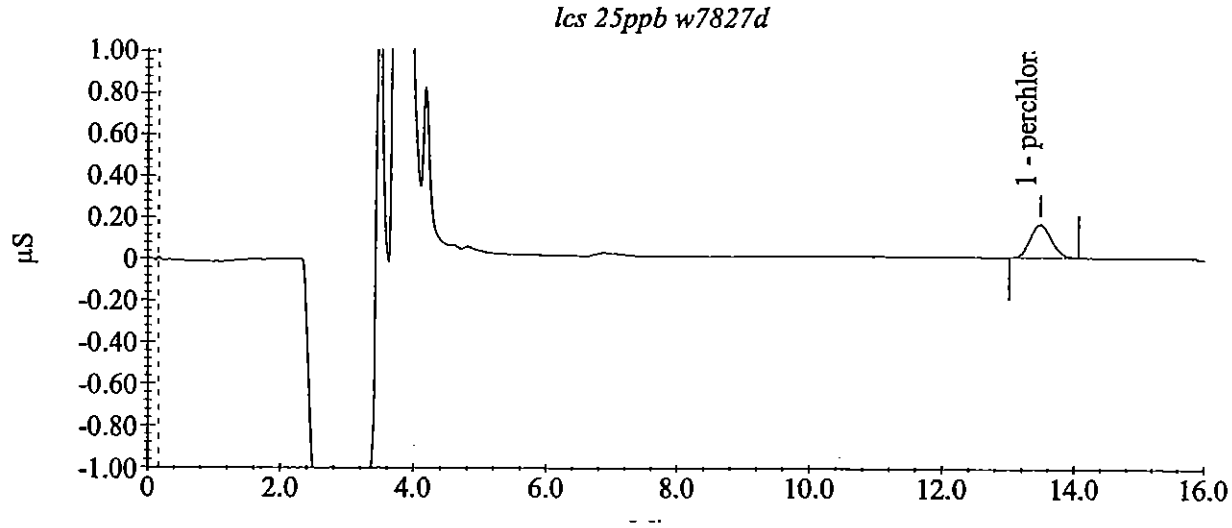
APCL Perchlorate Analysis Report

Sample Name : lcs 25ppb w7827d
Data File Name : C:\DATA\03W2496K\W2496K L01_004.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 6:49:00 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	13.48	20.81	35317.40	1591.[illegible]



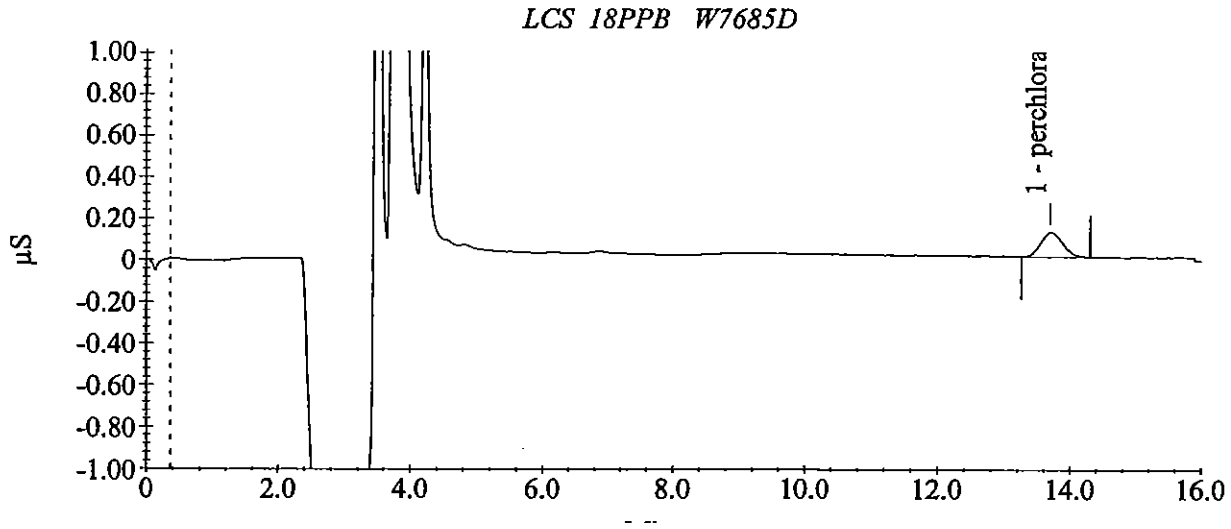
APCL Perchlorate Analysis Report

Sample Name : LCS 18PPB W7685D
Data File Name : C:\DATA\03W2496K\W2496K J01_005.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 7:07:40 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	13.70	16.23	27547.60	1168.31



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:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2496		
MS Filename:	-	Date Analyzed:	042303	Time Analyzed:	01:57
MSD Filename:	-	Date Analyzed:	042303	Time Analyzed:	02:15
MS Sample No:	**MW-4-2**	Sample Lab ID:	03-2809-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	50.0	6.6	55.4	98	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	56.7	100	2	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: _____

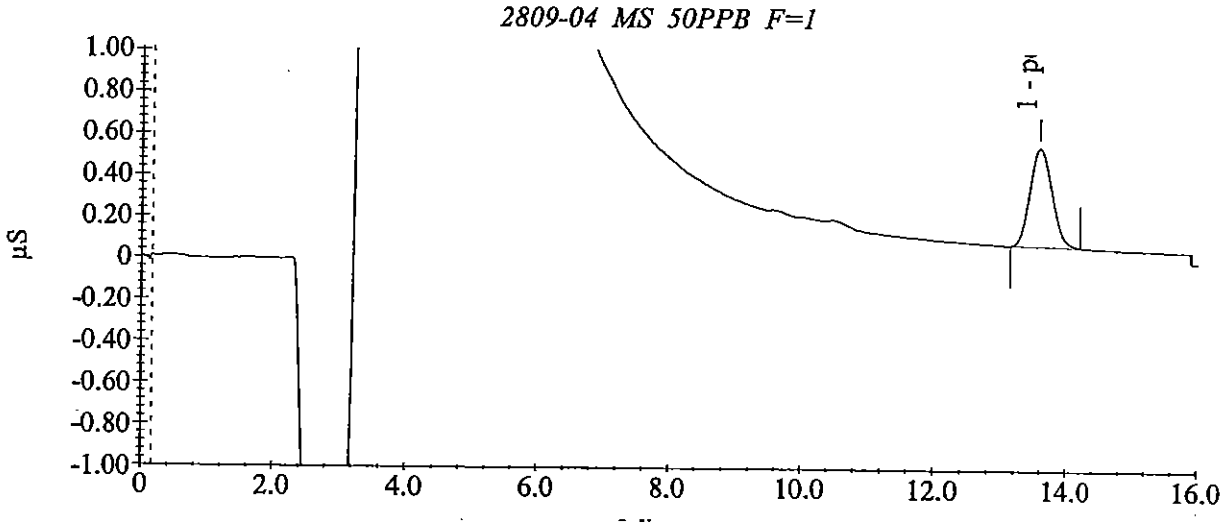
APCL Perchlorate Analysis Report

Sample Name : 2809-04 MS 50PPB F=1
Data File Name : C:\DATA\03W2496K\W2496K M01_027.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 1:57:22 AM
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	13.58	64.12	108809.80	4728.45



Rec 115.14%

: PeakNet 5.2

Current Date : 04/23/2003
Current Time : 1:57:29

4392

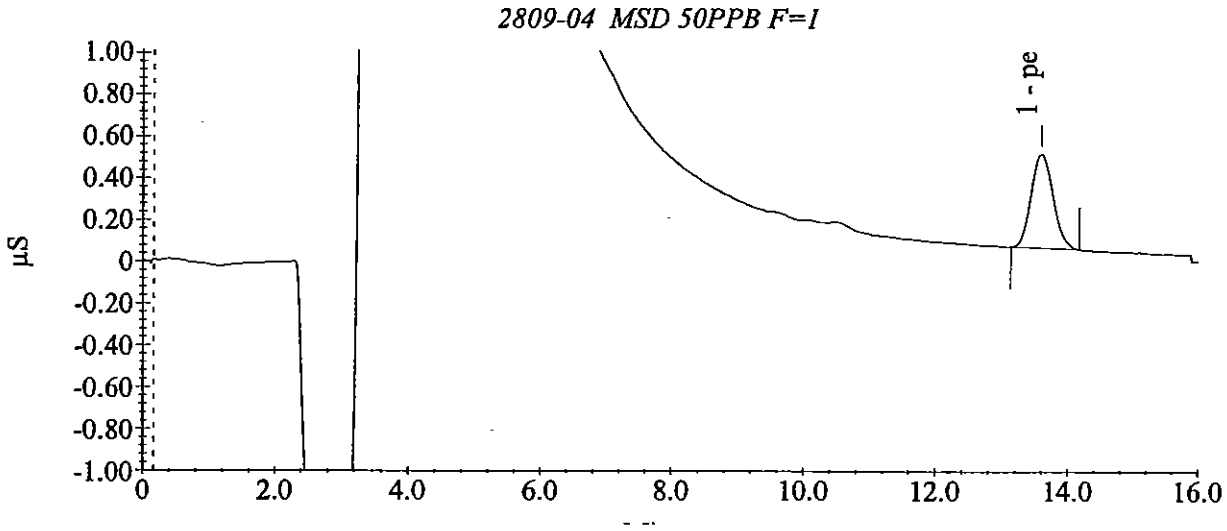
APCL Perchlorate Analysis Report

Sample Name : 2809-04 MSD 50PPB F=1
Data File Name : C:\DATA\03W2496K\W2496K N01_028.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 2:15:52 AM
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	13.60	60.77	103133.40	4475.04



Rec 108.44%

FORM-3

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2500		
LCS Filename:	-	Date Analyzed:	042203	Time Analyzed:	16:56
LCSD Filename:	-	Date Analyzed:	042203	Time Analyzed:	16:56

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	0	421	105	88-108
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	428	107	2	20	88-108
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 160.1

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2500		
MS Filename:	-	Date Analyzed:	042203	Time Analyzed:	16:56
MSD Filename:	-	Date Analyzed:	042203	Time Analyzed:	16:56
MS Sample No:	**MW-19-2**	Sample Lab ID:	03-2809-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	587	1010	106	80-119
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	971	96	10	20	80-119
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-3

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2476		
LCS Filename:	-	Date Analyzed:	042103	Time Analyzed:	17:22
LCSD Filename:	-	Date Analyzed:	042103	Time Analyzed:	17:22

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.225	90	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	0.230	92	2	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:	32809
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2476		
MS Filename:	-	Date Analyzed:	042103	Time Analyzed:	17:22
MSD Filename:	-	Date Analyzed:	042103	Time Analyzed:	17:22
MS Sample No:	**MW-4-2**	Sample Lab ID:	03-2809-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.227	91	78-115
# of Out-of-control					0	

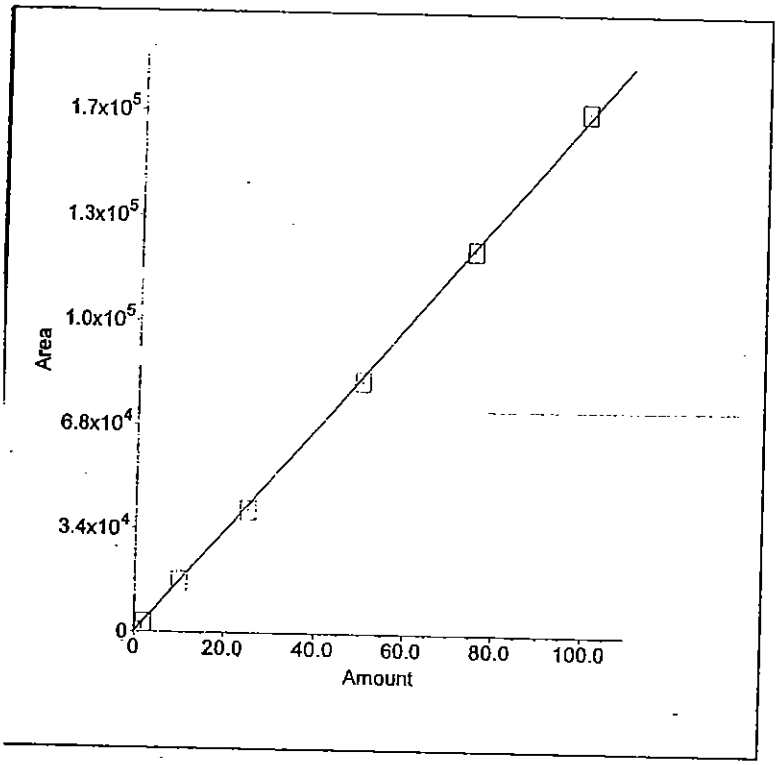
Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0.226	90	1	19	78-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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

APCL Perchlorate Analysis Report

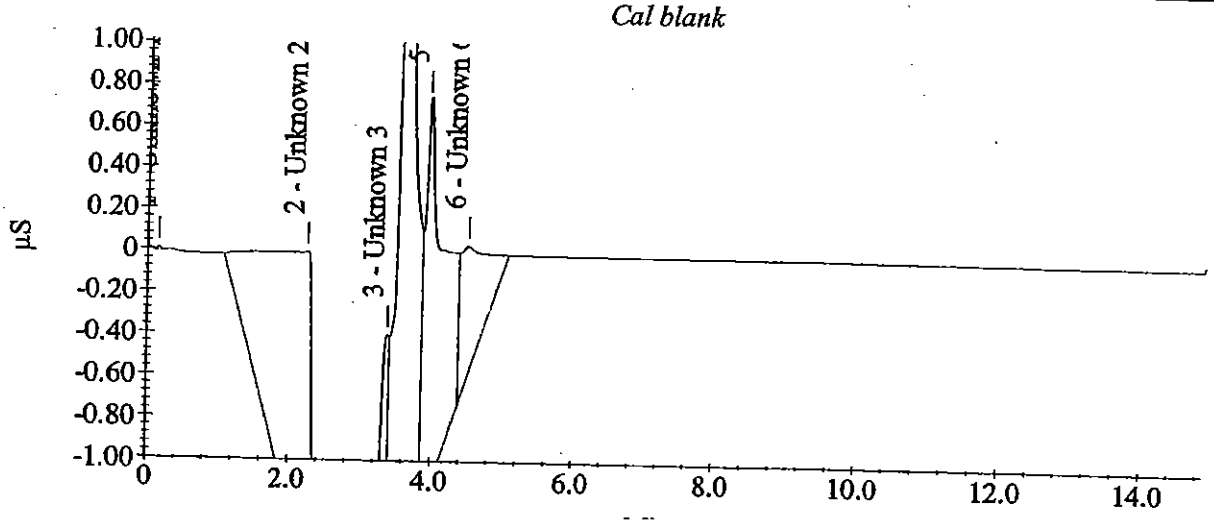
Sample Name : Cal blank
Data File Name : C:\data\E314-011\Mb_001.DXD

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

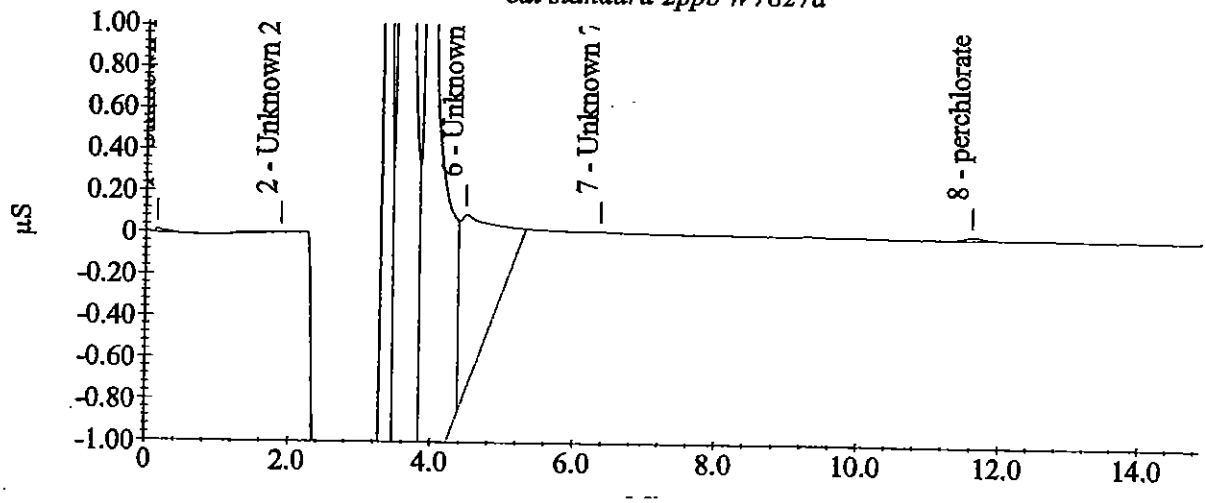
Sample Name : cal standard 2ppb W7827a
Data File Name : C:\DATA\E314-011\std-2pb_002.DXD

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

cal standard 2ppb W7827a



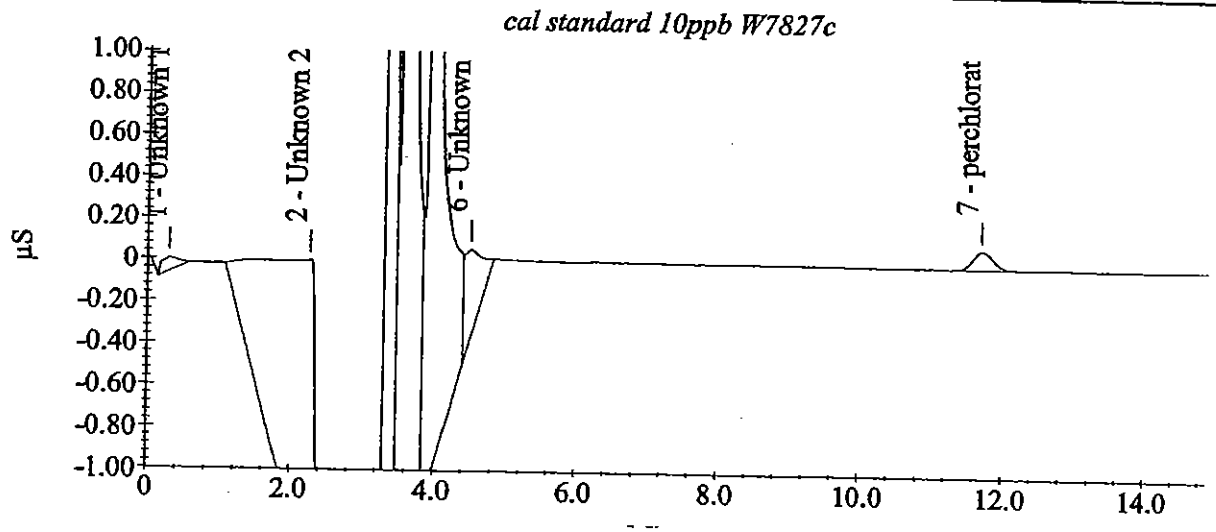
APCL Perchlorate Analysis Report

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



APCL Perchlorate Analysis Report

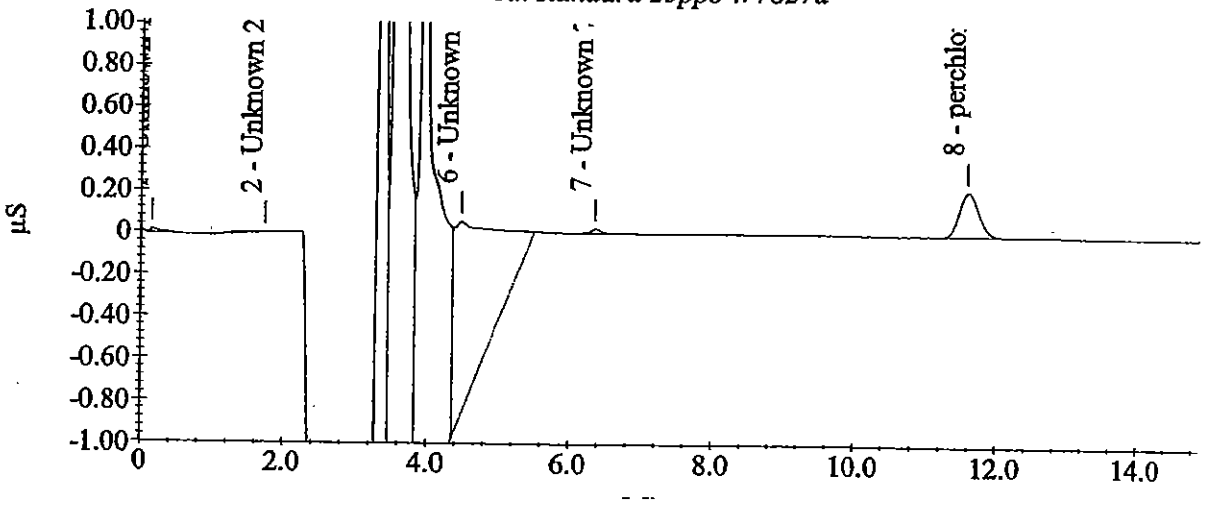
Sample Name : cal standard 25ppb W7827d
Data File Name : C:\DATA\E314-011\std-25pb_005.DXD

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



APCL Perchlorate Analysis Report

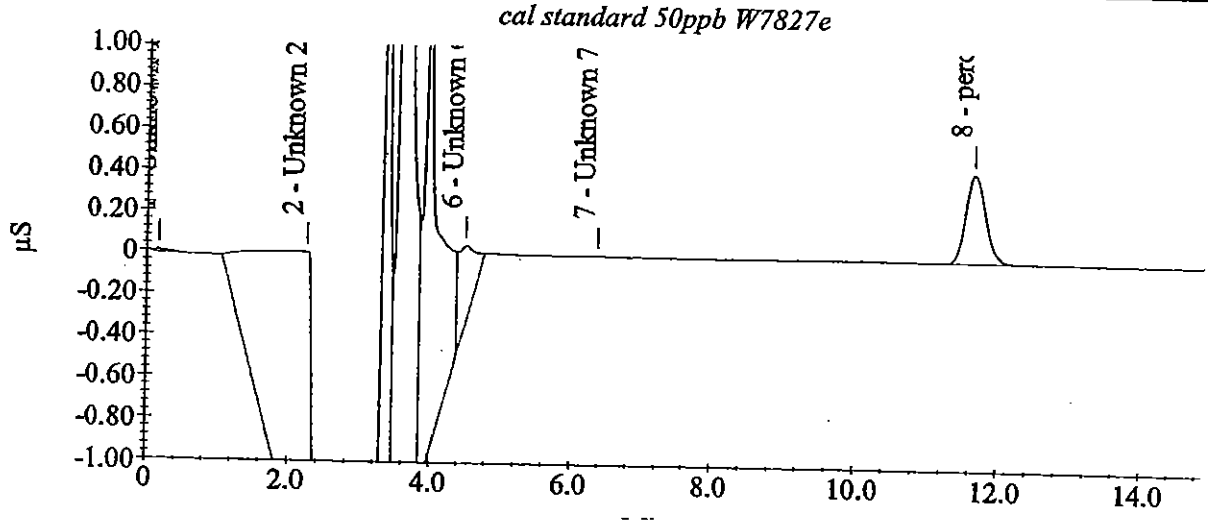
Sample Name : cal standard 50ppb W7827e
Data File Name : C:\DATA\E314-011\std-50pb_006.DXD

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

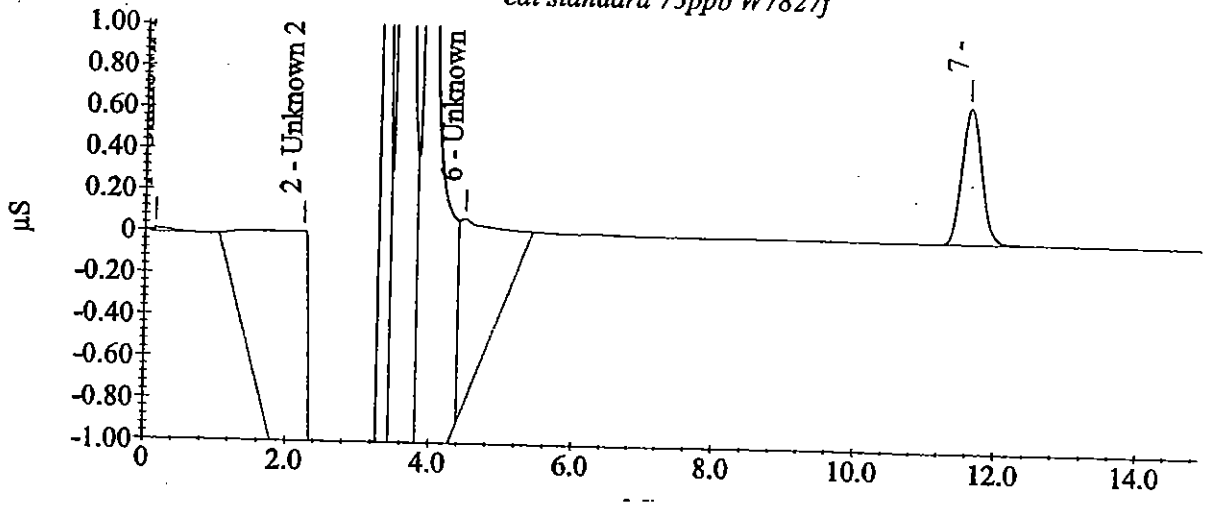
Sample Name : cal standard 75ppb W7827f
Data File Name : C:\DATA\E314-011\std-75pb_007.DXD

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

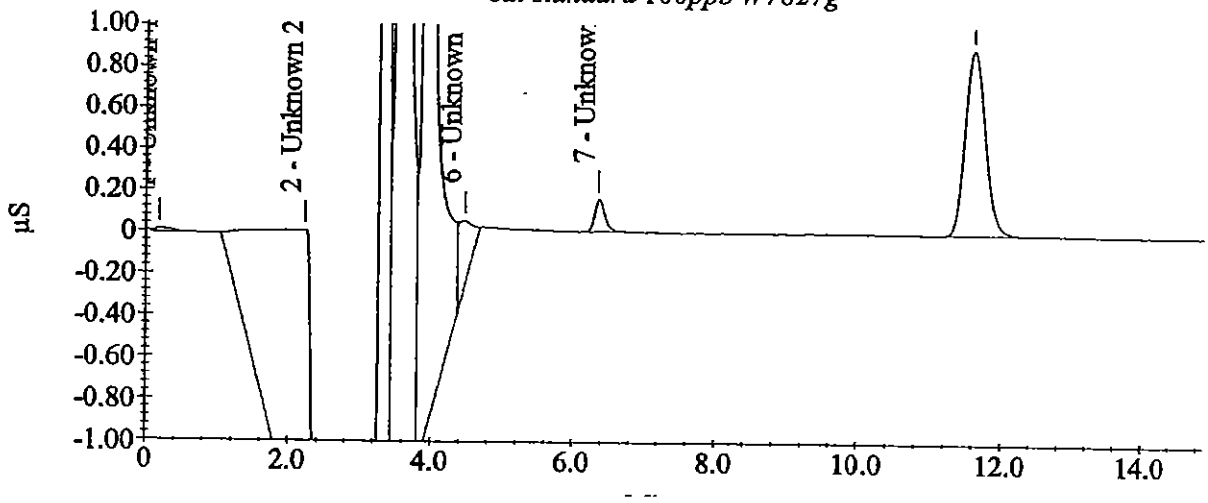
Sample Name : cal standard 100ppb W7827g
Data File Name : C:\DATA\E314-011\std-100pb_008.DXD

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	8927[illegible]

cal standard 100ppb W7827g



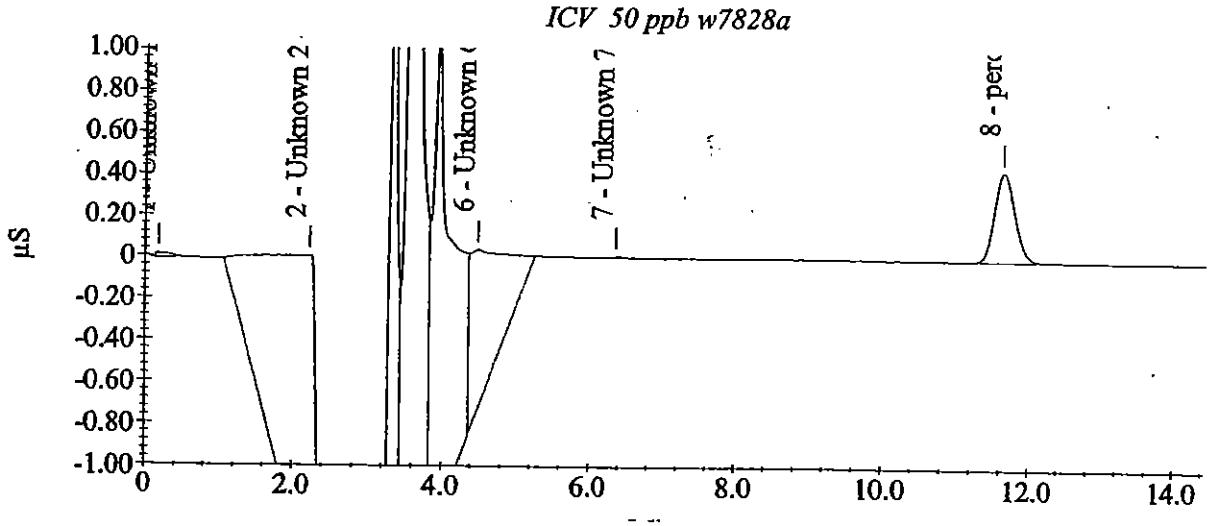
APCL Perchlorate Analysis Report

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



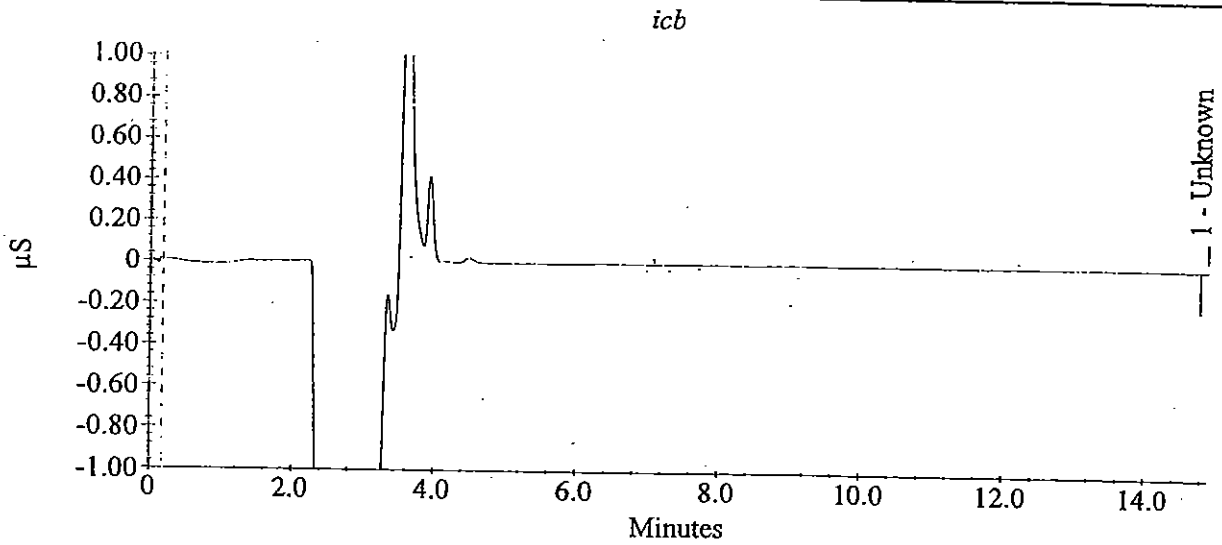
APCL Perchlorate Analysis Report

Sample Name : 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



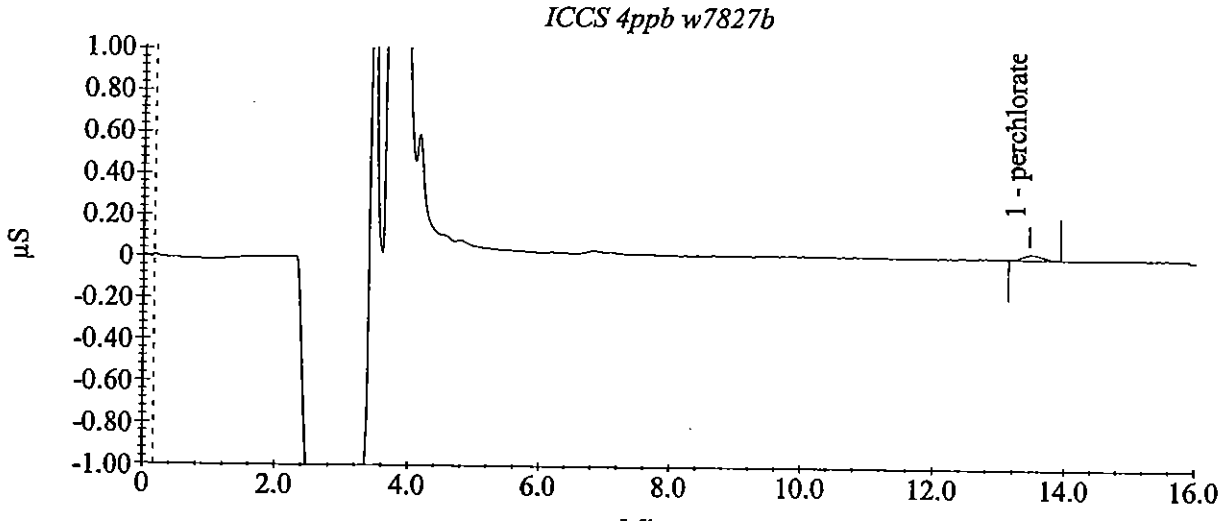
APCL Perchlorate Analysis Report

Sample Name : ICCS 4ppb w7827b
Data File Name : C:\DATA\03W2496K\W2496K ICCS 4PPB_006.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 7:26:27 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	13.45	3.27	5550.15	242.10



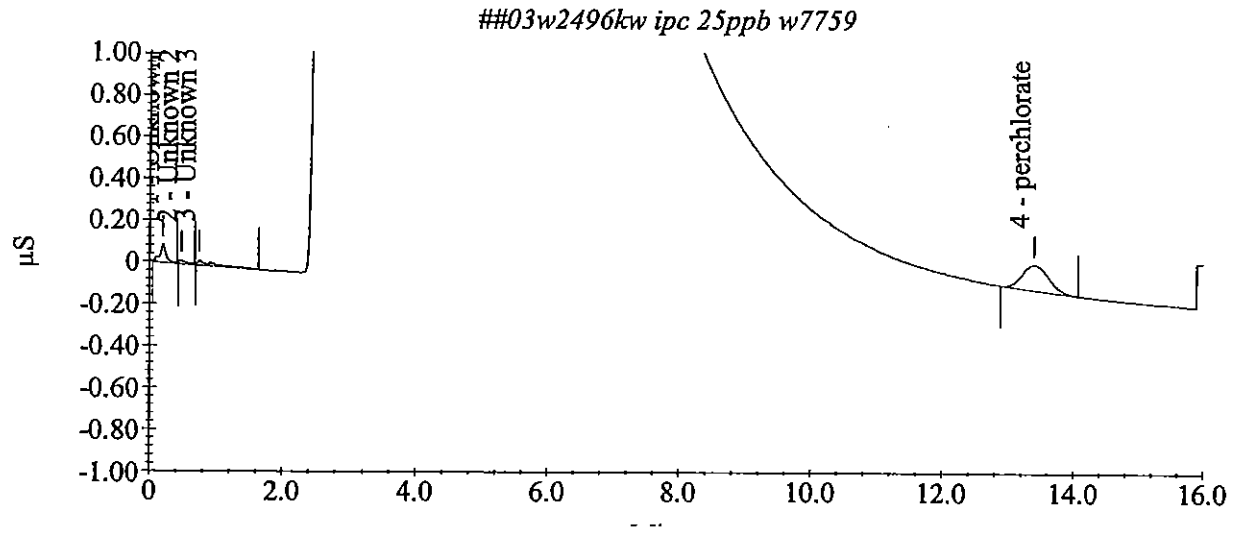
APCL Perchlorate Analysis Report

Sample Name : ##03w2496kw ipc 25ppb w7759
Data File Name : C:\DATA\03W2496K\W2496K IPC 25PPB_001.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 4:43:22 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
4	perchlorate	13.40	20.01	33963.15	1197.81



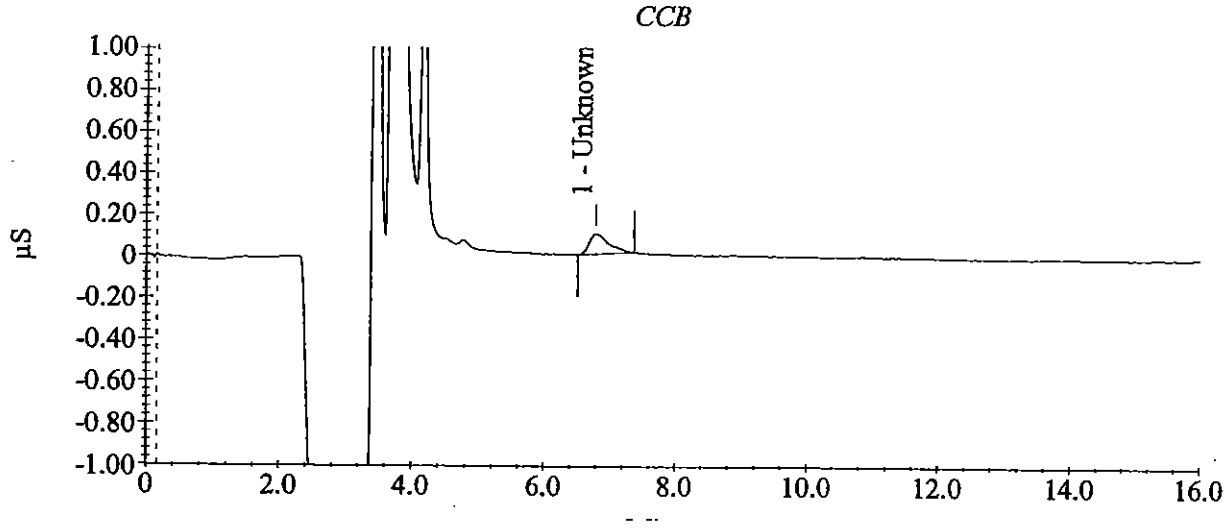
APCL Perchlorate Analysis Report

Sample Name : CCB
Data File Name : C:\DATA\03W2496K\W2496K K03_025.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 1:20:02 AM
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



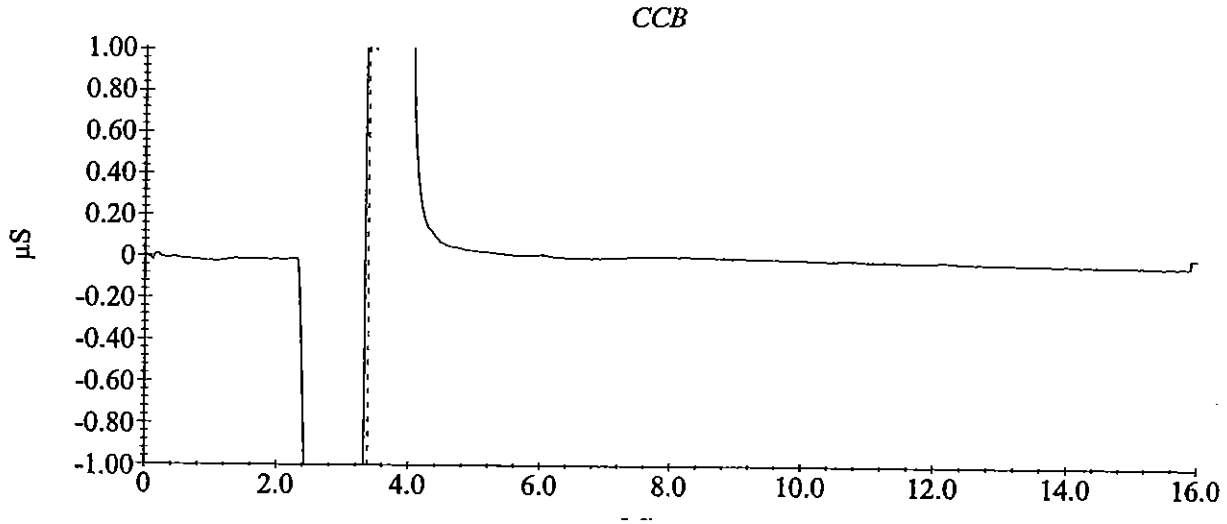
APCL Perchlorate Analysis Report

Sample Name : CCB
Data File Name : C:\DATA\03W2496K\W2496K K04_033.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 10:36:23 AM
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



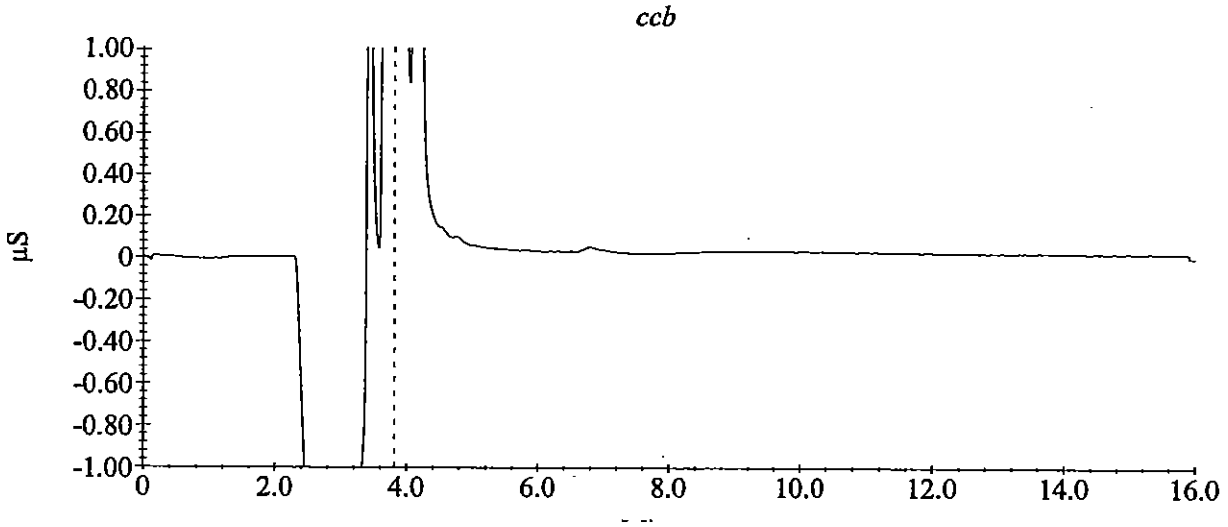
APCL Perchlorate Analysis Report

Sample Name : ccb
Data File Name : C:\DATA\03W2496K\W2496K CCB01_003.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 6:30:26 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



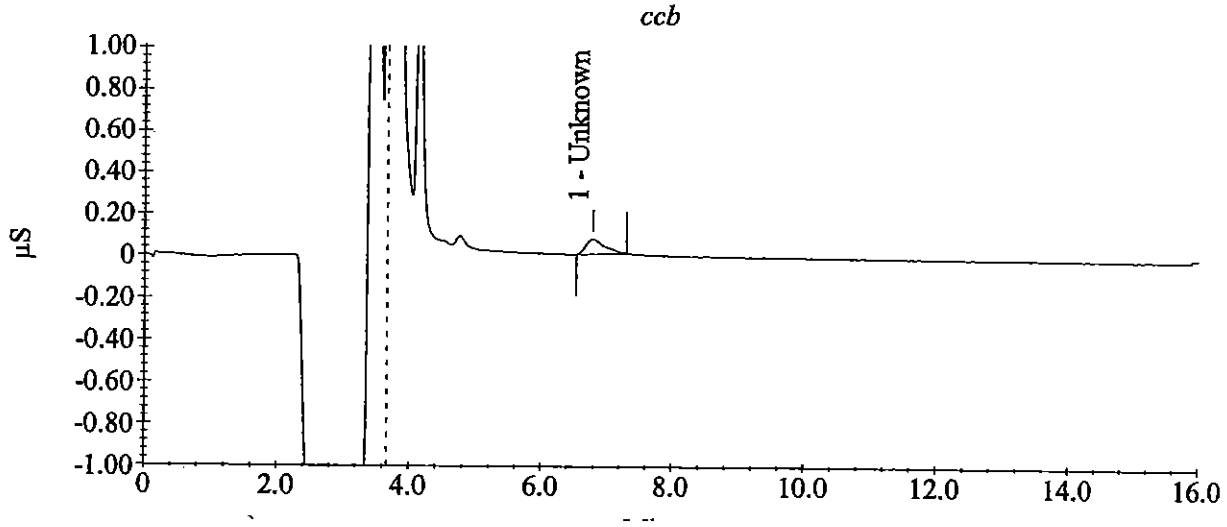
APCL Perchlorate Analysis Report

Sample Name : ccb
Data File Name : C:\DATA\03W2496K\W2496K K02_014.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 9:55:23 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



ONEX METHOD PARAMETERS - E300-063.MET

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

System Parameters

System Name: DX-100
Number of Detectors..... 1
Run Time (minutes)..... 10.00
Sampling Rate (seconds)..... 0.20

Detector 1 Type..... COND
Detector 1 real time plot scale maximum (uS)..... 30.000
minimum..... -3.000
Detector 1 Output Equivalent to 1 Volt (in uS) 30.00
Detector 1 ACI Analog Input Connection DET1
Save Data File..... Yes
Data File Name: C:\DX\DATA\03W1991\W1991Q01.D10

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File..... No
Print Report..... Yes
Print All Components..... Yes
Print Components Found..... No
Print Missing Components..... No
Print All Peaks..... No
Print Unknown Peaks..... No
Print Chromatogram..... Yes
Autoscale Chromatogram Maximum..... No
Autoscale Chromatogram Minimum..... No
Fill Peaks with Color ..... No
Draw Grid Lines on Chromatogram..... No
Show Component Fraction Numbers..... No
Label with Peak Number..... No
Label with Retention Times on Chromatogram..... Yes
Label with Component Name..... Yes
Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

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

Data Events

Time	Description
0.13	Start peak detection
10.00	Stop peak detection

Calibration Parameters

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

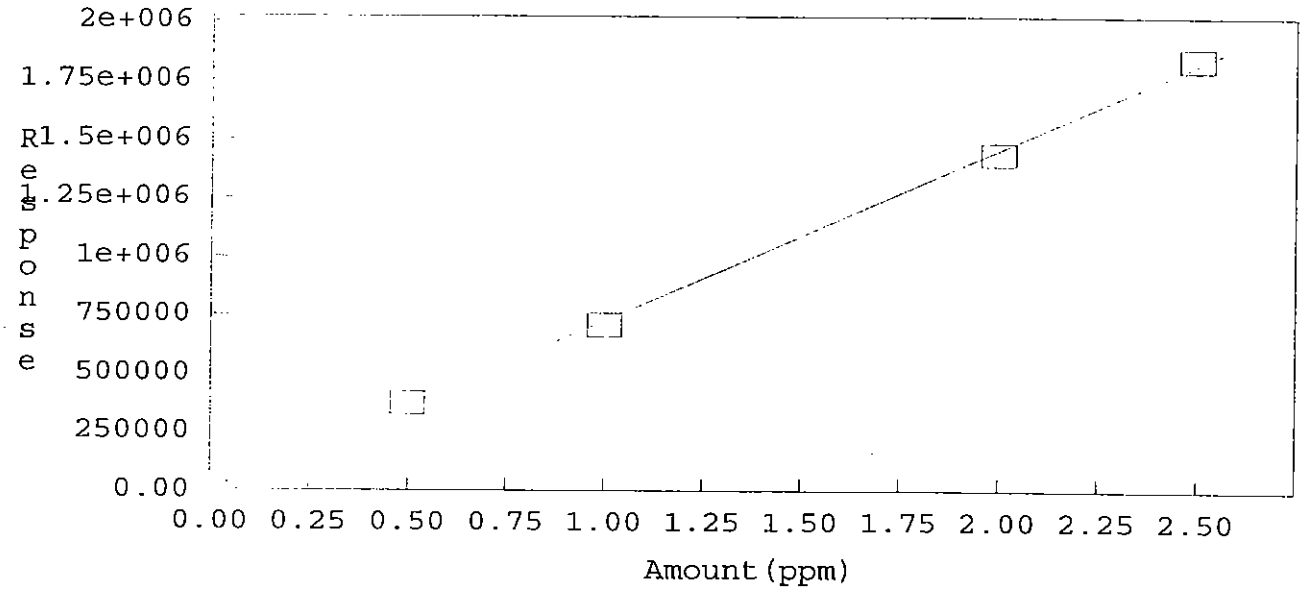
Level	Amount	Area	Height
1	3.76000E-001	129999	6524
2	7.50000E+000	2598757	138579
3	1.50000E+001	5330209	287851
4	3.00000E+001	11507107	615917
5	3.75000E+001	14859049	776426
6	0.00000E+000	0	0

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

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

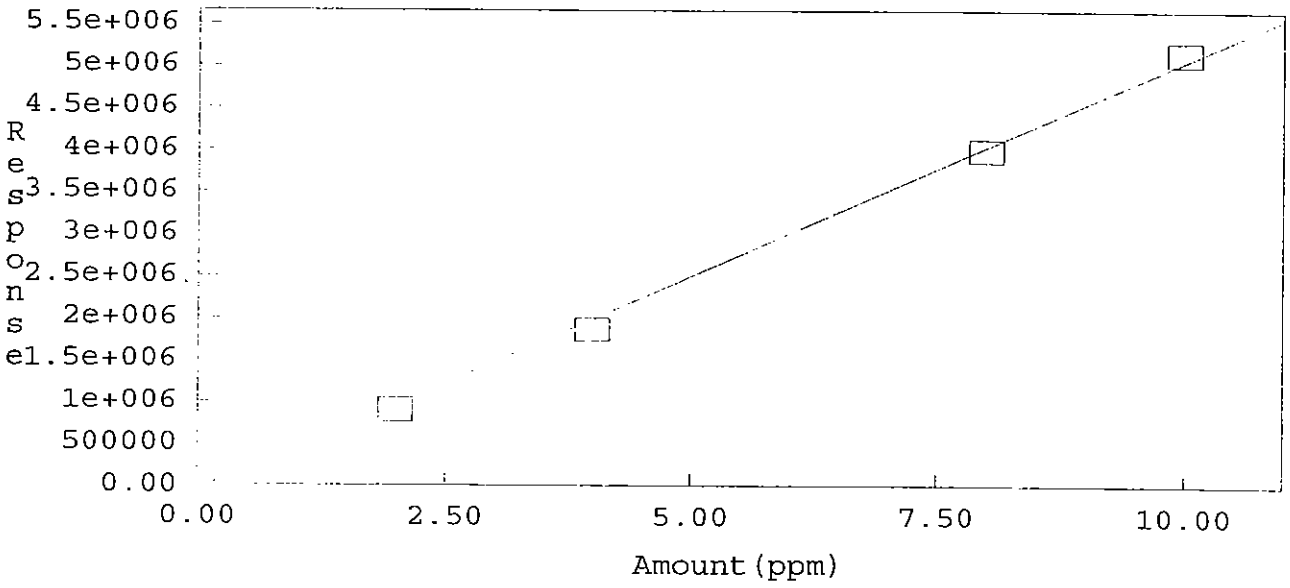
Method: E300-063.MET - Last Updated: 17:42 on Fri, 21 Mar 2003

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



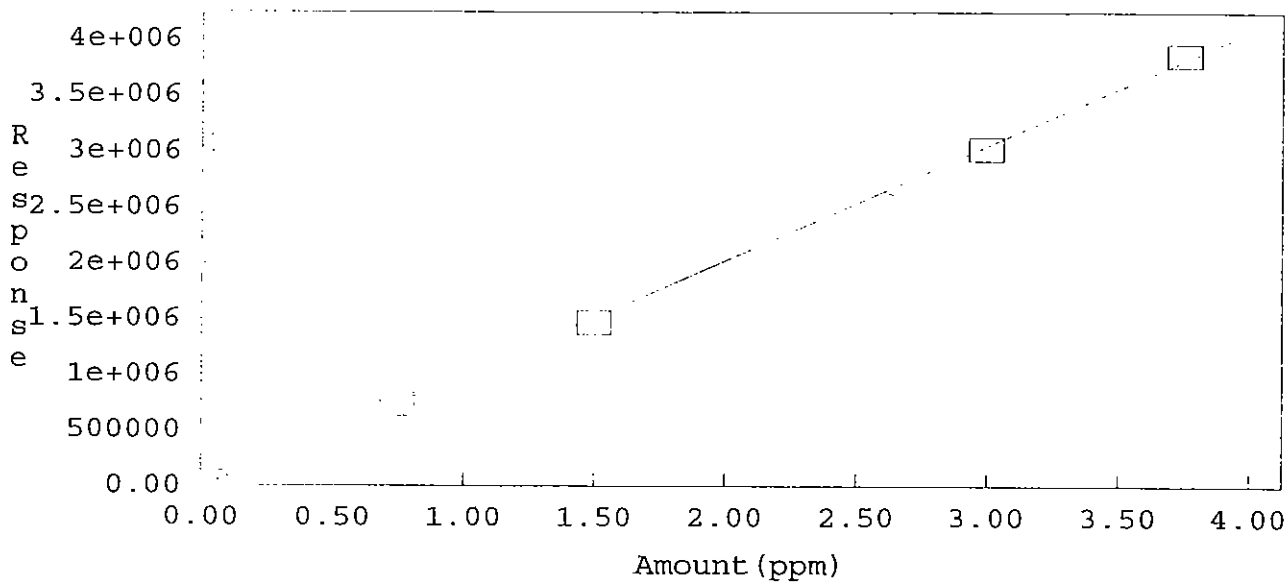
Method: C:\DX\METHOD\E300-063.MET

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



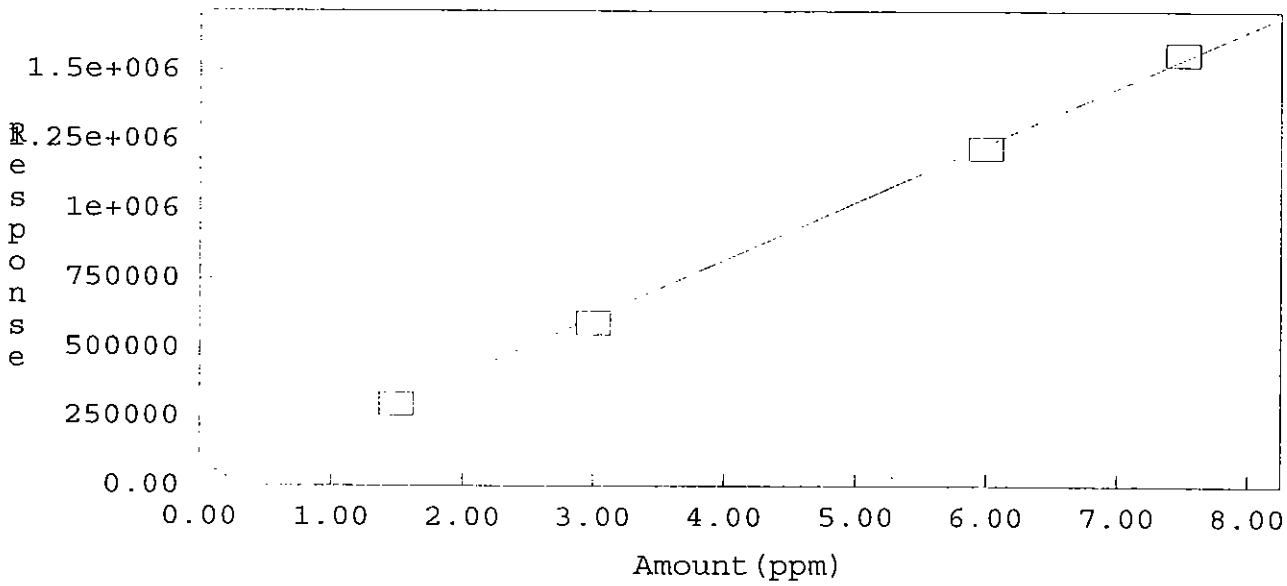
Method: C:\DX\METHOD\E300-063.MET

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



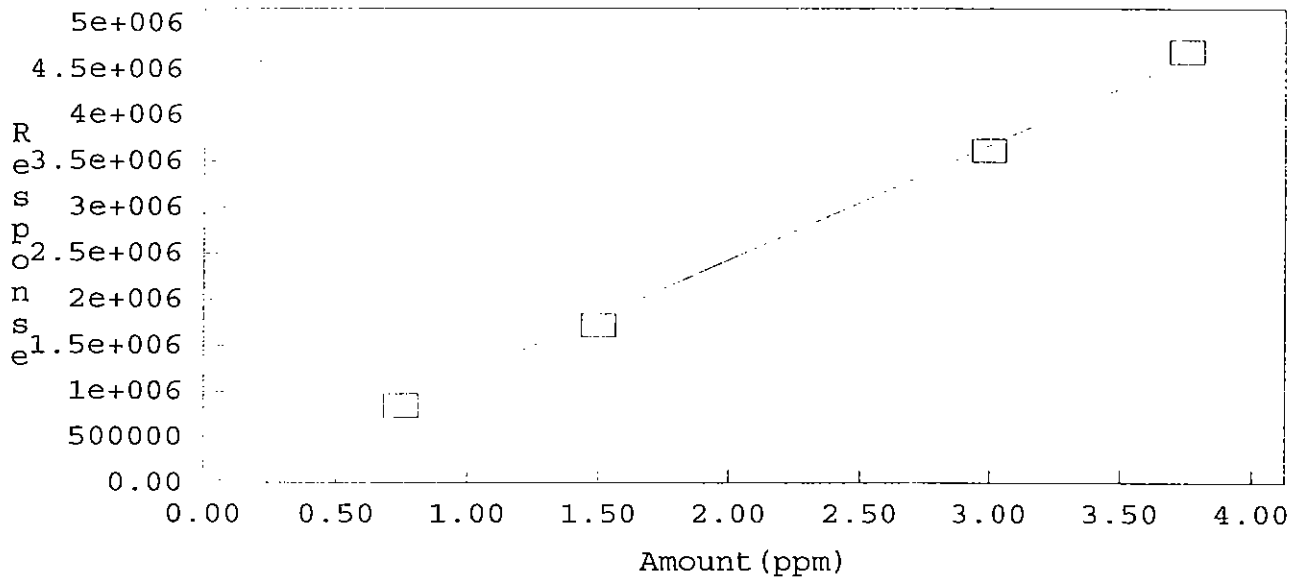
Method: C:\DX\METHOD\E300-063.MET

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



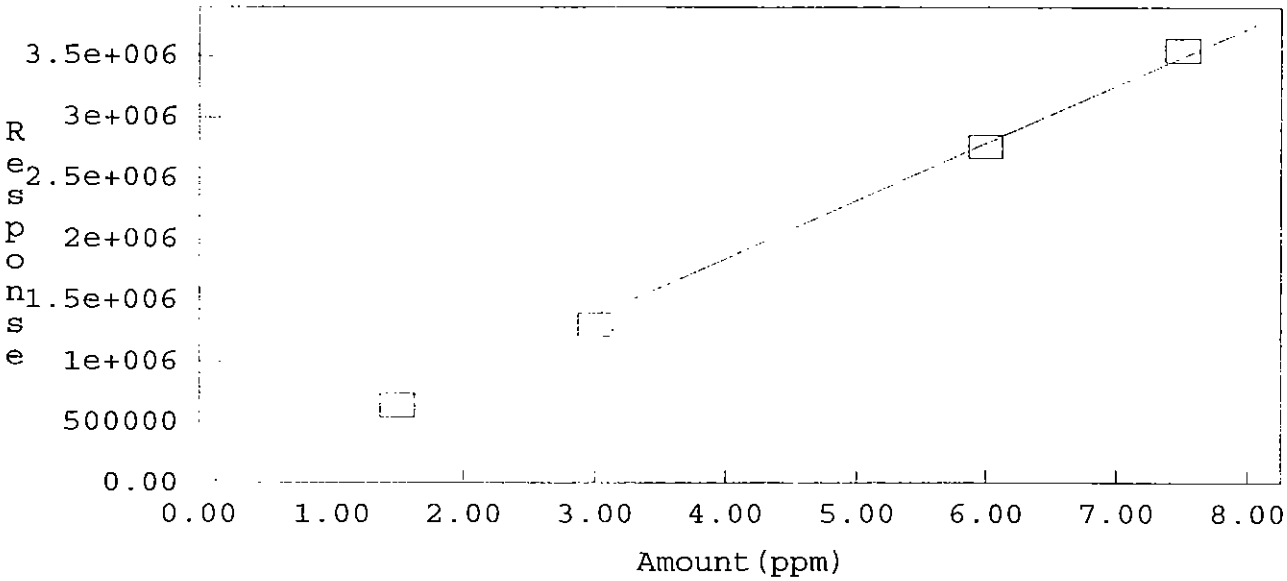
Method: C:\DX\METHOD\E300-063.MET

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



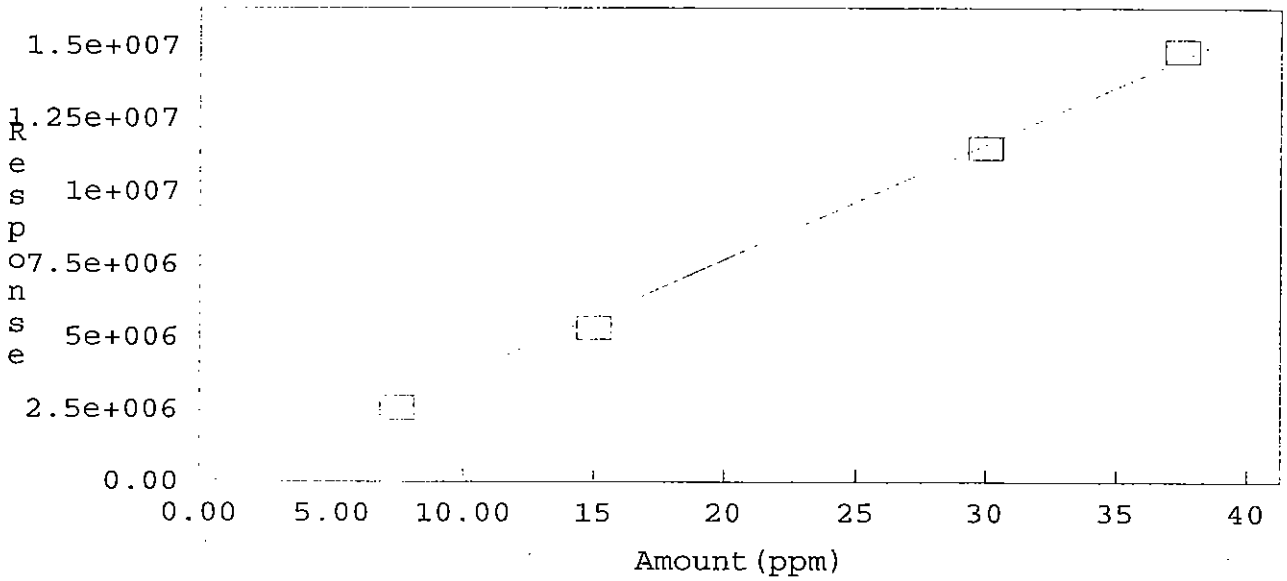
Method: C:\DX\METHOD\E300-063.MET

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



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

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

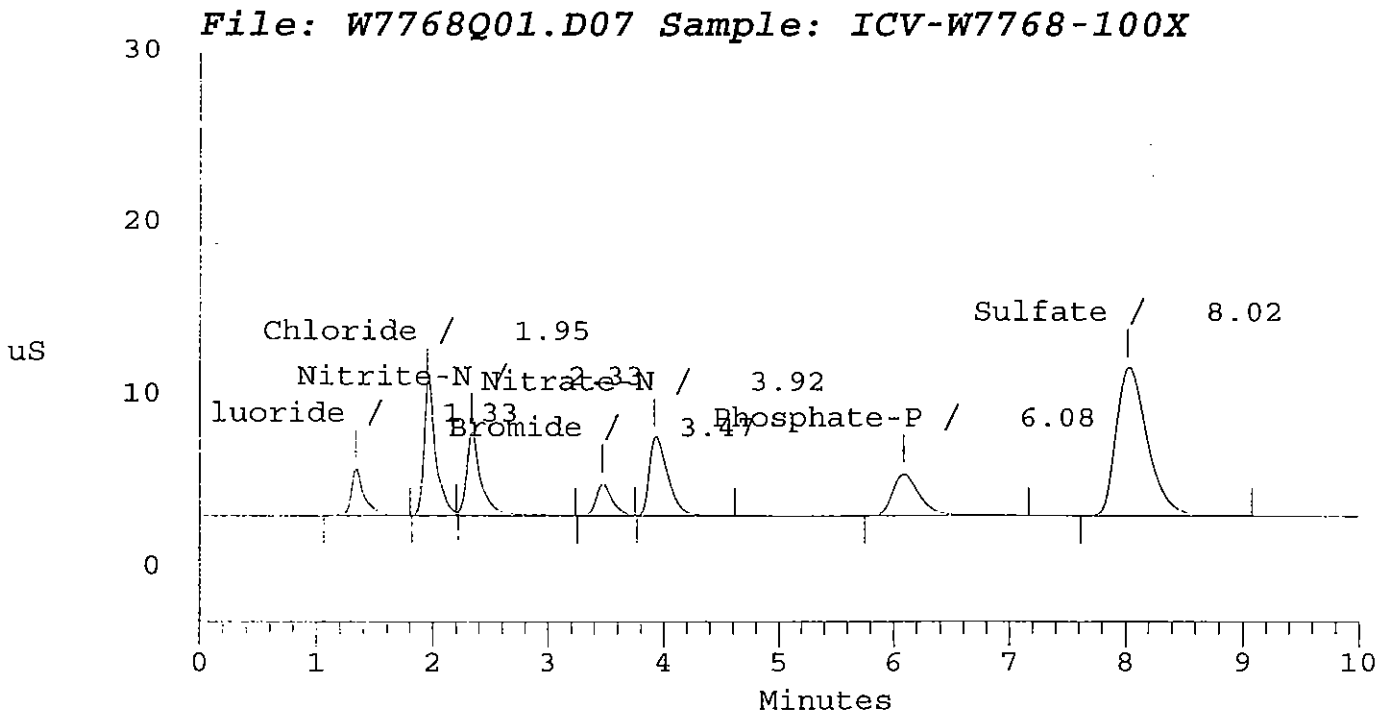


```
==========================================================================
| Sample Name: ICV-W7768-100X                  Date: 03/21/2003 17:56:33  |
| Data File  : C:\DX\DATA\e300-063\W7768Q01.D07                          |
| Method     : C:\DX\METHOD\E300-063.MET                                 |
| ACI Address: 1  System: 1  Inject#: 7                  Detector:COND   |
| Analyst    : David          Column: Dionex AS4A-SC                     |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.33	Fluoride	0.999	89896	726672	2	0.00
2	1.95	Chloride	3.767	248158	1863483	2	0.00
3	2.33	Nitrite-N	1.445	160603	1455681	2	1.17
4	3.47	Bromide	2.881	61007	586729	2	-0.71
5	3.92	Nitrate-N	1.410	149958	1697030	2	0.00
6	6.08	Phosphate-P	2.852	79916	1302965	1	0.00
7	8.02	Sulfate	13.993	285121	5314983	1	0.00
		Totals	27.347	1074659	12947545		

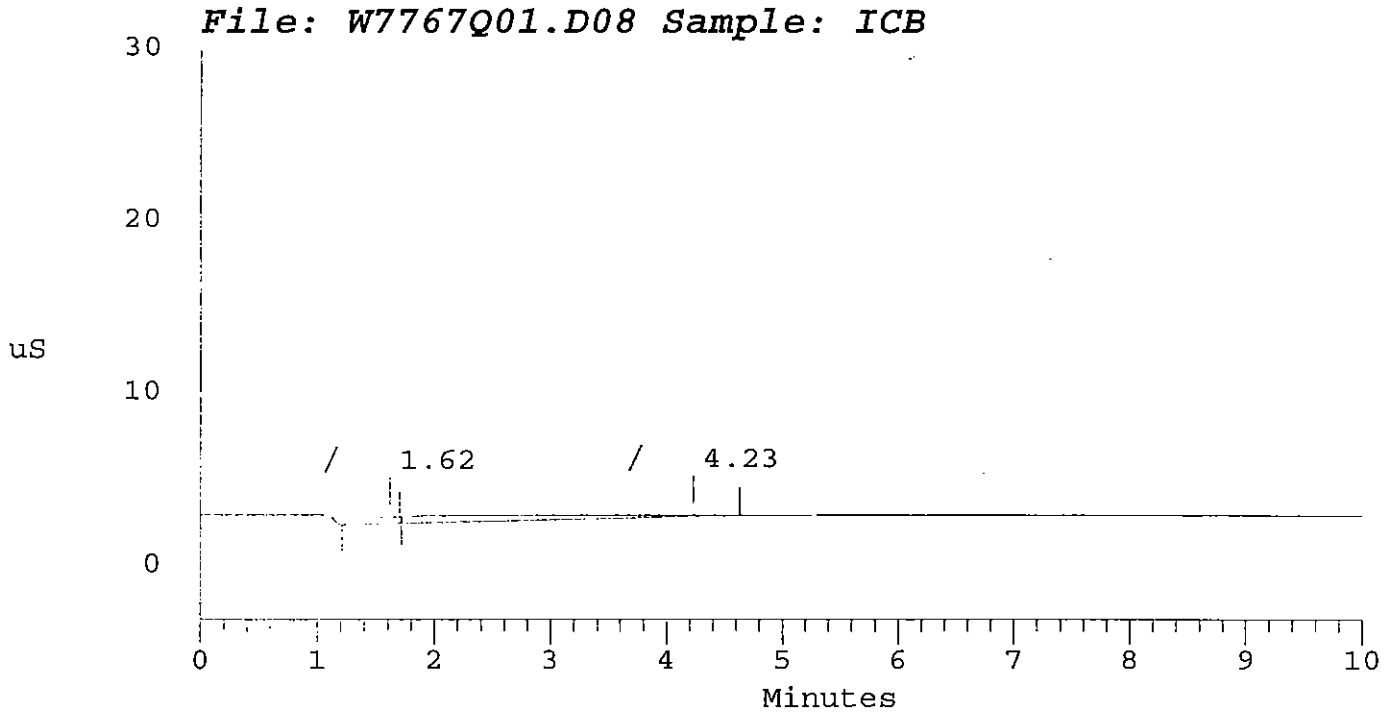


```
==========================================================================
| Sample Name: ICB                              Date: 03/21/2003 18:21:00 |
| Data File  : C:\DX\DATA\E300-063\W7767Q01.D08                           |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 8                  Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	0	0		

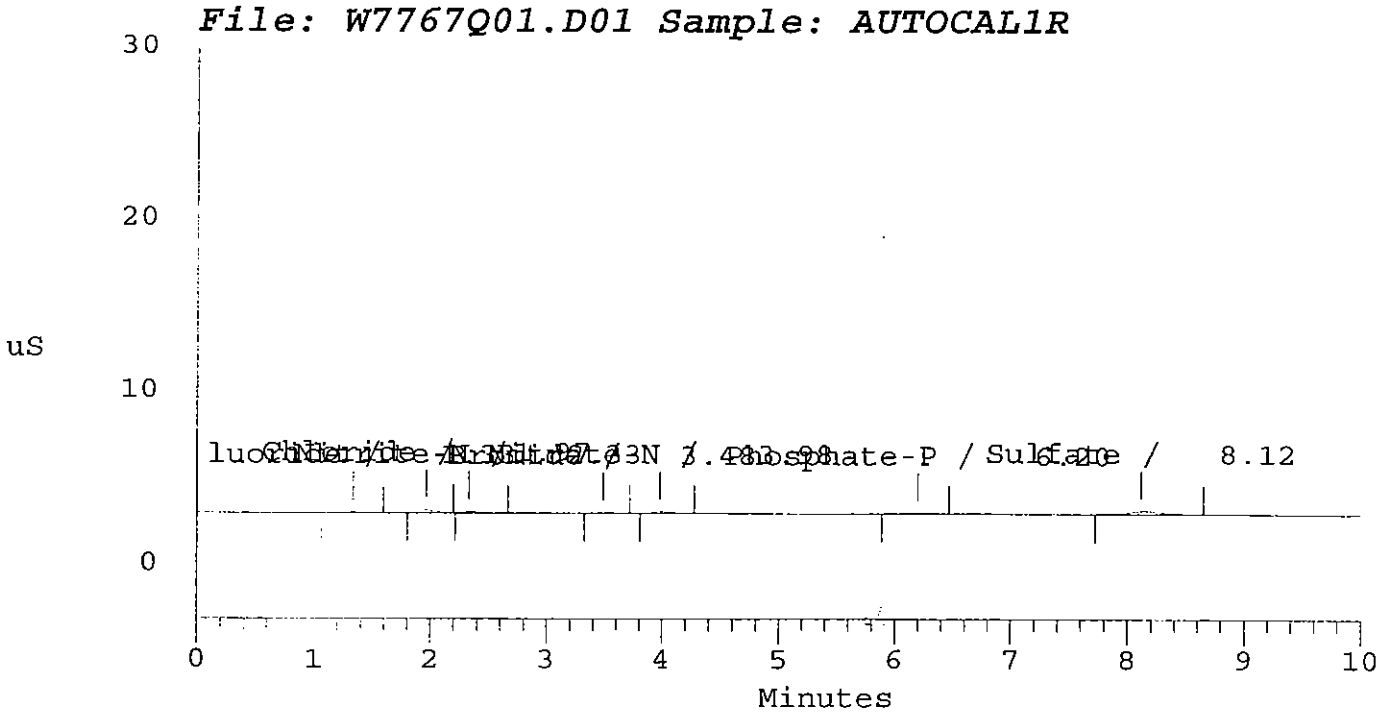


```
==========================================================================
| Sample Name: AUTOCAL1R                        Date: 03/21/2003 16:23:08  |
| Data File  : C:\DX\DATA\E300-063\W7767Q01.D01                            |
| Method     : C:\DX\METHOD\E300-063.MET                                   |
| ACI Address: 1  System: 1  Inject#: 1                  Detector:COND     |
| Analyst    : David          Column: Dionex AS4A-SC                       |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00	1000	

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.33	Fluoride	0.025	2732	28534	1	0.00
2	1.97	Chloride	0.100	7044	51206	2	0.00
3	2.33	Nitrite-N	0.038	3582	30884	2	-3.33
4	3.48	Bromide	0.075	1488	13830	1	-1.47
5	3.98	Nitrate-N	0.038	3802	40157	1	0.00
6	6.20	Phosphate-P	0.075	1450	24783	1	0.00
7	8.12	Sulfate	0.376	6524	129999	1	0.00
		Totals	0.726	26621	319393		

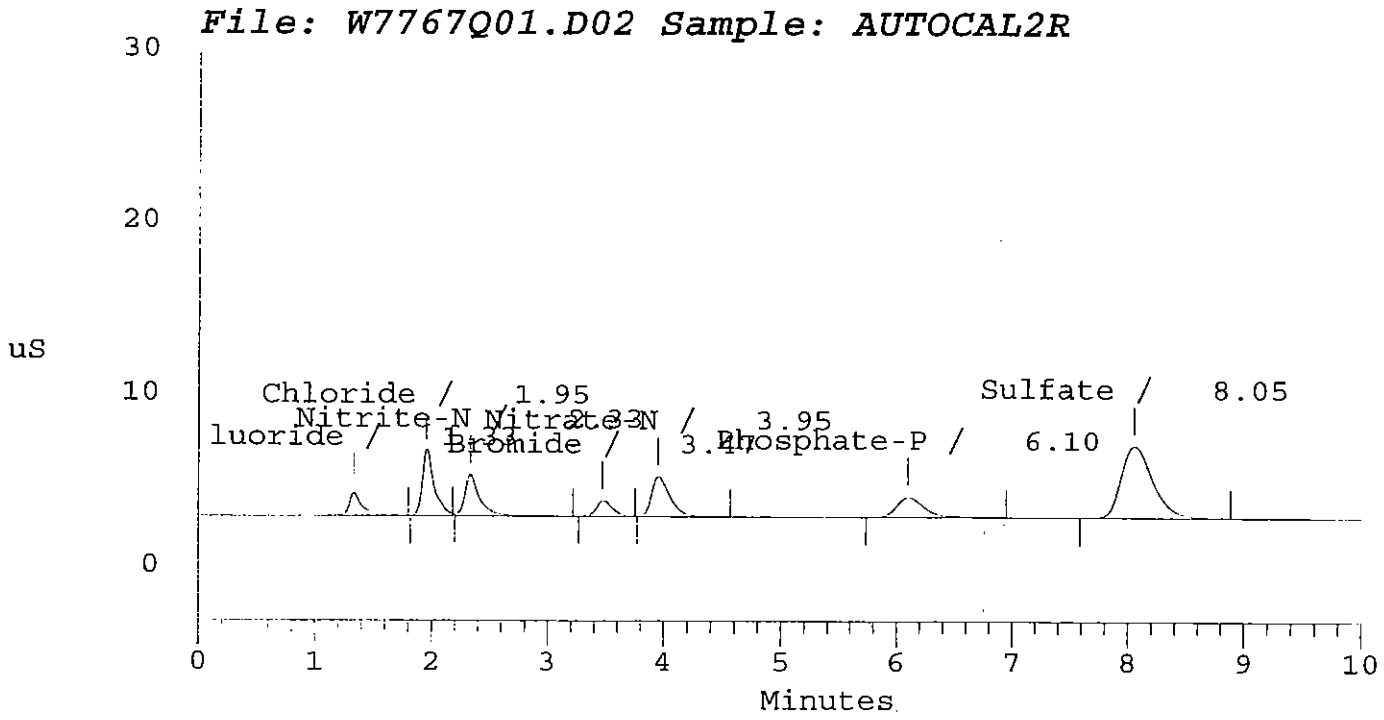


```
==========================================================================
| Sample Name: AUTOCAL2R                        Date: 03/21/2003 16:35:53 |
| Data File  : C:\DX\DATA\E300-063\W7767Q01.D02                           |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 2                  Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.33	Fluoride	0.500	44629	373164	2	0.00
2	1.95	Chloride	2.000	126181	909455	2	0.00
3	2.33	Nitrite-N	0.750	79701	734006	2	0.85
4	3.47	Bromide	1.500	30100	298206	2	0.36
5	3.95	Nitrate-N	0.750	77129	849179	2	0.00
6	6.10	Phosphate-P	1.500	38579	642376	1	0.00
7	8.05	Sulfate	7.500	138579	2598757	1	0.00
		Totals	14.500	534896	6405142		

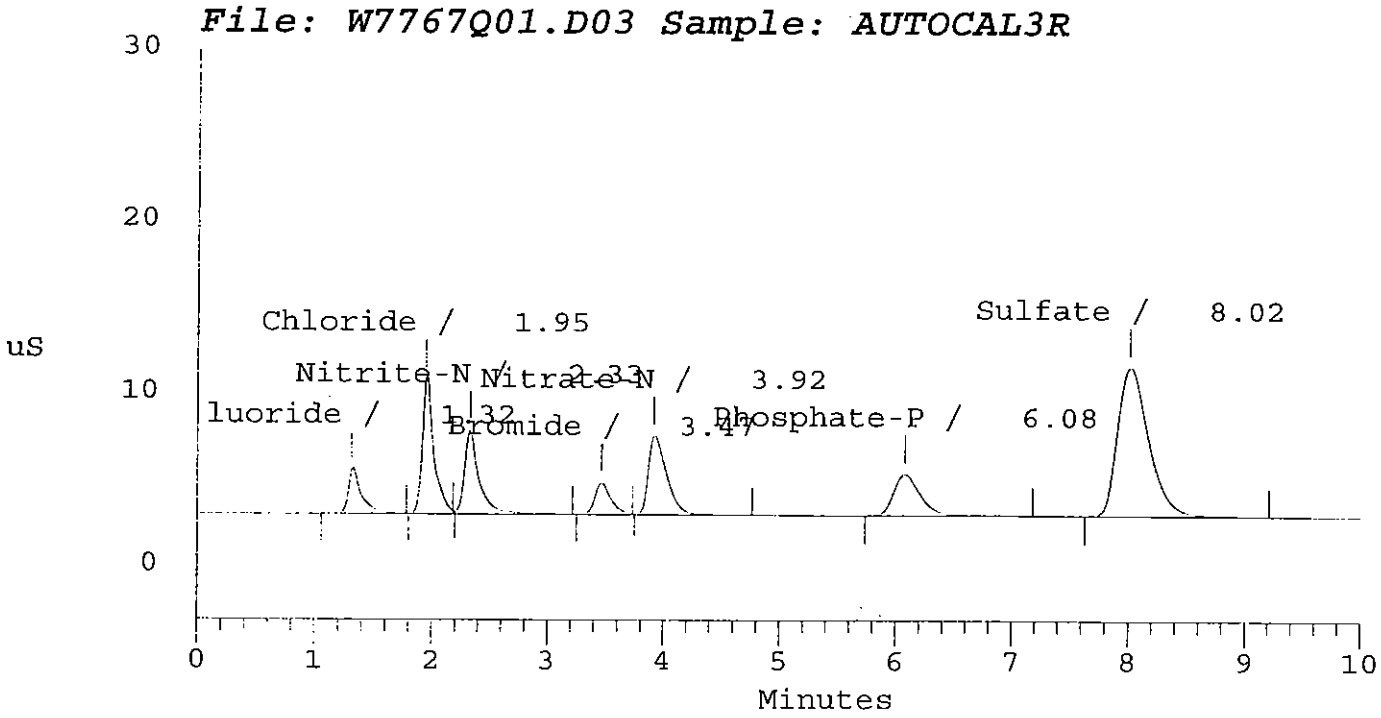


```
==========================================================================
| Sample Name: AUTOCAL3R                        Date: 03/21/2003 16:48:37  |
| Data File  : C:\DX\DATA\E300-063\W7767Q01.D03                            |
| Method     : C:\DX\METHOD\E300-063.MET                                   |
| ACI Address: 1  System: 1  Inject#: 3                   Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                       |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	1.000	82595	707646	2	0.00
2	1.95	Chloride	4.000	261681	1856586	2	0.00
3	2.33	Nitrite-N	1.500	162005	1468106	2	0.00
4	3.47	Bromide	3.000	61776	591234	2	0.85
5	3.92	Nitrate-N	1.500	152776	1713421	2	0.00
6	6.08	Phosphate-P	3.000	79971	1301126	1	0.00
7	8.02	Sulfate	15.000	287851	5330209	1	0.00
		Totals	29.000	1088657	12968327		

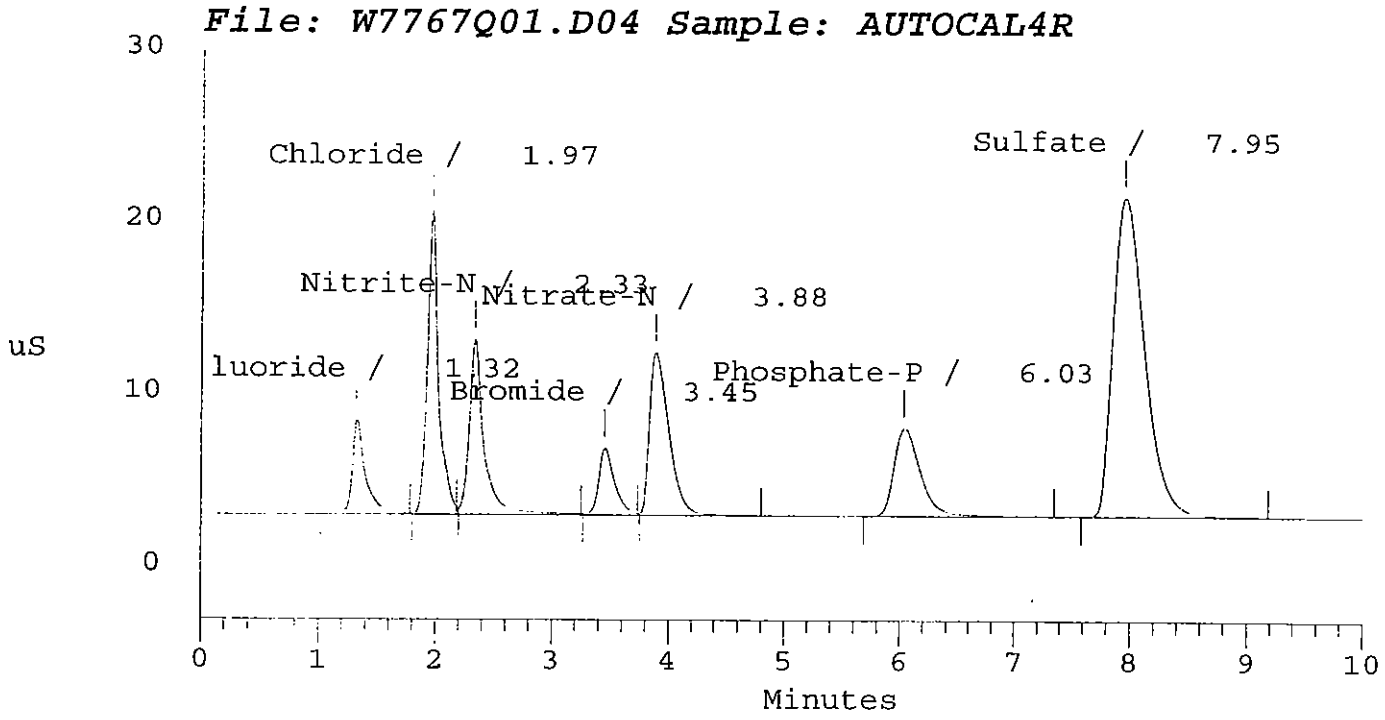


Sample Name: AUTOCAL4R	Date: 03/21/2003 17:01:21
Data File : C:\DX\DATA\E300-063\W7767Q01.D04	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 4	Detector:COND
Analyst : David	Column: Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	2.000	173007	1435865	2	0.00
2	1.97	Chloride	8.000	585791	3987563	2	0.00
3	2.33	Nitrite-N	3.000	336616	3021523	2	-0.85
4	3.45	Bromide	6.000	128845	1219933	2	0.37
5	3.88	Nitrate-N	3.000	313707	3610927	2	0.00
6	6.03	Phosphate-P	6.000	168994	2756481	2	0.00
7	7.95	Sulfate	30.000	615917	11507107	2	0.00
		Totals	58.000	2322876	27539399		

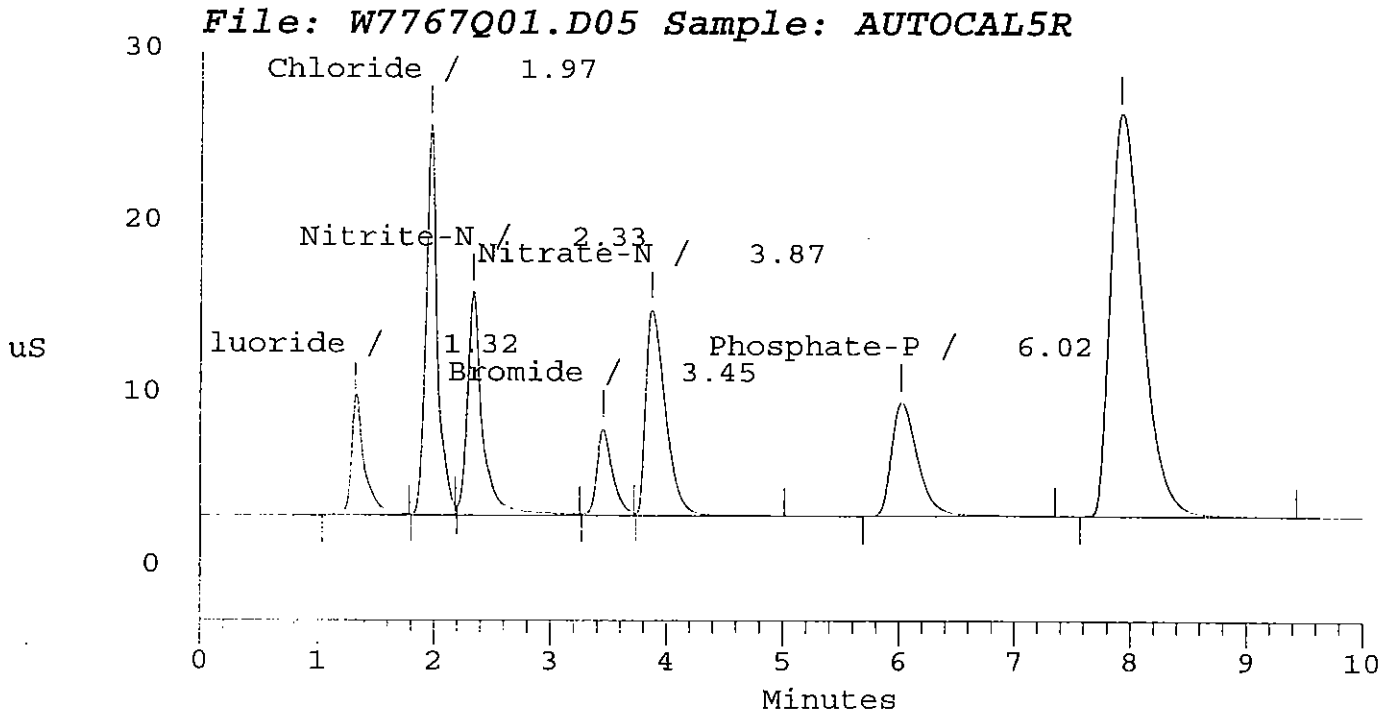


```
==========================================================================
| Sample Name: AUTOCAL5R                        Date: 03/21/2003 17:14:05  |
| Data File  : C:\DX\DATA\E300-063\W7767Q01.D05                            |
| Method     : C:\DX\METHOD\E300-063.MET                                   |
| ACI Address: 1  System: 1  Inject#: 5                  Detector:COND     |
| Analyst    : David          Column: Dionex AS4A-SC                       |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00	1000	

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	2.500	220914	1837162	2	0.00
2	1.97	Chloride	10.000	754321	5142155	2	0.00
3	2.33	Nitrite-N	3.750	429219	3856614	2	0.00
4	3.45	Bromide	7.500	166594	1559887	2	0.43
5	3.87	Nitrate-N	3.750	396441	4688990	2	0.00
6	6.02	Phosphate-P	7.500	217521	3546397	2	0.00
7	7.92	Sulfate	37.500	776426	14859049	2	0.00
		Totals	72.500	2961435	35490255		



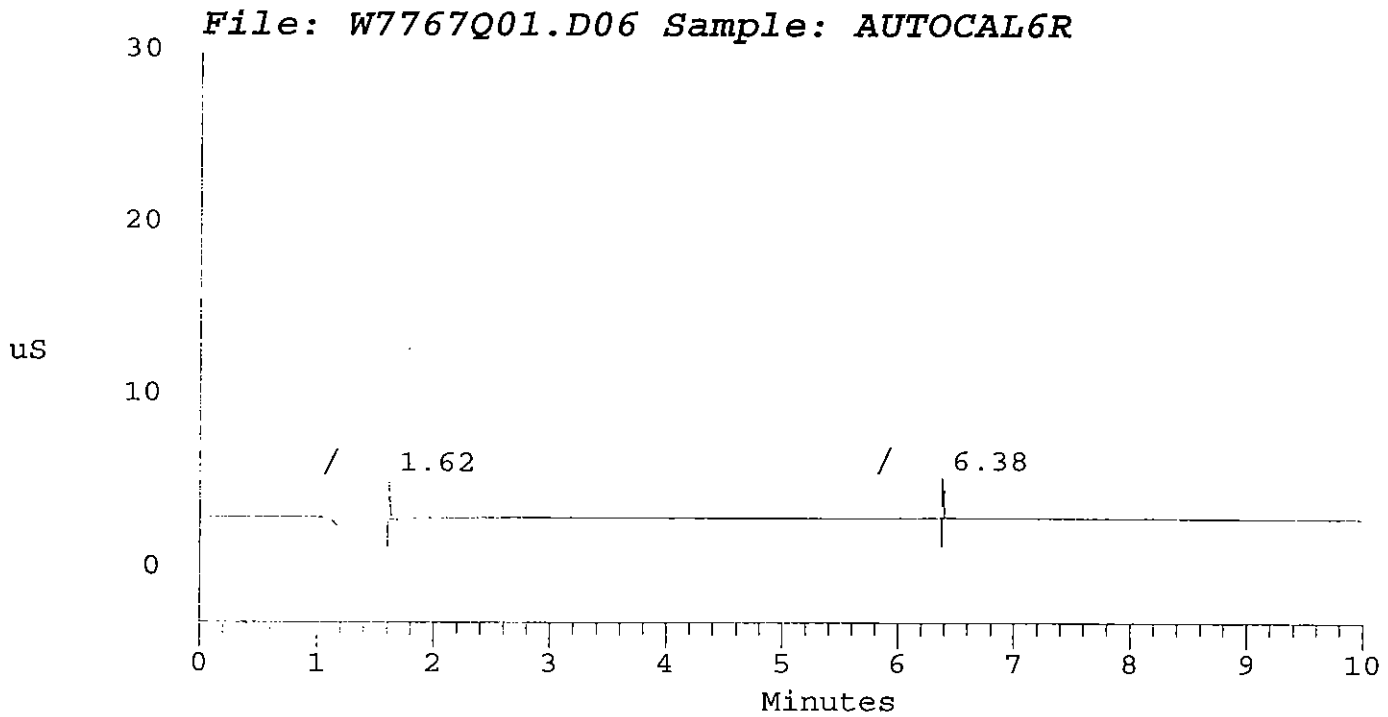
Data Reprocessed On 03/21/2003 17:39:26

Sample Name: AUTOCAL6R	Date: 03/21/2003 17:37:58
Data File : C:\DX\DATA\E300-063\W7767Q01.D06	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 6	Detector:COND
Analyst : David Column: Dionex AS4A-SC	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00	1000	

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
0	0.00	Phosphate-P	0.000	0	0	0	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	0	0		



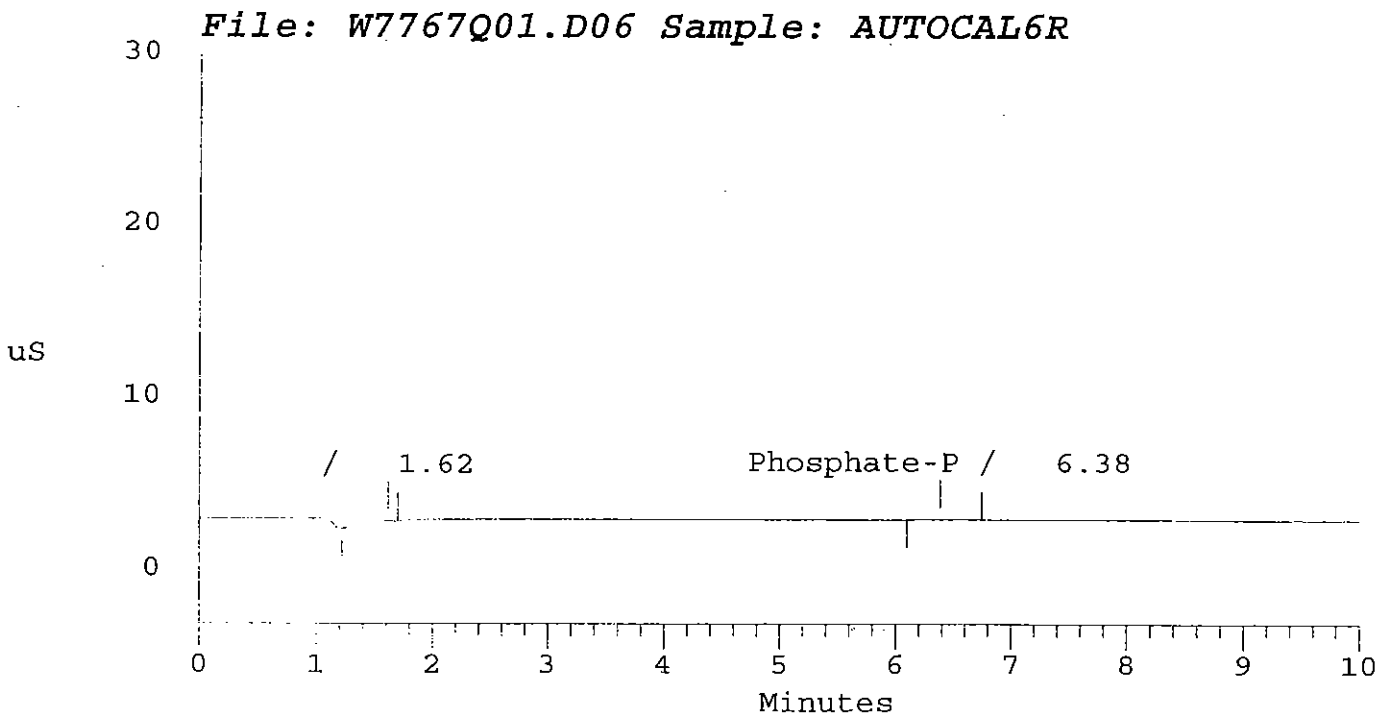
After
3/21/03

Sample Name: AUTOCAL6R Date: 03/21/2003 17:37:58
Data File : C:\DX\DATA\E300-063\W7767Q01.D06
Method : C:\DX\METHOD\E300-063.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:COND
Analyst : David Column: Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0	0.00	Fluoride	0.000	0	0	0	0.00
0	0.00	Chloride	0.000	0	0	0	0.00
0	0.00	Nitrite-N	0.000	0	0	0	0.00
0	0.00	Bromide	0.000	0	0	0	0.00
0	0.00	Nitrate-N	0.000	0	0	0	0.00
2	6.38	Phosphate-P	0.000	582	11752	1	0.00
0	0.00	Sulfate	0.000	0	0	0	0.00
		Totals	0.000	582	11752		



Before

6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: _____

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

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

A= 0.000 + 0.836C

A=Absorbance

C=Concentration (mg/L)

r= 0.9997

Wet Chemistry QC Report B
Duplicate Results

Matrix: Water

APCL Service ID: 03-2809

Analysis	Batch ID	Analysis Date	Sample Name	Unit	Result	Duplicate Result	RPD %	RPD Control limit
Alkalinity	03W2555	04/24/2003	DUPE-1-2Q03	mg/L	161.0	158.4	2	20
pH	03W2477	04/21/2003	MW-4-1	pH unit	7.05	7.08	0	20

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

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL
Case No: SAS No.: Service ID: 32809
Project ID: JPL Project No.: 04-4428.10

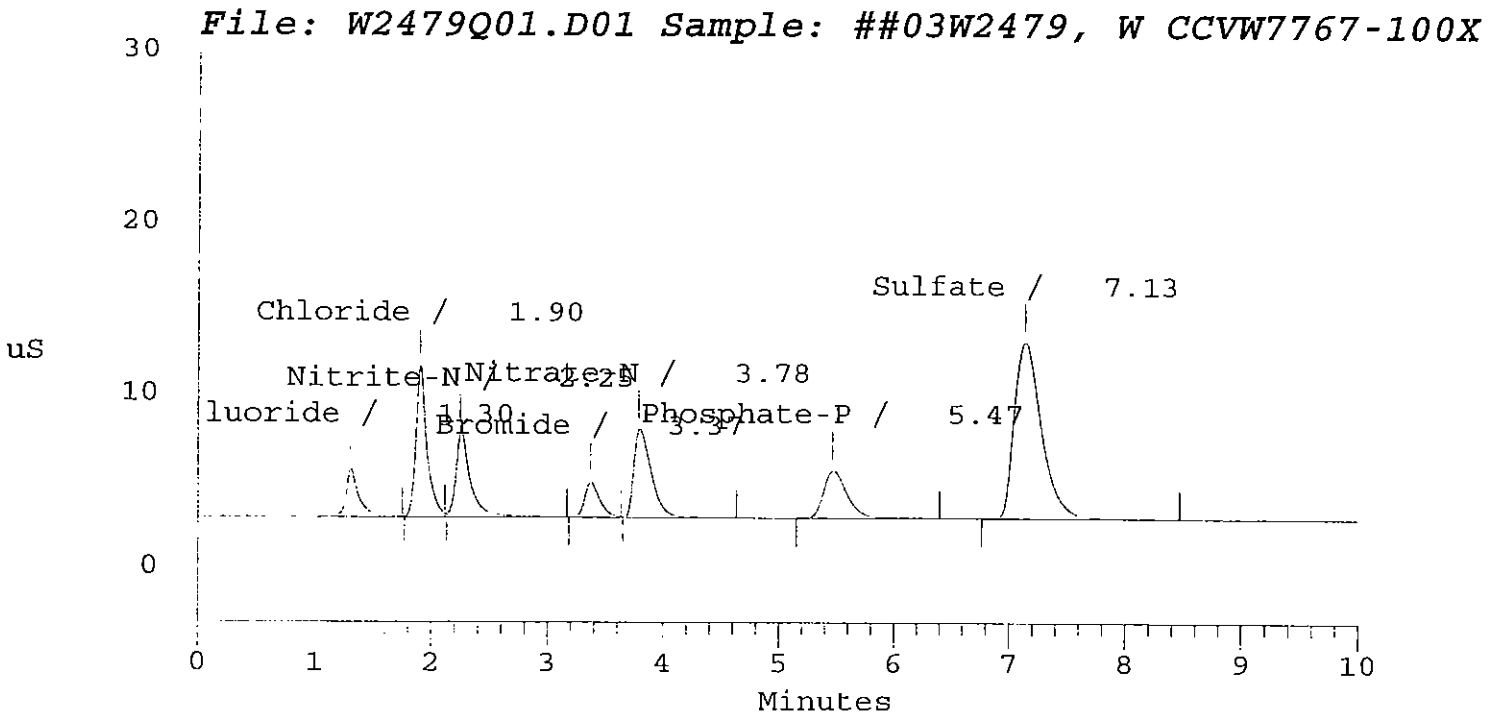
#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	Chloride Cl^-	300.0	03W2479	mg/L	4.0	3.89	97	-3	√	90-110	04/22/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2479	mg/L	1.5	1.50	100	0	√	90-110	04/22/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2479	mg/L	15	14.6	97	-3	√	90-110	04/22/2003
	Chloride Cl^-	300.0	03W2479	mg/L	4.0	3.92	98	-2	√	90-110	04/22/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2479	mg/L	1.5	1.52	101	1	√	90-110	04/22/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2479	mg/L	15	14.7	98	-2	√	90-110	04/22/2003
	Chloride Cl^-	300.0	03W2479	mg/L	4.0	3.97	99	-1	√	90-110	04/22/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2479	mg/L	1.5	1.53	102	2	√	90-110	04/22/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2479	mg/L	15	14.8	99	-1	√	90-110	04/22/2003
	Chloride Cl^-	300.0	03W2479	mg/L	4.0	3.92	98	-2	√	90-110	04/22/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2479	mg/L	1.5	1.52	101	1	√	90-110	04/22/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2479	mg/L	15	14.7	98	-2	√	90-110	04/22/2003
2	Perchlorate	314.0	03W2496	μg/L	50	52.4	105	5	√	85-115	04/22/2003
	Perchlorate	314.0	03W2496	μg/L	50	53.9	108	8	√	85-115	04/23/2003
	Perchlorate	314.0	03W2496	μg/L	50	53.7	107	7	√	85-115	04/23/2003
	Perchlorate	314.0	03W2496	μg/L	50	48.2	96	-4	√	85-115	04/23/2003
	Perchlorate	314.0	03W2496	μg/L	50	51.8	104	4	√	85-115	04/23/2003
3	Chromium (VI)	7196	03W2476	mg/L	0.25	0.252	101	1	√	90-110	04/21/2003
	Chromium (VI)	7196	03W2476	mg/L	0.25	0.250	100	0	√	90-110	04/21/2003

```
==================================================================================
| Sample Name: ##03W2479, W CCVW7767-100X     Date: 04/22/2003 09:08:43            |
| Data File  : C:\DX\DATA\03W2479\W2479Q01.D01                                     |
| Method     : C:\DX\METHOD\E300-063.MET                                           |
| ACI Address: 1  System: 1  Inject#: 1                    Detector:COND           |
| Analyst    : David          Column: Dionex AS4A-SC                               |
==================================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.30	Fluoride	1.018	89676	740676	2	0.00
2	1.90	Chloride	3.891	286553	1926728	2	0.00
3	2.25	Nitrite-N	1.446	159608	1456884	2	0.00
4	3.37	Bromide	3.016	67928	614566	2	0.48
5	3.78	Nitrate-N	1.498	168870	1806348	2	0.00
6	5.47	Phosphate-P	2.886	91074	1318884	1	0.00
7	7.13	Sulfate	14.603	339530	5556185	1	0.00
		Totals	28.358	1203240	13420271		



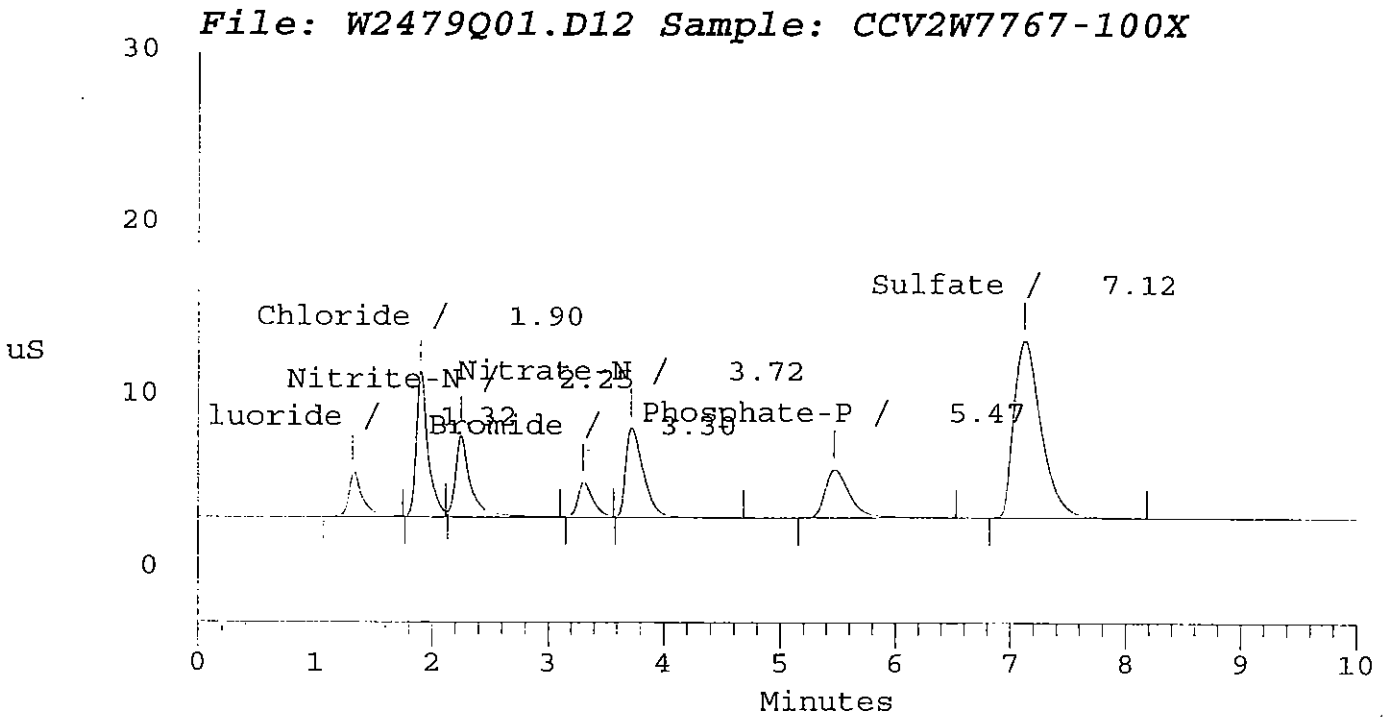
Data Reprocessed On 04/22/2003 13:52:32

Sample Name: CCV2W7767-100X	Date: 04/22/2003 13:41:40
Data File : C:\DX\DATA\03W2479\W2479Q01.D12	
Method : C:\DX\METHOD\E300-063.MET	
ACI Address: 1 System: 1 Inject#: 12	Detector: COND
Analyst : David Column: Dionex AS4A-SC	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.32	Fluoride	1.015	83929	738138	2	0.00
2	1.90	Chloride	3.922	277552	1942703	2	0.00
3	2.25	Nitrite-N	1.431	156174	1441205	2	0.00
4	3.30	Bromide	3.044	67081	620425	2	0.25
5	3.72	Nitrate-N	1.518	171805	1831322	2	0.00
6	5.47	Phosphate-P	3.050	92318	1396394	1	0.00
7	7.12	Sulfate	14.702	339765	5594980	1	0.00
		Totals	28.682	1188622	13565167		

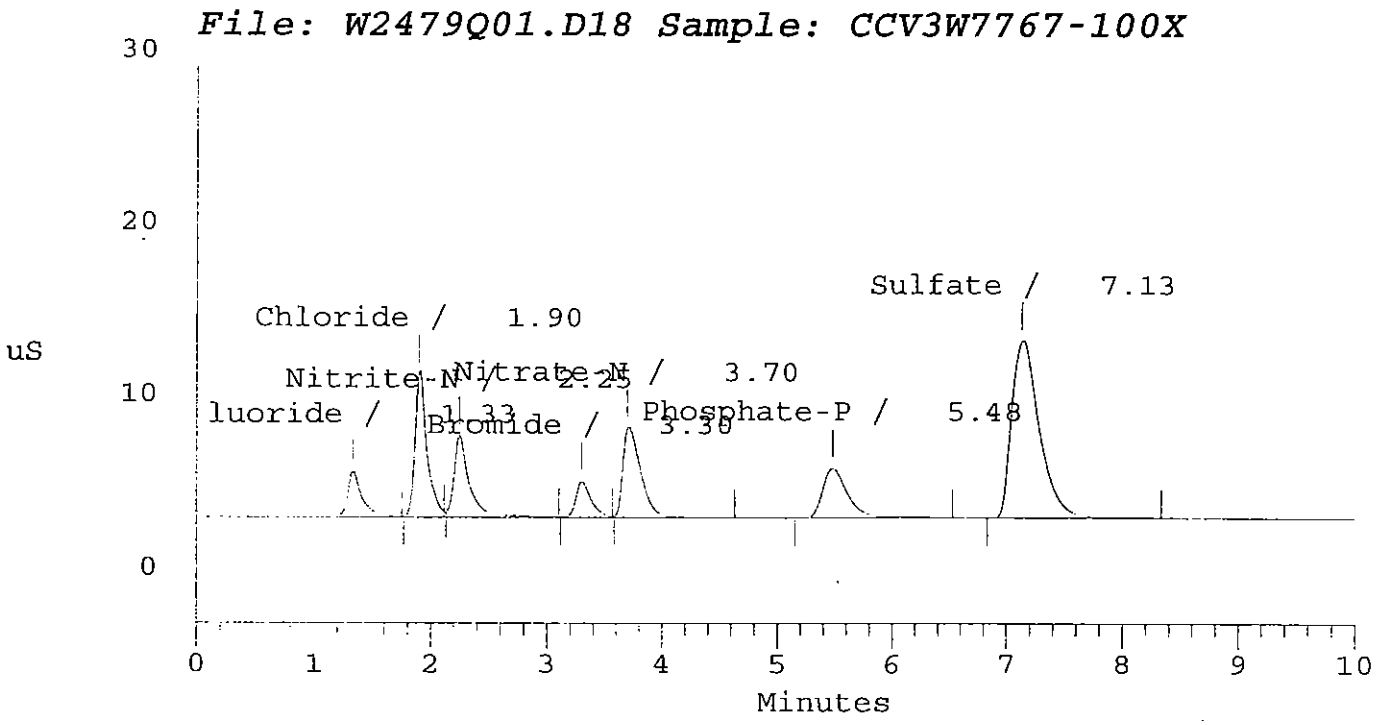


```
==========================================================================
| Sample Name: CCV3W7767-100X                  Date: 04/22/2003 16:01:56  |
| Data File  : C:\DX\DATA\03W2479\W2479Q01.D18                            |
| Method     : C:\DX\METHOD\E300-063.MET                                  |
| ACI Address: 1  System: 1  Inject#: 18                 Detector:COND    |
| Analyst    : David          Column: Dionex AS4A-SC                      |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.33	Fluoride	1.032	88200	750697	2	0.00
2	1.90	Chloride	3.969	274665	1966649	2	0.00
3	2.25	Nitrite-N	1.450	156672	1461106	2	0.00
4	3.30	Bromide	3.087	68327	629322	2	0.71
5	3.70	Nitrate-N	1.531	169909	1847431	2	0.00
6	5.48	Phosphate-P	3.142	94267	1439318	1	0.00
7	7.13	Sulfate	14.828	339078	5644979	1	0.00
		Totals	29.039	1191118	13739501		

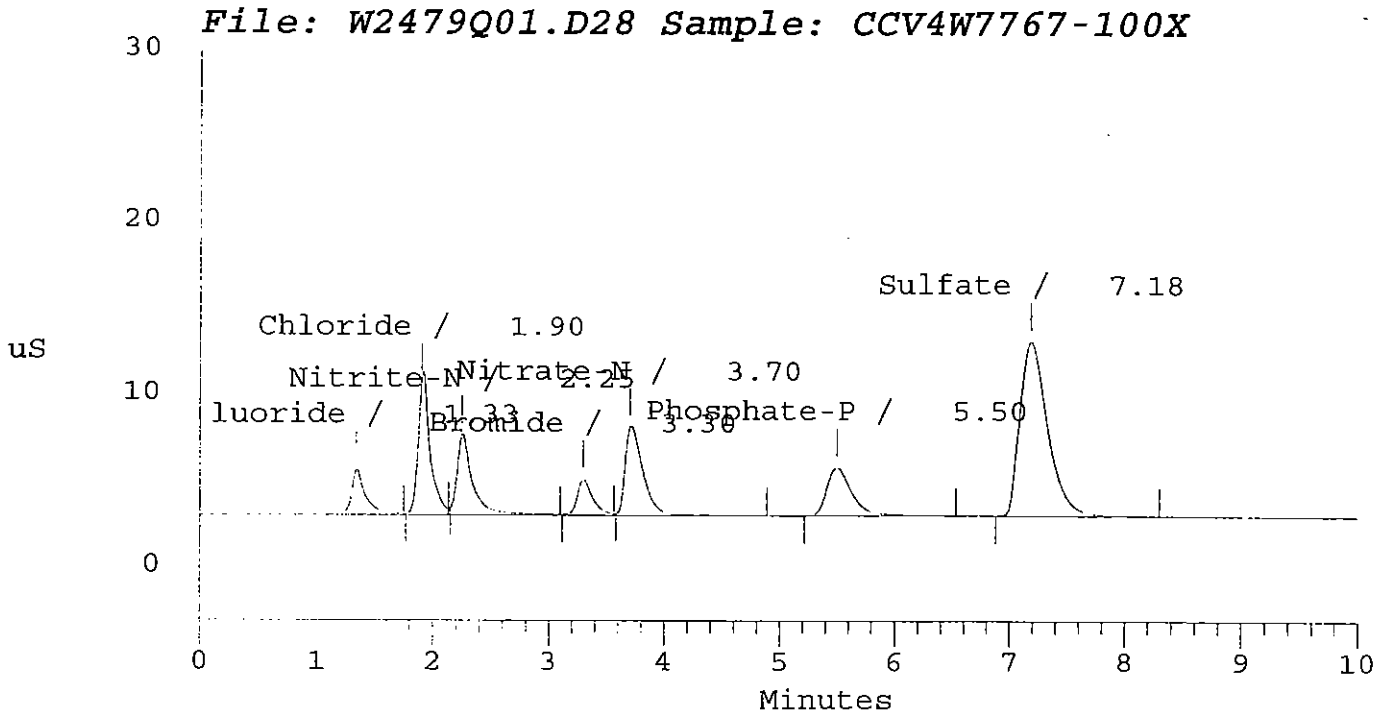


Sample Name:	CCV4W7767-100X
Date:	04/22/2003 18:46:30
Data File :	C:\DX\DATA\03W2479\W2479Q01.D28
Method :	C:\DX\METHOD\E300-063.MET
ACI Address:	1 System: 1 Inject#: 28
Detector:	COND
Analyst :	David
Column:	Dionex AS4A-SC

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		1000

********** Component Report: All Components **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.33	Fluoride	1.005	84714	730909	2	0.00
2	1.90	Chloride	3.915	253791	1938964	2	0.00
3	2.25	Nitrite-N	1.441	153836	1452033	2	0.00
4	3.30	Bromide	3.078	67663	627394	2	0.71
5	3.70	Nitrate-N	1.517	168718	1830118	2	0.00
6	5.50	Phosphate-P	3.078	92353	1409370	1	0.00
7	7.18	Sulfate	14.706	335912	5596807	1	0.00
		Totals	28.740	1156988	13585594		



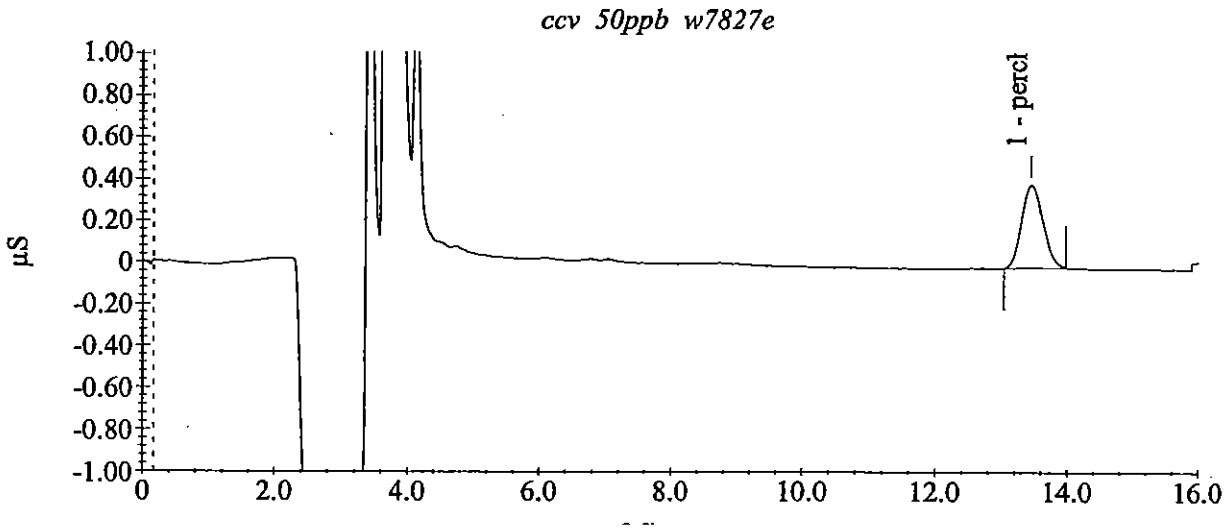
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w7827e
Data File Name : C:\DATA\03W2496K\W2496K Q02_013.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/22/2003 9:36:32 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	13.45	52.42	88964.40	3967.48



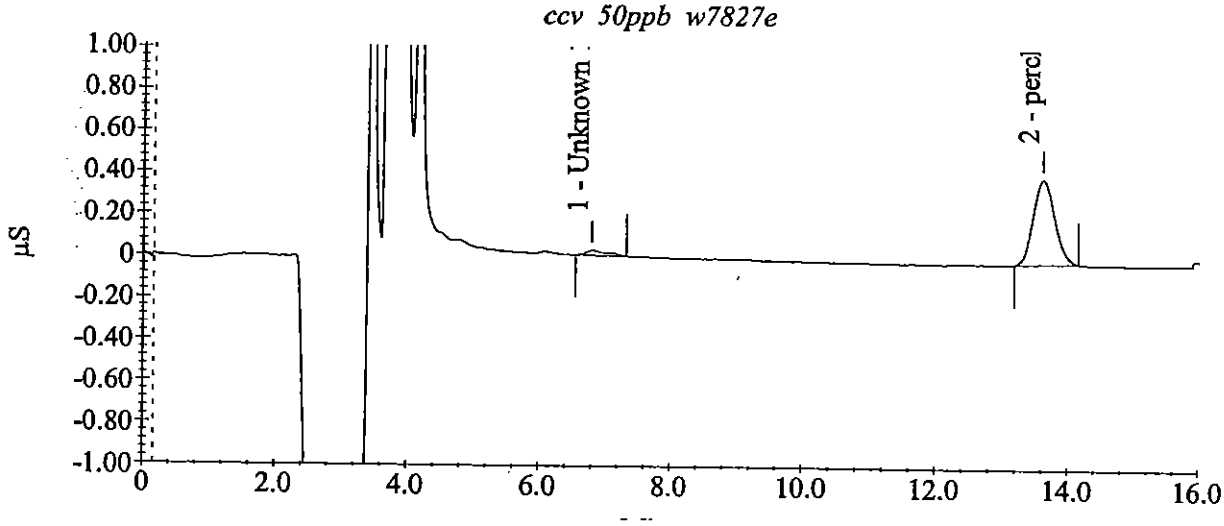
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w7827e
Data File Name : C:\DATA\03W2496K\W2496K Q03_024.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 1:01:22 AM
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
2	perchlorate	13.60	53.85	91392.50	4047.88



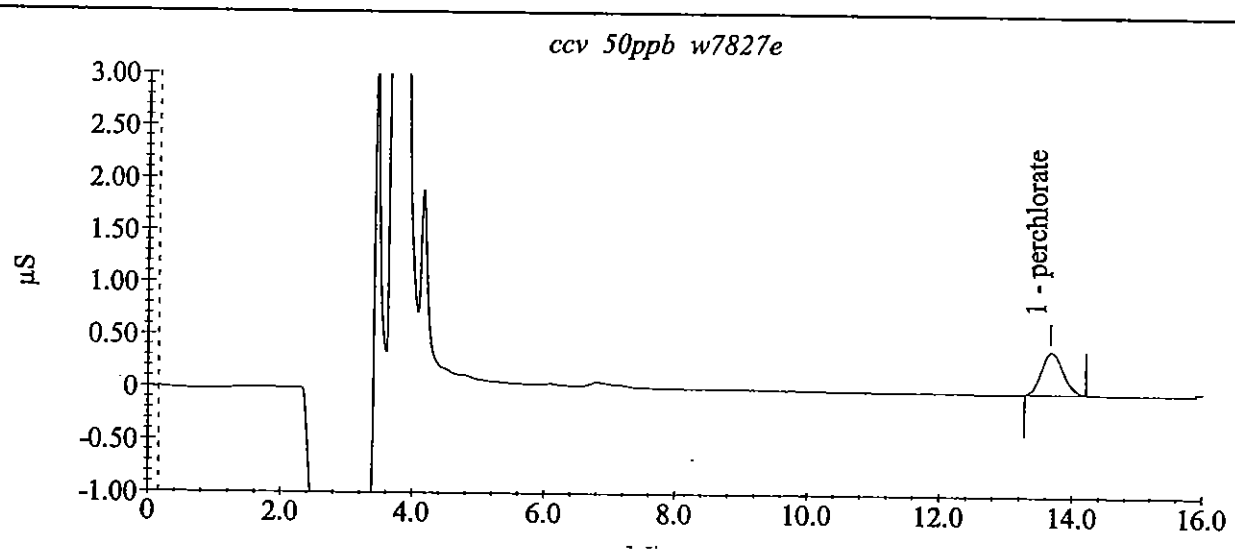
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w7827e
Data File Name : C:\DATA\03W2496K\W2496K Q04_031.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 3:11:29 AM
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	13.67	53.67	91073.15	3991.43



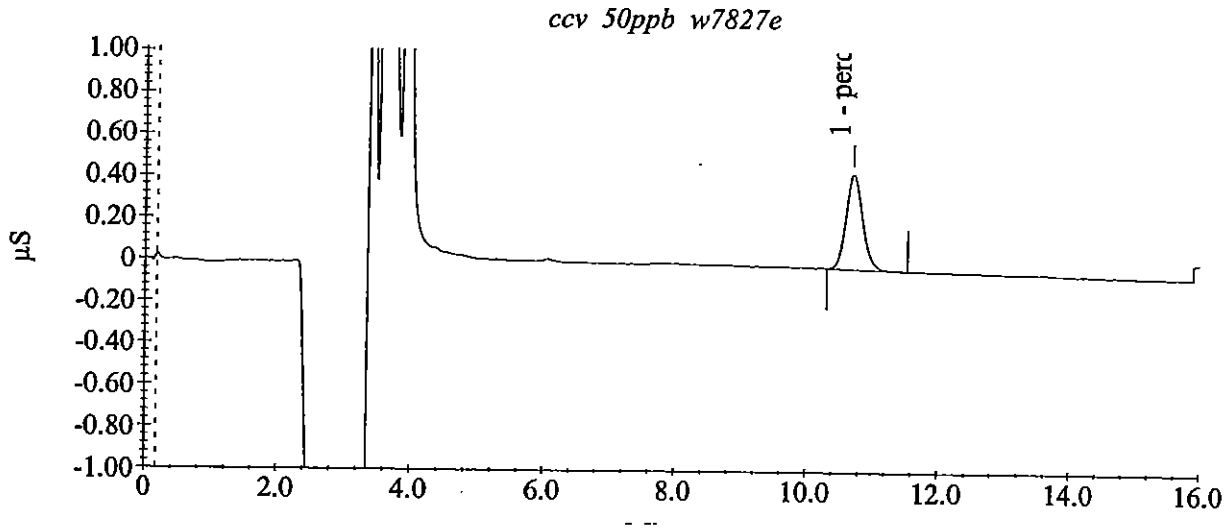
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w7827e
Data File Name : C:\DATA\03W2496K\W2496K Q05_032.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 10:17:46 AM
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	10.72	48.24	81872.40	4536[illegible]



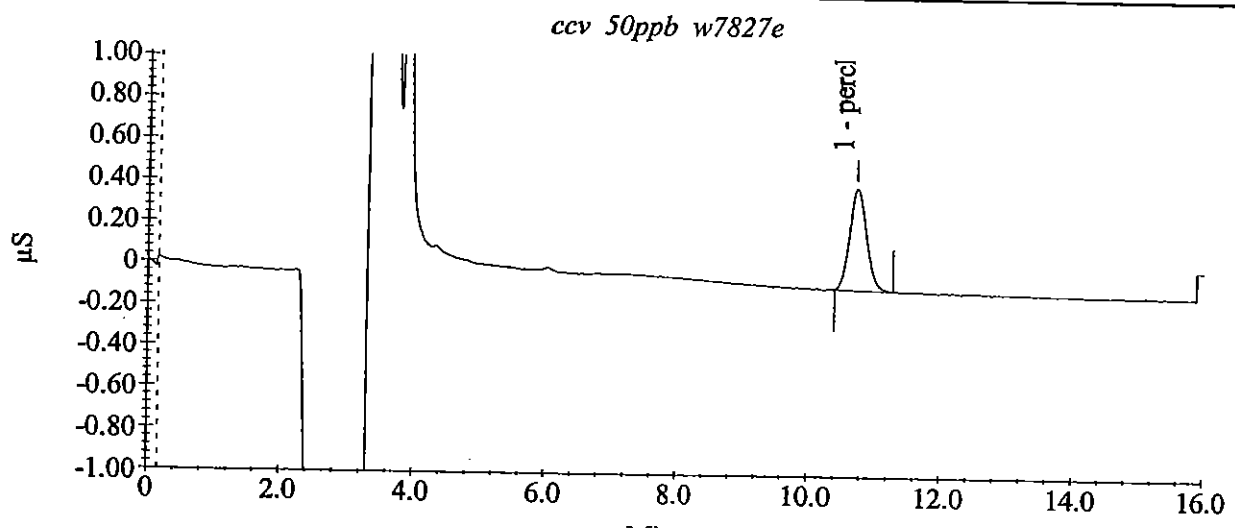
APCL Perchlorate Analysis Report

Sample Name : ccv 50ppb w7827e
Data File Name : C:\DATA\03W2496K\W2496K Q06_037.DXD

Method File Name : c:\peaknet\method\e314-011.met
Date Time Collected : 04/23/2003 11:51:10 AM
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	10.73	51.84	87969.80	4894.80



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

Alkalinity/OH/CO_3/HCO_3 (310.1/SM2320B) Worksheet

Batch # 03W2539 Matrix: W Titrant H_2SO_4 Lot # W7900 Concentration (C) 0.02555 N; Test Date: 4/24/03 Analyst: DL SOP: G-51

#	Sample ID	Dilution $V_f/V_i=f_1$	Smpl Amnt V, mL	H_2SO_4 (mL) by Phnln S_A	E_A	A	H_2SO_4 (mL) by MR-BCG S_B	E_B	B	Phnln-Alk., P	Tot. Alk., T (in unit of mg$CaCO_3$/L)	OH^-	CO_3^{2-}	HCO_3^-	Note & Anomaly
1	MB: T1117	1 =	100			0			0		0	0	0	0	
2	LCS	1 =	100						7.80		99.6				
3	LCSD	1 =	100						7.85		100.3				
4	2809-1	1 =	50.0			0			6.30		161.0	0	0	161.0	
5	-2	1 =	50.0			0			0		0	0	0	0	
6	-3	1 =	50.0			0			7.00		178.9	0	0	178.9	
7	-4	1 =	50.0			0			8.75		223.6	0	0	223.6	
8	-5	1 =	50.0			0			7.70		196.7	0	0	196.7	
9	-6	1 =	50.0			0			5.75		146.9	0	0	146.9	
10	-7	1 =	50.0			0.20			4.90	5.11	130.3	0	10.2	120.1	
11	-8	1 =	50.0			0			0		0	0	0	0	
12	2815-1	1 =	50.0			0			14.60		373.0	0	0	373.0	
13	2819-6	1 =	50.0			0			6.05		154.6	0	0	154.6	
14	-5	1 =	50.0			0			5.80		148.2	0	0	148.2	
15	-4	1 =	50.0			0			9.90		252.9	0	0	252.9	
16	-3	1 =	50.0			0			8.20		209.5	0	0	209.5	
17	-2	1 =	50.0			0			5.05		129.0	0	0	129.0	
18	-1	1 =	50.0			0			0		0	0	0	0	
19	2843-6	1 =	50.0			0			6.10		155.9	0	0	155.9	
20	-7	1 =	50.0			0.05			5.20	3.8	~~132.9~~	0	7.6	~~132.9~~ 129.1	4/24/03 DL
Dup.	2809-1	1 =	50.0						6.20		158.4	0	0	158.4	

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

Calculation:

$A=S_A-E_A$

$B=S_B-E_B$

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

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

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

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

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

pH (150.1/9045B) Worksheet

Temperature compensation must be performed by the instrument automatically. Analyst DR SOP: G-44

Batch # 03W2455 Analysis Date: 4/18/03				Batch # 03W2477 Analysis Date: 4/21/03			
Starting Time: 14:51 Ending Time: :				Starting Time: 17:23 Ending Time: :			
Matrix ☒ Aaueous ☐ Soil				Matrix ☐ Aaueous ☐ Soil			
Standard	4.00	7.00	10.00	Standard	4.00	7.00	10.00
Lot #		2120	130659-24	Lot #		2120	030659-24
Temperature °C		22.8	22.8	Temperature °C		23.0	23.0
pH Reading		7.02	10.01	pH Reading		7.03	10.01
T-corrected pH		7.07	10.02	T-corrected pH		7.01	10.02
Control Limit	±0.05 pH unit			Control Limit	±0.05 pH unit		

#	Sample ID	Pre-treat	pH	Note	#	Sample ID	Pre-treat	pH	Note
MB	TIME		6.89		MB	TIME		6.86	
1	2789-2		6.79		1	2810-2		7.44	
2					2	2809-1		7.88	
3					3	-2		7.85	
4					4	-3		7.28	
5					5	-4		7.05	
6					6	-5		7.58	
7					7	-6		8.01	
8					8	-7		8.47	
9			4/18/03		9	-8		6.60	
10					10				
11			DR		11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
19					19				
20					20				
Dup.	2789-2		6.77		Dup.	2809-4		7.08	

FILE: [CUST.DOC.WET]PH .TEX Root-File: PH_ROOT.TEX 1-Page-File: PH1.TEX
APCL form 5-120, May 23, 1996; Ver 2.2 No pencil. Use blue pen for record. Use red pen for correction.

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

Solid Analysis (TDS 160.1, 160.2, 160.3) Worksheet

Batch # 0411250D Matrix W Method: 160.1 Balance No. _____ Date: 4/22/03 Analyst: Rm

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

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

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

Other method (specify):

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

#	Analysis Type	Sample ID (STD Lot #)	Treatment Ratio $V_f/X=f_1$	Volume V, mL	W_1 g	W_2 1st, g	W_2 2nd, g	$\Delta W = W_2 - W_1$, g	Results (ppm)	Note
1	Blank	T1115	1 =	100	115.5103	115.5104	115.5104		1	C
2	LCS	"	1 =	"	114.0245	114.0666	114.0666		421	D
3	Sample-1	2829-1	1 =	100	116.6483	116.6482	116.6483		0	Z5
4	MS on S-1	3	1 =		115.3396	115.4498	115.4498	1102	7002	B
5	MSD on S-1	3	1 =		107.4123	107.5202	107.5202		1079	BB
6	Sample-2	2	1 =	50	106.3139	106.3220	106.3220		162	8
7	Sample-3	3	1 =	100	105.3551	105.4271	105.4271		720	W1
8	Sample-4	4	1 =		99.0748	99.1331	99.1330		582	Y2
9	Sample-5	5	1 =		113.8605	113.8800	113.8802		197	6
10	Sample-6	6	1 =		103.9428	103.9780	103.9780		352	14
11	Sample-7	2809-1	1 =		115.1303	115.1521	115.1524		221	10
12	Sample-8	2	1 =		108.5424	108.5430	108.5433		0	1P
13	Sample-9	3	1 =		121.3173	121.3420	121.3417		244	I
14	Sample-10	4	1 =		115.7063	115.7650	115.7650		587	HK
15	LCSD	T1115	1 =		107.1071	107.1599	107.1599		428	D2
16	Sample-11	5	1 =		104.3088	104.3313	104.3314		226	3
17	Sample-12	6	1 =		114.1411	114.1603	114.1602		191	C3
18	Sample-13	7	1 =		115.9112	115.9244	115.9245		133	Y9
19	Sample-14	8	1 =		103.5329	103.5329	103.5328		0	Z6
20	Sample-15 MS	4	1 =		104.2613	104.3621	104.3621		1008	7
21	Sample-16 MSD	4	1 =		106.6522	106.7493	106.7492		971	X
22	Sample-17	2829-1	1 =		107.7078	107.7221	107.7222		144	O
23	Sample-18	2	1 =		111.2781	111.3022	113.3020		239	5
24	Sample-19	3	1 =		114.3693	114.4169	114.4172		479	A
25	Sample-20	4	1 =		111.7908	117.8209	111.8210		302	R
26	Mix Dup.	5	1 =		114.3035	114.3040	114.3043		0	H

STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL)/X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
W- 7618	× 1 = 400 ppm	%	85-115 %/80-120 %
W- "	× 1 = ppm	%	.. ..
W- 7619	× 1 = ppm	%	90-110 %/85-115 %
W- "	× 1 = ppm	%	.. ..

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

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Balance Daily Calibration Worksheet

Weight Set S/N: 12006

Calib. Date	Lab Balance Balance #	1 g ±0.05g	10 g ±0.1g	200 g ±0.5g	Note (C)	Digital Balance Balance #	1 g ±0.02g	10 g ±0.05g	200 g ±0.10g	Note (D) (C) (AR)	Analytical Balance Balance #	1 g ±0.0002g	10 g ±0.0005g	200 g ±0.0010g	Note (D) (C) (AR)	Calib. by
4/21/03	A-01	not	in use		✓	B-01	1.00	10.00	200.01	✓✓✓	C-01	1.000	10.0000	200.0001	✓✓✓	Y/L
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0001	200.0000	✓✓✓	
	A-03	1.00	10.00	200.01	✓	B-06	1.00	10.01	200.00	✓✓✓	C-					
	A-04					B-07	1.00	10.00	199.99	✓✓✓	C-					
	A-		4/21/03			B-			4/21/03		C-		4/21/03			
	A-					B-					C-					
4/22/03	A-01	not	in use		✓	B-01	1.00	10.00	200.01	✓✓✓	C-01	1.0000	10.0000	200.0001	✓✓✓	Y/L
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0001	200.0000	✓✓✓	
	A-03	1.00	10.00	200.01	✓	B-06	1.00	10.00	200.00	✓✓✓	C-					
	A-04					B-07	1.00	10.00	199.99	✓✓✓	C-					
	A-		4/22/03			B-			4/22/03		C-		4/22/03			
	A-					B-					C-					
4/23/03	A-01	not	in use		✓	B-01	1.00	10.00	200.01	✓✓✓	C-01	1.0000	10.0000	200.0001	✓✓✓	Y/L
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0001	10.0001	200.0002	✓✓✓	
	A-03	1.00	10.00	200.01	✓	B-06	1.00	10.00	200.00	✓✓✓	C-					
	A-04					B-07	1.00	10.00	199.99	✓✓✓	C-					
	A-		4/23/03			B-			4/23/03		C-		4/23/03			
	A-					B-					C-					
4/24/03	A-01	not	in use		✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	9.9999	200.0000	✓✓✓	Y/L
	~~A-03~~					B-05	1.00	10.01	200.01	✓✓✓	C-02	1.0000	10.0000	200.0002	✓✓✓	
	A-03	1.00	10.00	200.00		B-06	1.00	10.00	200.00	✓✓✓	C-					
	A-04					B-07	1.00	9.99	199.99	✓✓✓	C-					
	A-		4/24/03			B-			4/24/03		C-		4/24/03			
	A-					B-					C-					

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

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	##03w2496kw ipc 25ppb w7759	Sample		e314-011.met	c:\data\03w2496k\w2496k ipc 25ppb	1	1
2	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q01	1	1
3	ccb	Sample		e314-011.met	c:\data\03w2496k\w2496k ccb01	1	1
4	lcs 25ppb w7827d	Sample		e314-011.met	c:\data\03w2496k\w2496k l01	1	1
5	LCS 18PPB W7685D	Sample		e314-011.met	c:\data\03w2496k\w2496k j01	1	1
6	ICCS 4ppb w7827b	Sample		e314-011.met	c:\data\03w2496k\w2496k iccs 4ppb	1	1
7	mb	Sample		e314-011.met	c:\data\03w2496k\w2496k k01	1	1
8	2805-19 F=1	Sample		e314-011.met	c:\data\03w2496k\2805-19	1	1
9	2809-01 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-01	1	1
10	2809-02 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-02	1	1
11	2809-03 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-03	1	1
12	2809-04 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-04	1	1
13	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q02	1	1
14	ccb	Sample		e314-011.met	c:\data\03w2496k\w2496k k02	1	1
15	2809-05 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-05	1	1
16	2809-06 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-06	1	1
17	2809-07 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-07	1	1
18	2809-08 F=1	Sample		e314-011.met	c:\data\03w2496k\2809-08	1	1
19	2819-01 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-01	1	1
20	2819-02 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-02	1	1
21	2819-03 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-03	1	1
22	2819-04 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-04	1	1
23	2819-05 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-05	1	1
24	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q03	1	1
25	CCB	Sample		e314-011.met	c:\data\03w2496k\w2496k k03	1	1
26	2819-06 F=1	Sample		e314-011.met	c:\data\03w2496k\2819-06	1	1
27	2809-04 MS 50PPB F=1	Sample		e314-011.met	c:\data\03w2496k\w2496k m01	1	1
28	2809-04 MSD 50PPB F=1	Sample		e314-011.met	c:\data\03w2496k\w2496k n01	1	1
29	2819-03 MS 50PPB F=1	Sample		e314-011.met	c:\data\03w2496k\w2496k m02	1	1
30	2819-03 MSD 50PPB F=1	Sample		e314-011.met	c:\data\03w2496k\w2496k n02	1	1
31	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q04	1	1
32	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q05	1	1
33	CCB	Sample		e314-011.met	c:\data\03w2496k\w2496k k04	1	1
34	2820-05 F=1	Sample		e314-011.met	c:\data\03w2496k\2820-05	1	1
35	2820-06 F=1	Sample		e314-011.met	c:\data\03w2496k\2820-06	1	1
36	2820-09 F=1	Sample		e314-011.met	c:\data\03w2496k\2820-09	1	1
37	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2496k\w2496k q06	1	1
38		Sample		aastopcl.met		1	1

Analyst Wei Wang

Date 4/22-23/03

Instrument IC-K

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

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

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

Comment:

Analyst DL

Date 3/21/03

Instrument J

DIONEX SCHEDULE - C:\DX\SCHEDULE\03W2479.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	##03W2479, W CCVW77	..\E300-063	..\W2479Q01.D01	1	1	1
2	MB RW1408	..\E300-063	..\W2479K01.D02	1	1	1
3	LCS W7768-100X	..\E300-063	..\W2479L01.D03	1	1	1
4	LCSD W7768-100X	..\E300-063	..\W2479J01.D04	1	1	1
5	2809-2 F=1.25	..\E300-063	..\2809-201.D05	1	1.25	1
6	2809-8 F=1.25	..\E300-063	..\2809-801.D06	1	1.25	1
7	2809-1 F=2.5	..\E300-063	..\2809-101.D07	1	2.5	1
8	2809-3 F=2	..\E300-063	..\2809-301.D08	1	2	1
9	2809-4 F=20	..\E300-063	..\2809-401.D09	1	20	1
10	2809-5 F=4	..\E300-063	..\2809-501.D10	1	4	1
11	2809-6 F=4	..\E300-063	..\2809-601.D11	1	4	1
12	CCV2W7767-100X	..\E300-063	..\W2479Q01.D12	1	1	1
13	MB RW1408	..\E300-063	..\W2479K01.D13	1	1	1
14	$2809-4 MS F=40	..\E300-063	..\W2479M01.D14	1	40	1
15	$2809-4 MSD F=40	..\E300-063	..\W2479N01.D15	1	40	1
16	2815-1 F=2	..\E300-063	..\2815-101.D16	1	2	1
17	2809-7 F=4	..\E300-063	..\2809-701.D17	1	4	1
18	CCV3W7767-100X	..\E300-063	..\W2479Q01.D18	1	1	1
19	MB RW1408	..\E300-063	..\W2479K11.D19	1	1	1
20	$2819-3 MS F=40	..\E300-063	..\W2479M01.D20	1	40	1
21	$2819-3 MSD F=40	..\E300-063	..\W2479N01.D21	1	40	1
22	2819-3 F=20	..\E300-063	..\2819-301.D22	1	20	1
23	2819-4 F=12.5	..\E300-063	..\2819-401.D23	1	12.5	1
24	2819-5 F=4	..\E300-063	..\2819-501.D24	1	4	1
25	2819-6 F=10	..\E300-063	..\2819-601.D25	1	10	1
26	2819-2 F=1.25	..\E300-063	..\2819-201.D26	1	1.25	1
27	2819-1 F=1.25	..\E300-063	..\2819-101.D27	1	1.25	1
28	CCV4W7767-100X	..\E300-063	..\W2479Q01.D28	1	1	1
29		..\STOP.MET		1	1	1

Comment:
LCS/LCSD LOT # W7768
MS/MSD LOT # W7767
ELUENT LOT # W7868
ANALYTICAL METHOD 9056/E300 MATRIX W

Analyst 22

Date 4/22/03

Instrument J

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

Chromium (VI) (7196) Worksheet

Batch # 03W 2476 Matrix: W [Holding Time: 24 hours!!] Test Date: 4/21/03 Analyst: Br

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ 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.= 0.9997 (≥ 0.995)	
STD-4	W-	× / = mg/L			RSD= % (≤ 15%)	
STD-5	W-	× / = mg/L			Ref. page	
STD-6	W-	× / = mg/L			A=0.000+0.8360C	

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- 7853	Expected Conc.:	×	/ = 0.25 mg/L	0.211	0.252 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T115		$/X_0$ = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		$/X_0$ = 1	95.0/ =	0.188	mg/L	0.225 ppm	
Sample-1	2809-1		$/X_0$ =	95.0/ =	0.000	mg/L	0.000 ppm	
MS on S-1	4		$/X_0$ =	95.0/ =	0.190	mg/L	0.227 ppm	
MSD on S-1	4		$/X_0$ =	95.0/ =	0.189	mg/L	0.226 ppm	
Sample 2	2		$/X_0$ =	95.0/ =	0.001	mg/L	0.09 ppm	
Sample 3	3		$/X_0$ =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 4	4		$/X_0$ =	95.0/ =	0.003	mg/L	0.003 ppm	
Sample 5	5		$/X_0$ =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 6	6		$/X_0$ =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 7	7		$/X_0$ =	95.0/ =	0.000	mg/L	0.000 ppm	
Sample 8	8		$/X_0$ =	95.0/ =	0.000	mg/L	0.000 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: T115		$/X_0$ = 1	95.0/ =	0.192	mg/L	0.230 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	
MX Dup.			$/X_0$ =	95.0/ =	0.209	0.250 mg/L	ppm	

Br 4/21/03

Br 4/21/03

clasing 0.25 mg/L

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

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

Form S-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
[...ST.DOC.WET]CR6.TEX Root-file: CR6_ROOT.TEX 1-Page-File: CR61.TEX
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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Chromium (VI) (7196) Worksheet

Batch # 03W1295 Matrix: W [Holding Time: 24 hours!!] Test Date: 1/29/03 Analyst: BN

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ 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-7191	× / =0.000 mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / =0.025 mg/L	0.006		Average RF=	A=0.000+0.836C
STD-3	W-	× / =0.050 mg/L	0.041		C.C.=0.9977 (≥ 0.995)	
STD-4	W-	× / =0.125 mg/L	0.109		RSD= % (≤ 15%)	
STD-5	W-	× / =0.250 mg/L	0.214		Ref. page	
STD-6	W-	× / =0.500 mg/L	0.415		A=0.003+BN 1/29/03	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0=f_1$	Treat. Ratio $V/X=f_2$	540 nm A	Concentration $C'=A/\bar{RF}$	C (Sample) $C=f_1 f_2 C'$	Anomaly Note
CCV	Lot: W-7076.	Expected Conc.:	×	/ =0.25 mg/L	0.216	0.258 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1115		/X_0 = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		/X_0 =	95.0/ =	0.204	mg/L	0.244 ppm	
Sample-1	1369-1		/X_0 =	95.0/ =	0.000	mg/L	0.00 ppm	
MS on S-1	6		/X_0 =	95.0/ =	0.223	mg/L	0.266 ppm	
MSD on S-1	6		/X_0 =	95.0/ =	0.230	mg/L	0.275 ppm	
Sample 2	2		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 3	3		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 4	4		/X_0 =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 5	5		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 6	6		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 7	-		/X_0 =	95.0/ =		mg/L	ppm	
Sample 8			/X_0 =	95.0/ =		mg/L	ppm	
Sample 9			/X_0 =	95.0/ =		mg/L	ppm	
Sample 10			/X_0 =	95.0/ =		mg/L	ppm	
Blank	Lot:		/X_0 =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot: T1115		/X_0 = 1	95.0/ =	0.210	mg/L	0.251 ppm	
Sample 11			/X_0 =	95.0/ =		mg/L	ppm	
Sample 12			/X_0 =	95.0/ =		mg/L	ppm	
Sample 13			/X_0 =	95.0/ =		mg/L	ppm	
Sample 14			/X_0 =	95.0/ =		mg/L	ppm	
Sample 15			/X_0 =	95.0/ =		mg/L	ppm	
Sample 16			/X_0 =	95.0/ =		mg/L	ppm	
Sample 17			/X_0 =	95.0/ =		mg/L	ppm	
Sample 18			/X_0 =	95.0/ =		mg/L	ppm	
Sample 19			/X_0 =	95.0/ =		mg/L	ppm	
Sample 20			/X_0 =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		/X_0 =	95.0/ =	0.204	mg/L	0.248 ppm	

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL) / X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W- 7076	× / =0.25 ppm	%	80-120 %/80-120 %
MSD	W- ✓	× / = ppm	%	.. ..
LCS	W- 7191	× / = ppm	%	80-120 %/80-120 %
LCSD	W- ✓	× / = ✓ ppm	%	.. ..

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

APCL form 5-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]CR6.TEX Root-file: CR6.ROOT.TEX 1-Page-File: CR61.TEX
Control limits are subjected to change. The updated values are given in the latest version of APCL Technical Handbook Vol. 2

APCL

Applied Physics & Chemistry Laboratory

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

June 25, 2003

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

Dear Leo Williamson,

This package contains samples in our Service ID 03-3351 and your project : 04-4428.10 JPL GW Mon-2Q03.
Enclosed please find:

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

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

Respectfully submitted,

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

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

APCL Analytical Report

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

Service ID #: 801-033351
Collected by: Leo Williamson
Collected on: 05/22/03

Received: 05/22/03
Extracted: 05/22/03
Tested: 05/23/03
Reported: 05/29/03

Sample Description: Water from MW-4
Project Description: 04-4428.10 JPL. GW-Mon. 2Q03.

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-8-2Q03 03-03351-1	EB-14-5/22/03 03-03351-2	MW-4-2 03-03351-3
Dilution Factor				1	1	1
1,4-DIOXANE	8270-SIM	μg/L	1	1	<1	1

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 03-03351-4	MW-4-4 03-03351-5	MW-4-5 03-03351-6
Dilution Factor				1	1	1
1,4-DIOXANE	8270-SIM	μg/L	1	0.4J	<1	<1

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: JPL

APCL Service ID: 03-3351

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

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-4+ 0033

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-2Q03	PROJECT LOCATION: MW-4 (SE Facility Perimeter)	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Leo W. Williamson
PROJECT CONTACT: Leo W. Williamson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr. #270
PROJECT ADDRESS: 4900 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 Fahseem	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: 8270 SIM (1,4-Dioxane)								Comments
1	MW-4-5	H_2O	5/22/03	915	NONE	2	III	NORMAL	X								
2	MW-4-4	↓	↓	1000	↓	↓	↓	↓	X								
3	MW-4-3	↓	↓	1040	↓	↓	↓	↓	X								3351
4	MW-4-2	↓	↓	1210	↓	↓	↓	↓	X								
5																	
6	EB-14-5/22/03	H_2O	5/22/03	1050	NONE	2	III	NORMAL	X								
7	DUPE-8-2Q03	↓	↓	—	↓	2	IV	↓	X								
8																	
9																	
10																	

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	[illegible]	5/22/03	1750
[illegible]	Paul C	5/22/03	1355

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

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

Case Narrative

Project: JPL GW-Mon. 2Q03./MW-4/04-4428.10

For GEOFON, Inc.

APCL Service No: 03-3351

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-4-5	03-03351-6
MW-4-4	03-03351-5
MW-4-3	03-03351-4
MW-4-2	03-03351-3
EB-14-5/22/03	03-03351-2
DUPE-8-2Q03	03-03351-1

2. Analytical Methodology

Samples are analyzed by EPA methods

8270-SIM (1,4-Dioxane),

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

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

Sample Receiving Checklist

APCL ServiceID: 3351 **Client Name/Project:** Geofon Inc

1. Sample Arrival

Date/Time Received 5/22/03 1355 Date/Time Opened 5/22/03 1355 By (name): Paul Kon

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

2. Chain-of-Custody (CoC)

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

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

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

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

3. Shipping Container/Cooler

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

Temp °C 2.2°C

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

Cooler Custody Seal? ☐ Absent ☑ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

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

5. Holding-time Requirements

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

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

☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

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

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

☑ Quantity OK? ☐ Leaking? ☐ Anomaly?

☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

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

7. Turn Around Time

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

8. Sample Matrix

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____

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

9. Pre-Login Check List Completed & OK?

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

Received/Checked by: Paul K Date: 22 May 2003 Time: 7:40 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]samprcl.tex.

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

Sample Login: Check List

03-03351 (0470_ 148) (2202777_ 148)

05/22/03

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?	*Paul Kou*
		Receiving Date/Time:	*05/22/03 1355*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*2.2 °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-4-5	Dioxane	03-03351-6	W	G		1000	2	G	052203	N	0	7	☐
2	MW-4-4	Dioxane	03-03351-5	W	G		1000	2	G	052203	N	0	7	☐
3	MW-4-3	Dioxane	03-03351-4	W	G		1000	2	G	052203	N	0	7	☐
4	MW-4-2	Dioxane	03-03351-3	W	G		1000	2	G	052203	N	0	7	☐
5	EB-14-5/22/03	Dioxane	03-03351-2	W	G		1000	2	G	052203	N	0	7	☐
6	DUPE-8-2Q03	Dioxane	03-03351-1	W	G		1000	2	G	052203	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

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCH	CL	SO4	NO3	CARBON	BICARB	
1	MW-4-5	Dioxane	03-03351-6	W									☐
2	MW-4-4	Dioxane	03-03351-5	W									☐
3	MW-4-3	Dioxane	03-03351-4	W									☐
4	MW-4-2	Dioxane	03-03351-3	W									☐
5	EB-14-5/22/03	Dioxane	03-03351-2	W									☐
6	DUPE-8-2Q03	Dioxane	03-03351-1	W									☐

Level C Data Package Deliverables

8270-SIM

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03G2623-MB-01	Received Date:	05/22/2003
Sample ID:	**03G2623-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	13:10
Data File Name:	G2623K01	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	<1	U

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	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

Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623K01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 13:10 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 14:57 2003
Print Time : Fri May 23 14:57 2003
Miscleneous :

Sample : f=.001
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

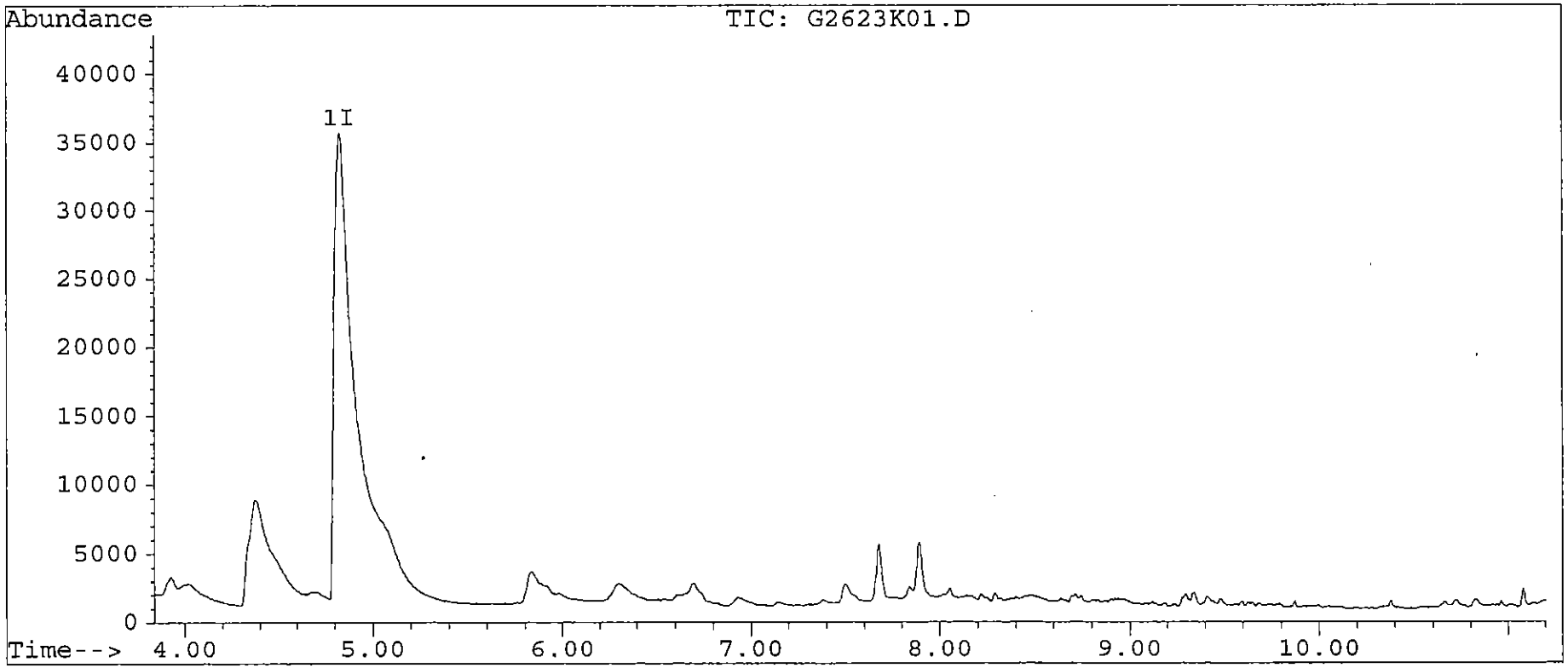
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.83	4.80	0.006	96	66	296.242	20.00		0.03	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623K01.D Vial: 1
Acq On : 23 May 03 1:10 pm Operator: Andy Huang
Sample : f=.001 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 14:57 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



Applied P & Ch Laboratory

Organic Analysis Results for Method 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-1	Received Date:	05/22/2003
Sample ID:	**DUPE-8-2Q03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	21:45
Data File Name:	3351-01	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	1	

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	50-200	95
# of out-of-control				0

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 * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\3351-01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 21:45 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 27 13:50 2003
Print Time : Tue May 27 13:50 2003
Miscleneous :

Sample : f=.001
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1 1	1.4-Dioxane-d8	4.77	4.80	-0.004	96	66	306.192	20.00		-0.02	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2 2	1,4-Dioxane	4.87	4.88	-0.002	88	58	19.664	1.06	1.1	78	

JMS 5/27/03

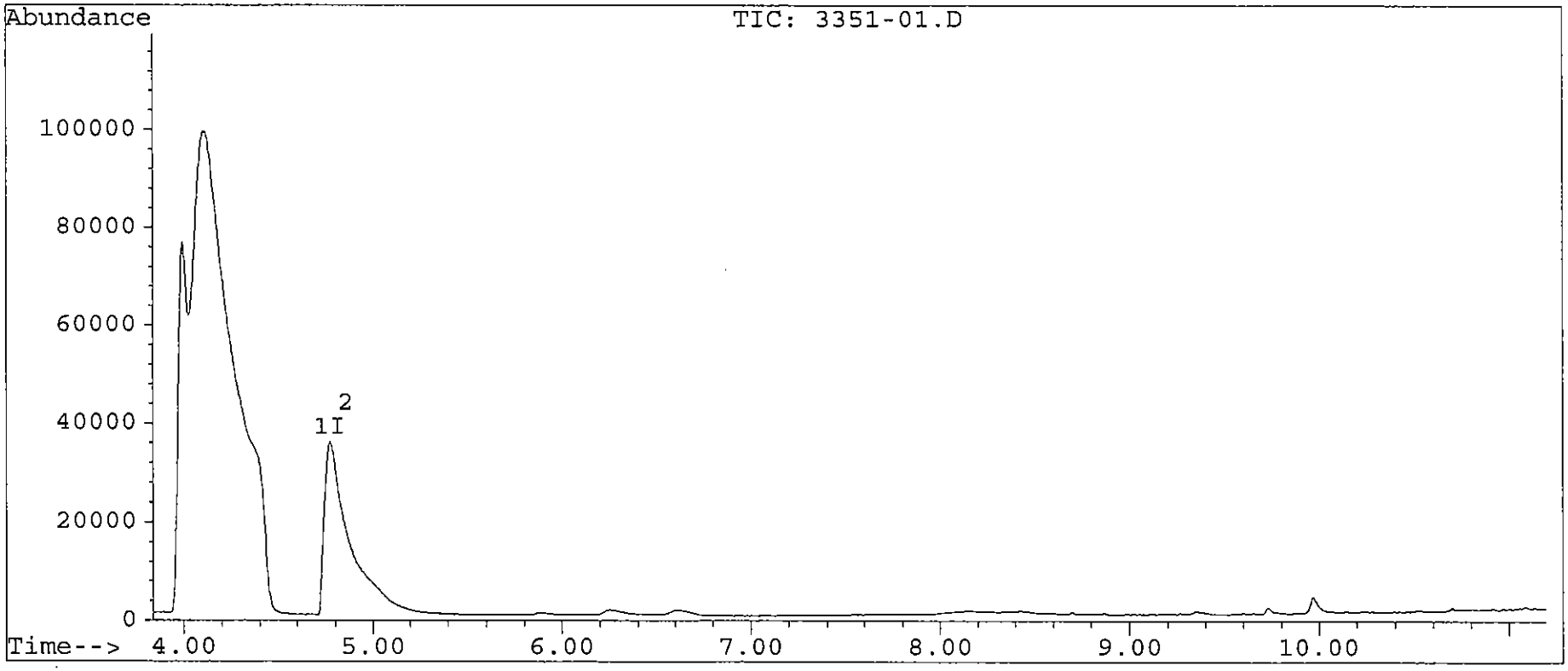
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

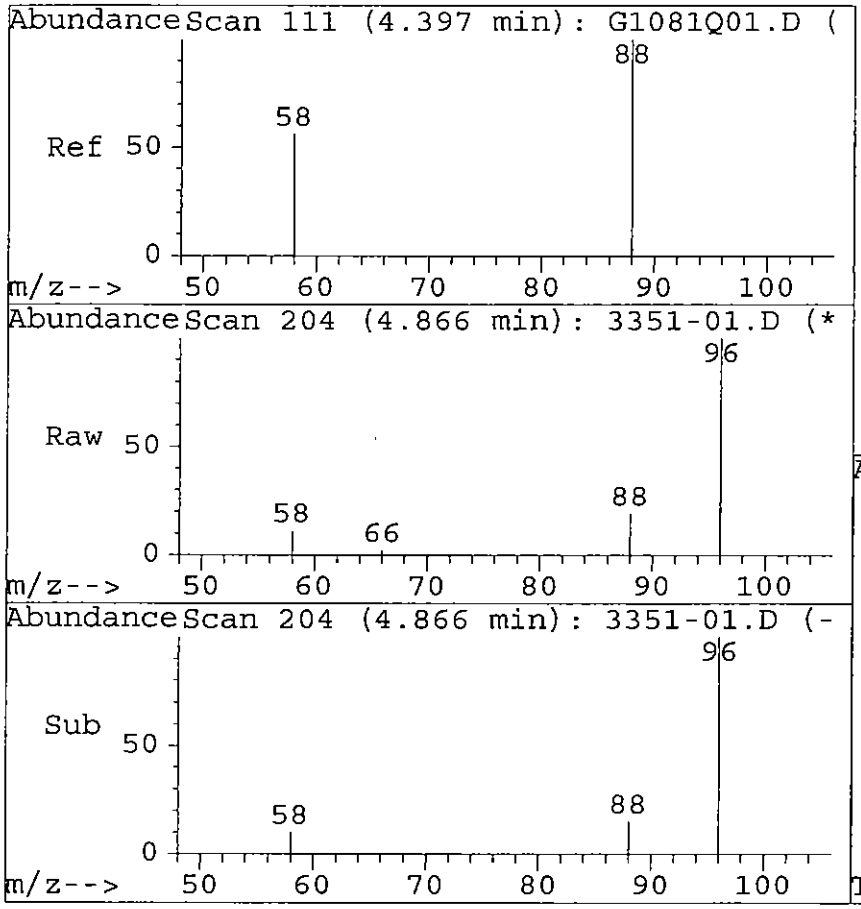
5972

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\3351-01.D Vial: 2
Acq On : 23 May 03 9:45 pm Operator: Andy Huang
Sample : f=.001 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 27 13:50 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration

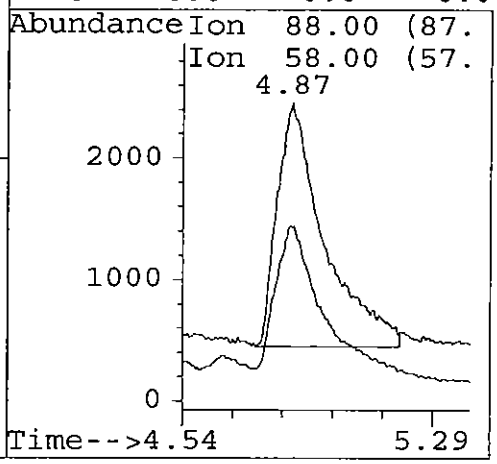




#2
2 1,4-Dioxane
Concen: 1.06 ppm
RT: 4.87 min Scan# 204
Delta R.T. -0.01 min
Lab File: 3351-01.D
Acq: 23 May 03 9:45 pm

Tgt Ion:88 Resp: 19664

Ion	Ratio	Lower	Upper
88	100		
58	65.1	29.8	69.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Applied P & Ch Laboratory

Organic Analysis Results for Method 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-2	Received Date:	05/22/2003
Sample ID:	**EB-14-5/22/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	22:05
Data File Name:	3351-02	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	<1	U

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	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

Applied P & Ch Laboratory

Organic Analysis Results for Method 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-3	Received Date:	05/22/2003
Sample ID:	**MW-4-2**	Sample Matrix	Water	Moisture %:	-
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	22:26
Data File Name:	3351-03	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	$\mu g/L$	1	1	

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	50-200	93
# of out-of-control				0

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 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-4	Received Date:	05/22/2003
Sample ID:	**MW-4-3**	Sample Matrix	Water	Moisture %:	--
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	22:47
Data File Name:	3351-04	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	0.4	J

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	50-200	85
# of out-of-control				0

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 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-5	Received Date:	05/22/2003
Sample ID:	**MW-4-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	23:08
Data File Name:	3351-05	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	<1	U

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	50-200	96
# 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 8270-SIM

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/22/2003
Project ID:	JPL GW-Mon. 2Q03.	Service ID:	33351	Collected by:	
		Lab Sample ID:	03-3351-6	Received Date:	05/22/2003
Sample ID:	**MW-4-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3520	Instrument ID:	GC/MS: M
Anal. Method:	8270-SIM	Prep. Date:	05/22/03	Anal. Date:	05/23/03
Batch No:	03G2623	Prep. No:	1 of 1	Anal. Time:	23:29
Data File Name:	3351-06	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	1,4-DIOXANE	123-91-1	μg/L	1	<1	U

Internal Standard			Control Limit, %	IS Rec.%
1	1,4-DIOXANE-D8	17647-74-4	50-200	99
# 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-3C

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 8270-SIM

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33351
Project ID:	JPL GW-Mon. 2Q03.	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2623		
LCS Filename:	G2623L01	Date Analyzed:	052303	Time Analyzed:	13:31
LCSD Filename:	G2623J01	Date Analyzed:	052303	Time Analyzed:	13:54

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
1,4-DIOXANE	μg/L	20	0	18.7	94	40-140
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
1,4-DIOXANE	μg/L	20	18.7	94	0	30	40-140
# 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 * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623L01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 13:31 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 14:28 2003
Print Time : Fri May 23 14:28 2003
Miscleneous :

Sample : f=.001
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

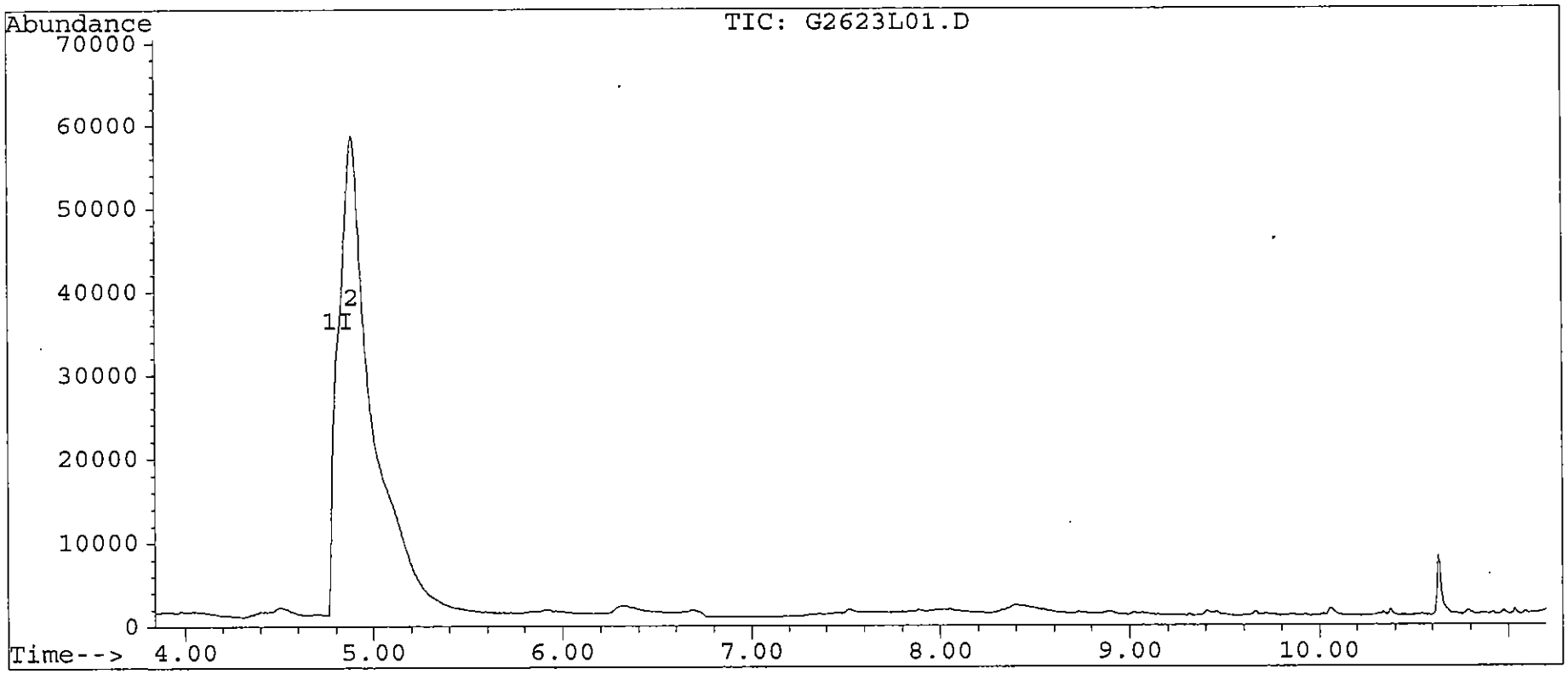
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.81	4.80	0.003	96	66	246.833	20.00		0.01	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.89	4.88	0.003	88	58	280.604	18.71	18.7	80	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623L01.D Vial: 2
Acq On : 23 May 03 1:31 pm Operator: Andy Huang
Sample : f=.001 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 14:28 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623J01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 13:54 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 14:28 2003
Print Time : Fri May 23 14:28 2003
Miscleneous :

Sample : f=.001
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

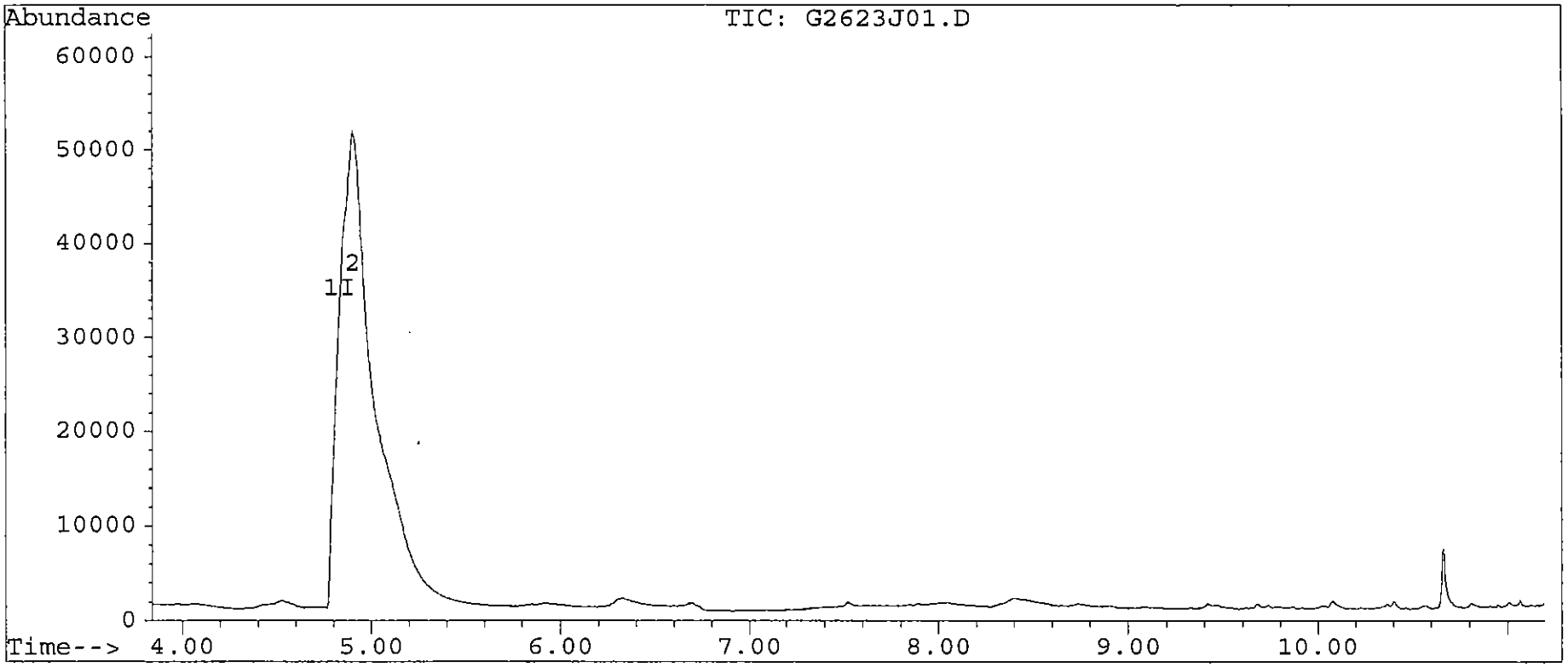
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.83	4.80	0.006	96	66	231.813	20.00		0.03	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.91	4.88	0.006	88	58	263.999	18.74	18.7	80	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623J01.D Vial: 3
Acq On : 23 May 03 1:54 pm Operator: Andy Huang
Sample : f=.001 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 14:28 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



FORM-3C

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 8270-SIM

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33351
Project ID:	JPL GW-Mon. 2Q03.	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2623		
MS Filename:	G2623M02	Date Analyzed:	052303	Time Analyzed:	15:01
MSD Filename:	G2623N02	Date Analyzed:	052303	Time Analyzed:	15:23
MS Sample No:	**04MW-01-1-GW**	Sample Lab ID:	03-3318-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
1,4-DIOXANE	μg/L	20	0	19.4	97	40-140
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
1,4-DIOXANE	μg/L	20	19.4	97	0	30	40-140
# 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 * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623M02.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 15:01 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 15:46 2003
Print Time : Fri May 23 15:46 2003
Miscleneous :

Sample : f=.001 $3318-04
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

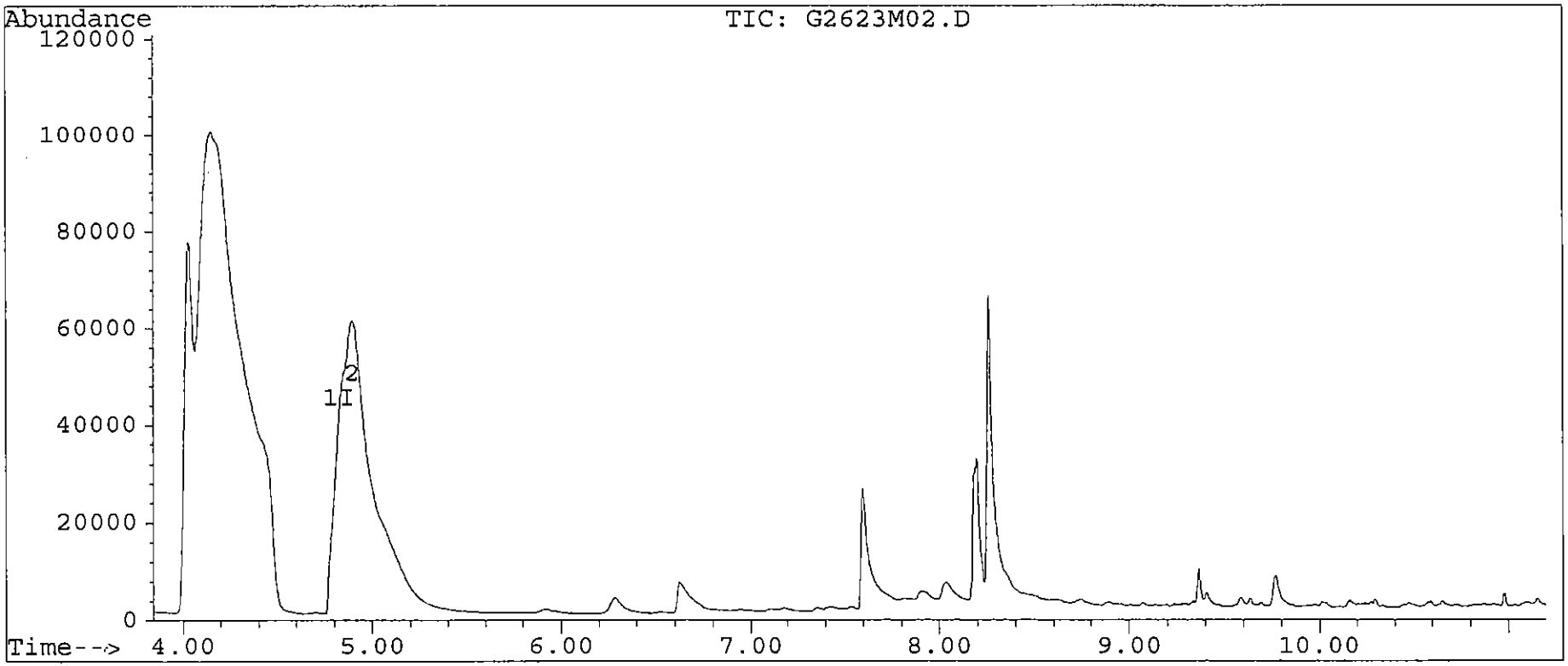
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.82	4.80	0.005	96	66	266.456	20.00		0.03	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.90	4.88	0.005	88	58	314.103	19.40	19.4	84	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623M02.D Vial: 6
Acq On : 23 May 03 3:01 pm Operator: Andy Huang
Sample : f=.001 $3318-04 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 15:46 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623N02.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 15:23 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 15:46 2003
Print Time : Fri May 23 15:46 2003
Miscleneous :

Sample : f=.001 $3318-04
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 0.001000

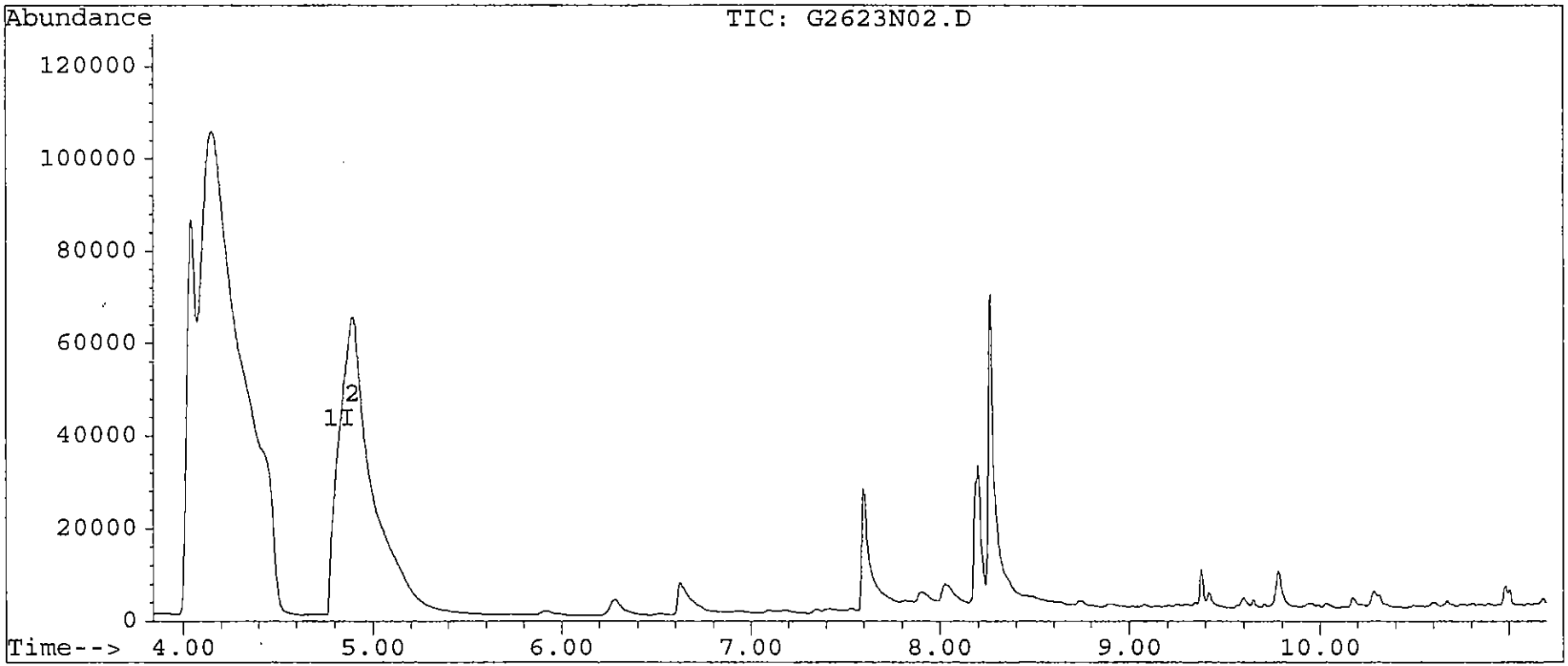
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.82	4.80	0.005	96	66	271.289	20.00		0.02	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.90	4.88	0.005	88	58	319.174	19.36	19.4	85	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623N02.D Vial: 7
Acq On : 23 May 03 3:23 pm Operator: Andy Huang
Sample : f=.001 $3318-04 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 15:46 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



FORM-4B

Applied P & Ch Laboratory

Method Blank Summary for Method 8270-SIM

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33351
Project ID:	JPL GW-Mon. 2Q03.	Project No:	04-4428.10	Analysis Date:	05/23/03
		Sample Matrix:	Water	Analysis Time:	13:10
Sample ID:	**03G2623-MB-01**	Batch No:	03G2623	Instrument ID:	GC/MS: M
Lab Sample ID:	03G2623-MB-01	Data File Name:	G2623K01	GC Column:	DB-5.625
				Column ID:	0.25 mm

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

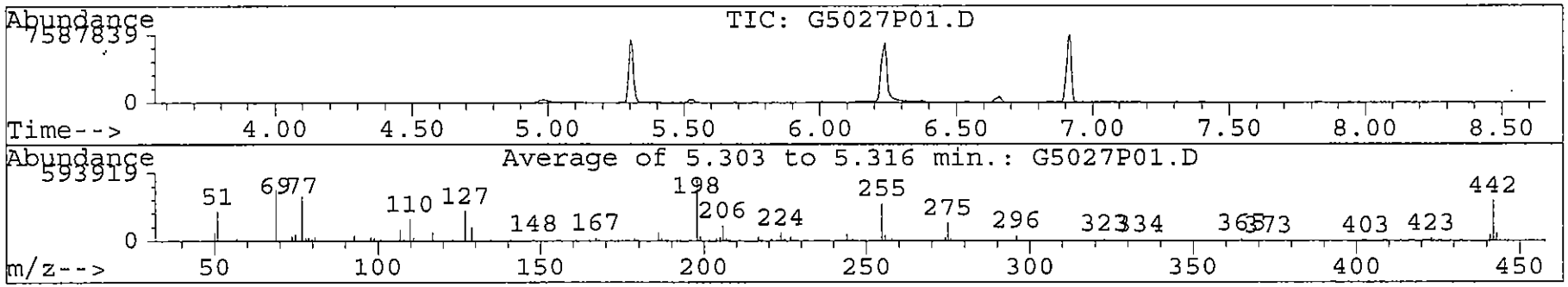
#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1	03G2623-LCS-01	03G2623-LCS-01	Lab Control Spike	G2623L01	05/23/03	13:31
2	03G2623-LSD-01	03G2623-LSD-01	Lab Control Spike Duplicate	G2623J01	05/23/03	13:54
3	04MW-01-1-GWMS	03-3318-4MS	Matrix Spike	G2623M02	05/23/03	15:01
4	04MW-01-1-GWMSD	03-3318-4MSD	Matrix Spike Duplicate	G2623N02	05/23/03	15:23
5	DUPE-8-2Q03	03-3351-1	Field Sample	3351-01	05/23/03	21:45
6	EB-14-5/22/03	03-3351-2	Field Sample	3351-02	05/23/03	22:05
7	MW-4-2	03-3351-3	Field Sample	3351-03	05/23/03	22:26
8	MW-4-3	03-3351-4	Field Sample	3351-04	05/23/03	22:47
9	MW-4-4	03-3351-5	Field Sample	3351-05	05/23/03	23:08
10	MW-4-5	03-3351-6	Field Sample	3351-06	05/23/03	23:29
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

DFTPP

Data File : C:\HPCHEM\1\DATA\02G5027\G5027P01.D
Acq On : 17 Dec 02 2:19 pm
Sample : ##02g5027,w dftpp gc14349
Misc :

Vial: 99
Operator: Andy Huang
Inst : GC/MS - M
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270



Peak Apex is scan: AVERAGE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	80	44.9	254307	PASS
68	69	0	2	0.0	0	PASS
69	198	1	100	78.3	443243	PASS
70	69	0	2	0.3	1277	PASS
127	198	25	75	46.2	261139	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	565803	PASS
199	198	5	9	6.7	37981	PASS
275	198	10	30	27.4	155040	PASS
365	198	1	100	3.7	20870	PASS
441	443	1	99	78.6	52501	PASS
442	198	40	110	61.8	349717	PASS
443	442	15	24	19.1	66784	PASS

G5027P01.D DIOSIM06.M Tue Dec 17 22:19:18 2002 5972

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : APPLIED P & CH LAB Contract: _____

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

Lab File ID: G5027P01 DFTPP Injection Date: 12/17/02

Instrument ID: GCMS-M DFTPP Injection Time: 1419

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	78.3
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	40.0 - 60.0% of mass 198	46.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	27.4
365	Greater than 0.75% of mass 198	3.7
441	Present, but less than mass 443	9.3 (78.6)3
442	40.0 - 100.0% of mass 198	61.8
443	17.0 - 23.0% of mass 442	11.8 (19.1)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD040	DS006-40	DS006-040.D	12/17/02	1438
02	SSTD030	DS006-30	DS006-030.D	12/17/02	1457
03	SSTD020	DS006-20	DS006-020.D	12/17/02	1516
04	SSTD010	DS006-10	DS006-10.D	12/17/02	1536
05	SSTD001	DS006-01	DS006-01.D	12/17/02	1555
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

Response Factor Report GC/MS - M

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 16:08:23 2002
Response via : Initial Calibration

Calibration Files
30 =M06-030.D 20 =M06-020.D 10 =M06-010.D
1 =M06-001.D 40 =M06-040.D

		Compound	30	20	10	1	40	Avg	%RSD
1) I	1	1.4-Dioxane-d8	----------ISTD----------						
2)	2	1,4-Dioxane	1.151	1.165	1.216	1.379	1.165	1.215	7.81

(#) = Out of Range

Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

532

Data Filename: C:\HPCHEM\1\DATA\02G5027\M06-040.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 14:38 2002
Method Update: Fri Oct 18 22:02 2002
Quant. Time : Dec 17 15:07 2002
Print Time : Tue Dec 17 15:07 2002
Miscleneous :

Sample : 40ppm gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

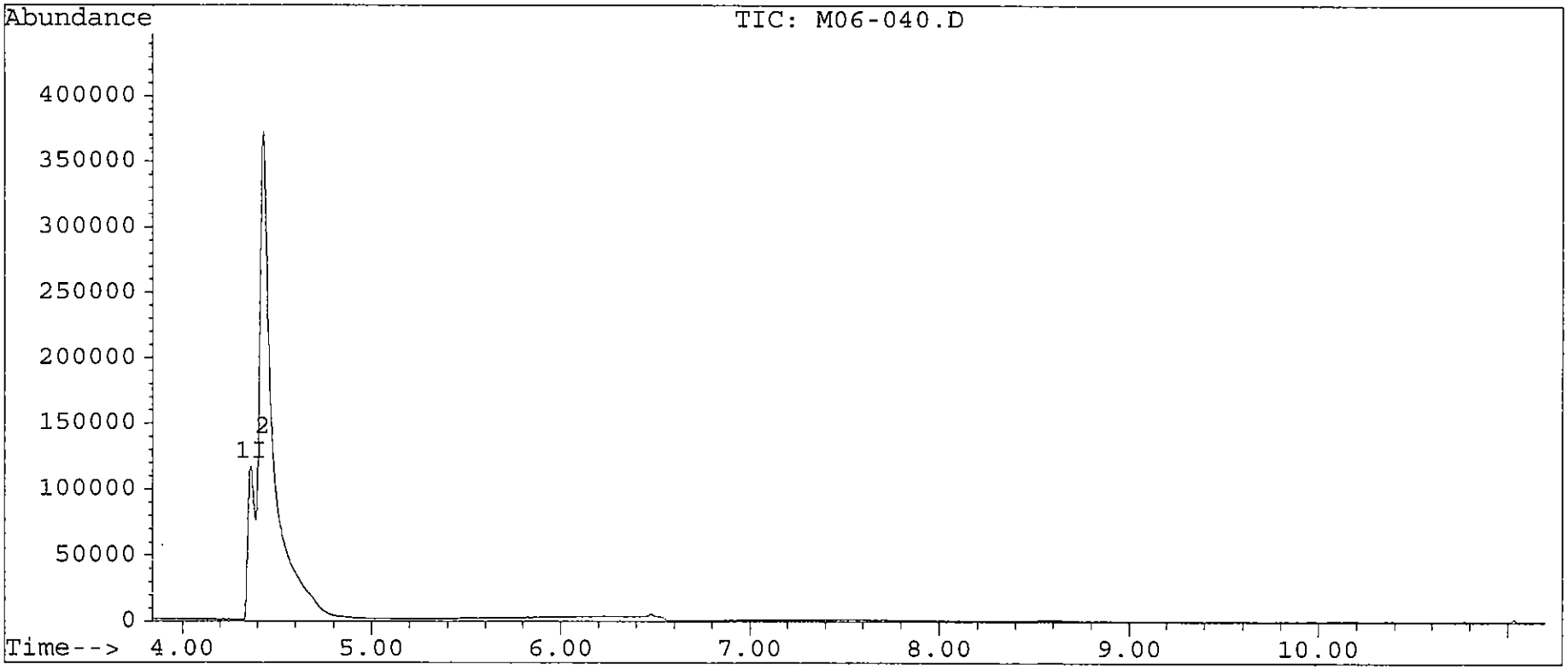
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.36	4.37	-0.001	96	66	477.763	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.43	4.44	-0.003	88	58	1113.531	38.33	38334.5	76	#

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\M06-040.D Vial: 1
Acq On : 17 Dec 02 2:38 pm Operator: Andy Huang
Sample : 40ppm gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 15:07 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri Oct 18 22:02:00 2002
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

534

Data Filename: C:\HPCHEM\1\DATA\02G5027\M06-030.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 14:57 2002
Method Update: Tue Dec 17 15:08 2002
Quant. Time : Dec 17 15:17 2002
Print Time : Tue Dec 17 15:17 2002
Miscleneous :

Sample : 30ppm gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

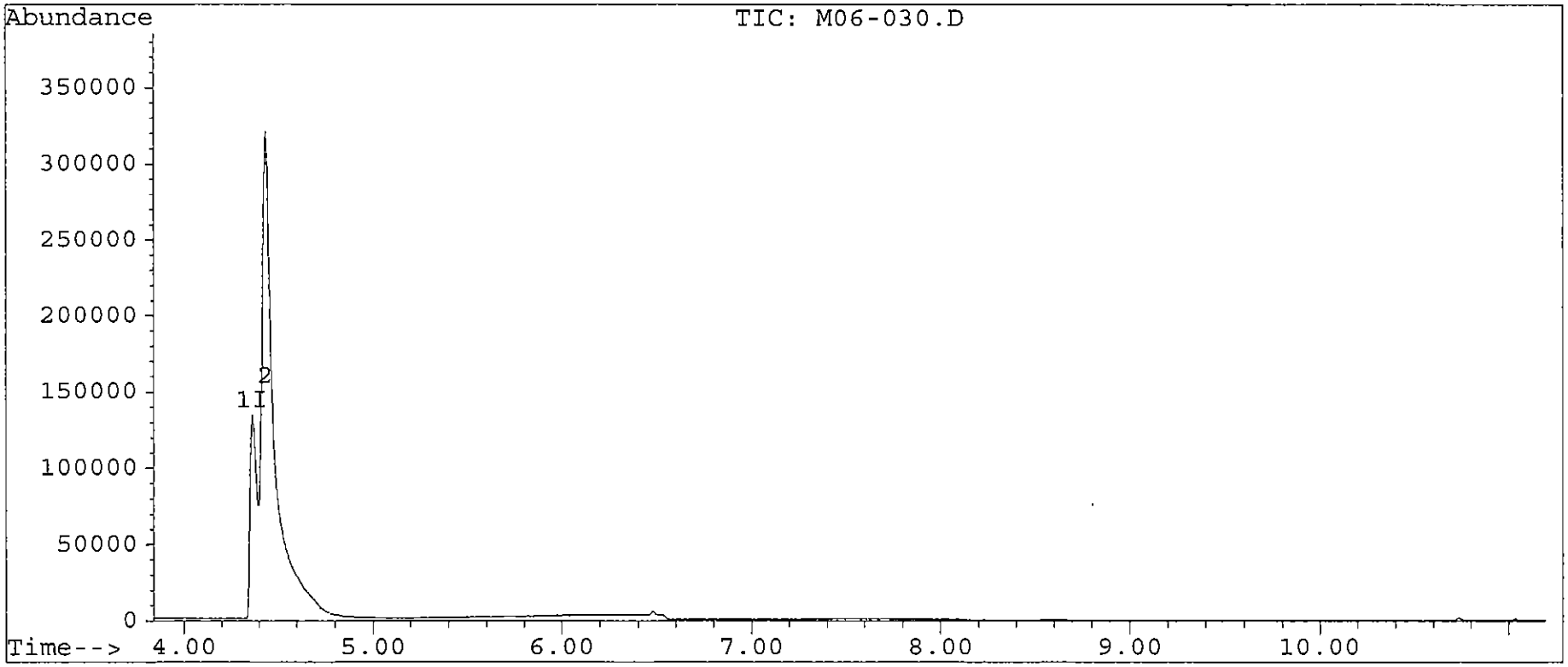
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.37	4.36	0.000	96	66	513.693	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.44	4.43	0.002	88	58	886.552	28.47	28474.2	98	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\M06-030.D Vial: 2
Acq On : 17 Dec 02 2:57 pm Operator: Andy Huang
Sample : 30ppm gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 15:17 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 15:08:08 2002
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

536

Data Filename: C:\HPCHEM\1\DATA\02G5027\M06-020.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 15:16 2002
Method Update: Tue Dec 17 15:17 2002
Quant. Time : Dec 17 15:35 2002
Print Time : Tue Dec 17 15:35 2002
Miscleneous :

Sample : 20ppm gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

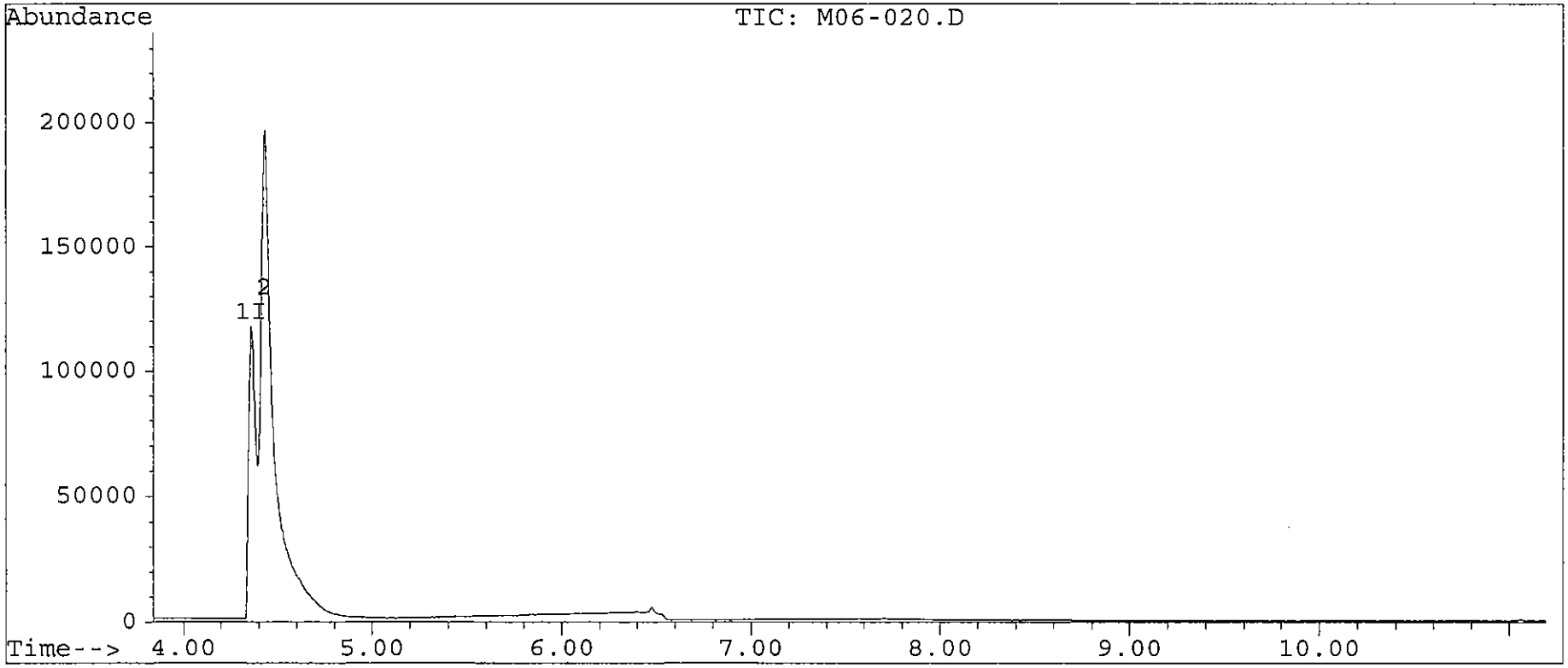
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1 1	1.4-Dioxane-d8	4.36	4.36	0.000	96	66	465.038	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2 2	1,4-Dioxane	4.43	4.43	0.000	88	58	541.825	19.40	19401.4	97	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\M06-020.D Vial: 3
Acq On : 17 Dec 02 3:16 pm Operator: Andy Huang
Sample : 20ppm gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 15:35 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 15:17:15 2002
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\02G5027\M06-010.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 15:36 2002
Method Update: Tue Dec 17 15:36 2002
Quant. Time : Dec 17 15:51 2002
Print Time : Tue Dec 17 15:51 2002
Miscleneous :

Sample : 10ppm gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

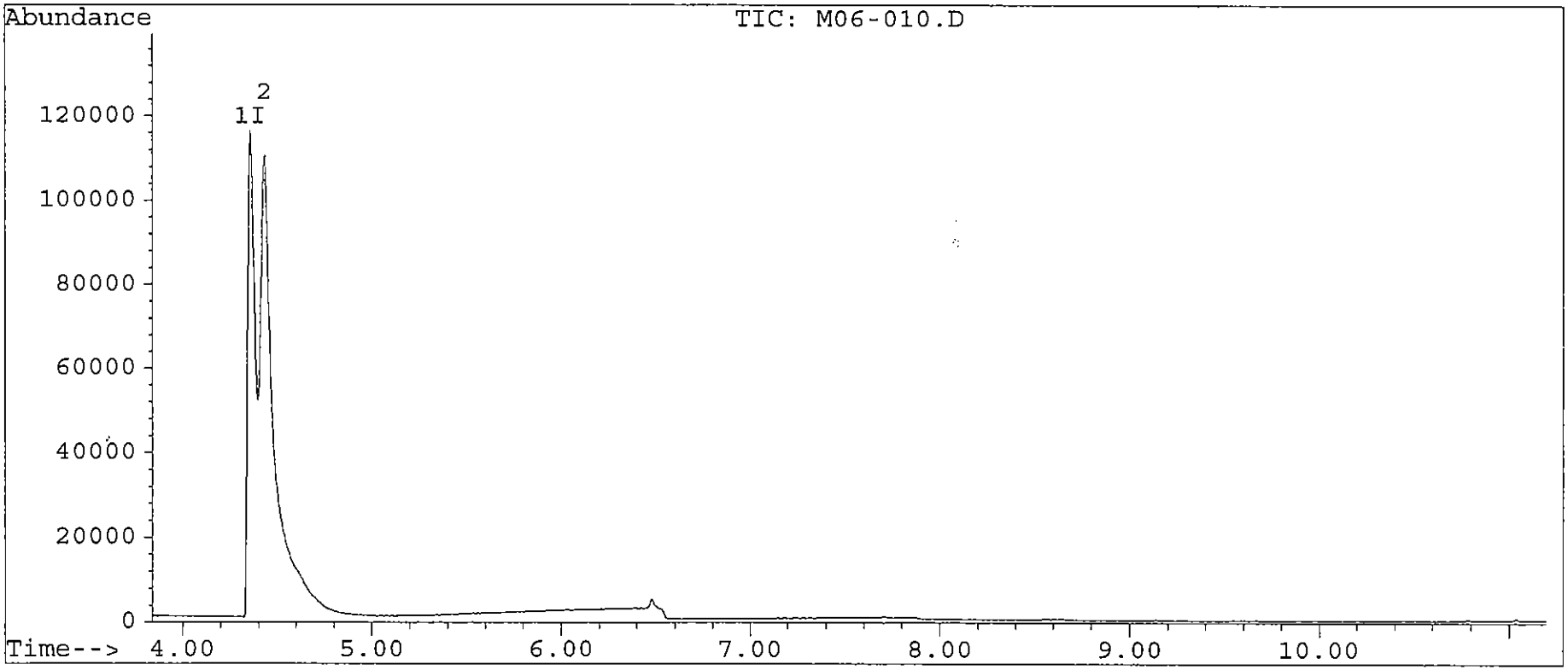
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.36	4.36	0.000	96	66	464.928	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.43	4.43	0.000	88	58	282.615	10.16	10158.2	100	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\M06-010.D Vial: 4
Acq On : 17 Dec 02 3:36 pm Operator: Andy Huang
Sample : 10ppm gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 15:51 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 15:36:28 2002
Response via : Multiple Level Calibration



Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

540

Data Filename: C:\HPCHEM\1\DATA\02G5027\M06-001.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 15:55 2002
Method Update: Tue Dec 17 16:00 2002
Quant. Time : Dec 17 16:08 2002
Print Time : Tue Dec 17 16:08 2002
Miscleneous :

Sample : 1ppm gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

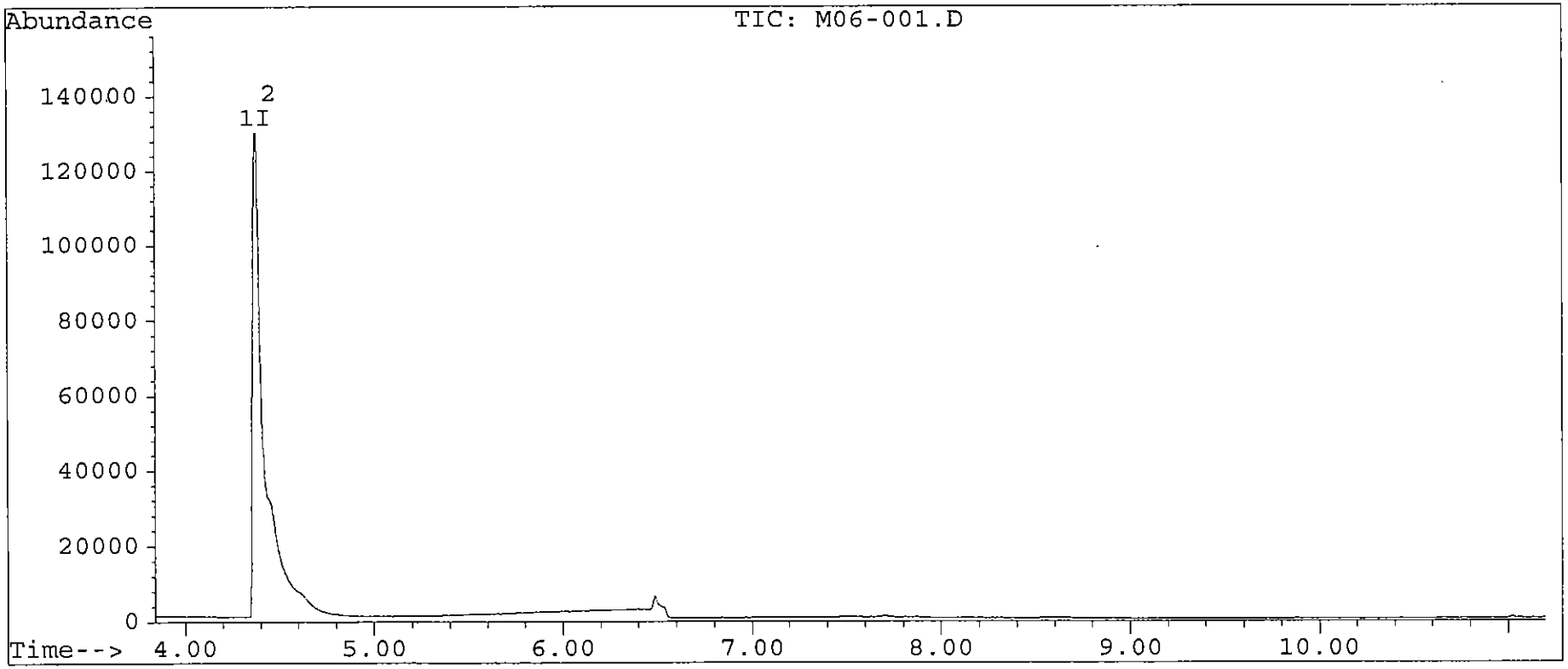
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.38	4.36	0.004	96	66	515.201	20.00		0.02	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.46	4.43	0.007	88	58	35.522	1.14	1137.6	98	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\M06-001.D Vial: 5
Acq On : 17 Dec 02 3:55 pm Operator: Andy Huang
Sample : 1ppm gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 16:08 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 16:00:39 2002
Response via : Multiple Level Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\02G5027\G5027Q01.D Vial: 100
Acq On : 17 Dec 02 4:14 pm Operator: Andy Huang
Sample : gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 16:08:23 2002
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1 1.4-Dioxane-d8	1.000	1.000	0.0	86	0.00
2		2 1,4-Dioxane	1.215	1.370	-12.7	102	0.00

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

Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

543

Data Filename: C:\HPCHEM\1\DATA\02G5027\G5027Q01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : Dec 17 16:14 2002
Method Update: Tue Dec 17 16:08 2002
Quant. Time : Dec 17 16:29 2002
Print Time : Tue Dec 17 16:29 2002
Miscleneous :

Sample : gc14554
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

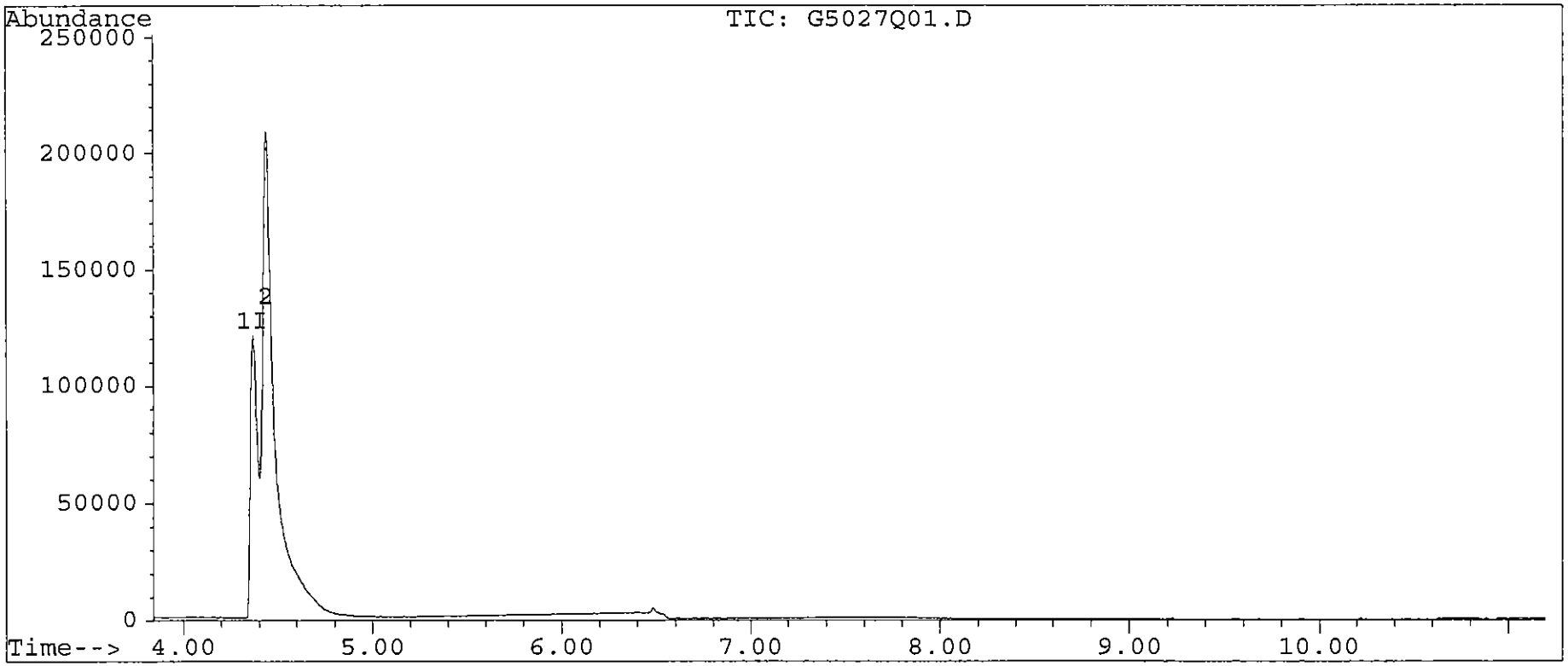
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.37	4.36	0.002	96	66	402.190	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.44	4.43	0.002	88	58	551.016	22.55	22549.4	98	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\02G5027\G5027Q01.D Vial: 100
Acq On : 17 Dec 02 4:14 pm Operator: Andy Huang
Sample : gc14554 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: Dec 17 16:29 2002 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Tue Dec 17 16:08:23 2002
Response via : Multiple Level Calibration

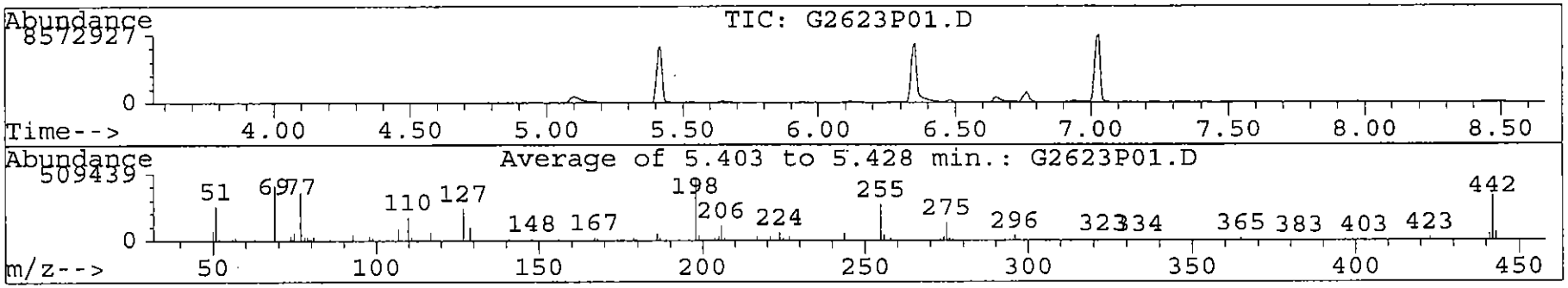


DFTPP

Data File : C:\HPCHEM\1\DATA\03G2623\G2623P01.D
Acq On : 23 May 03 12:09 pm
Sample : ##03g2623,w dftpp gc14349
Misc :

Vial: 99
Operator: Andy Huang
Inst : GC/MS - M
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270



Peak Apex is scan: AVERAGE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	80	53.8	261003	PASS
68	69	0	2	0.0	0	PASS
69	198	1	100	85.2	413160	PASS
70	69	0	2	0.1	536	PASS
127	198	25	75	50.2	243334	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	485182	PASS
199	198	5	9	6.8	32853	PASS
275	198	10	30	27.6	134080	PASS
365	198	1	100	3.9	18694	PASS
441	443	1	99	79.8	51403	PASS
442	198	40	110	69.7	338086	PASS
443	442	15	24	19.0	64403	PASS

G2623P01.D DIOSIM06.M Fri May 23 14:57:11 2003 5972

FORM-5B

Applied P & Ch Laboratory

Semivolatile Organic Instrument Performance Check for Method 8270-SIM

Decafluorotriphenylphosphine (DFTPP), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	033351
Project ID:	JPL GW-Mon. 2Q03.	DFTPP Inj. Date:	05/23/03	Batch No:	03G2623
		DFTPP Inj. Time:	12:09	Sequence No:	03G2623
Project No:	04-4428.10	Instrument ID:	M	GC Column:	DB-5.625
Data File Name:	G2623P01			Column ID:	0.25 mm

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

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1	03G2623-CCV-01	03G2623-CCV-01	G2623Q01	05/23/03	12:48
2	03G2623-MB-01	03G2623-MB-01	G2623K01	05/23/03	13:10
3	03G2623-LCS-01	03G2623-LCS-01	G2623L01	05/23/03	13:31
4	03G2623-LSD-01	03G2623-LSD-01	G2623J01	05/23/03	13:54
5	04MW-01-1-GWMS	03-3318-4MS	G2623M02	05/23/03	15:01
6	04MW-01-1-GWMSD	03-3318-4MSD	G2623N02	05/23/03	15:23
7	DUPE-8-2Q03	03-3351-1	3351-01	05/23/03	21:45
8	EB-14-5/22/03	03-3351-2	3351-02	05/23/03	22:05
9	MW-4-2	03-3351-3	3351-03	05/23/03	22:26
10	MW-4-3	03-3351-4	3351-04	05/23/03	22:47
11	MW-4-4	03-3351-5	3351-05	05/23/03	23:08
12	MW-4-5	03-3351-6	3351-06	05/23/03	23:29
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623Q01.D Vial: 100
Acq On : 23 May 03 12:48 pm Operator: Andy Huang
Sample : gc15155 Inst : GC/MS - M
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	1 1.4-Dioxane-d8	1.000	1.000	0.0	69	0.00
2	2 1,4-Dioxane	1.215	1.157	4.8	69	0.00

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

Quantitation Report: * Applied P & Ch Lab * GC/MS 8270

Data Filename: C:\HPCHEM\1\DATA\03G2623\G2623Q01.D
Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Acq. Time : May 23 12:48 2003
Method Update: Fri May 23 12:56 2003
Quant. Time : May 23 14:56 2003
Print Time : Fri May 23 14:56 2003
Miscleneous :

Sample : gc15155
Inst. : GC/MS - M
RF via : Multiple Level Calibration
Operator: Andy Huang
Multiplr: 1.000000

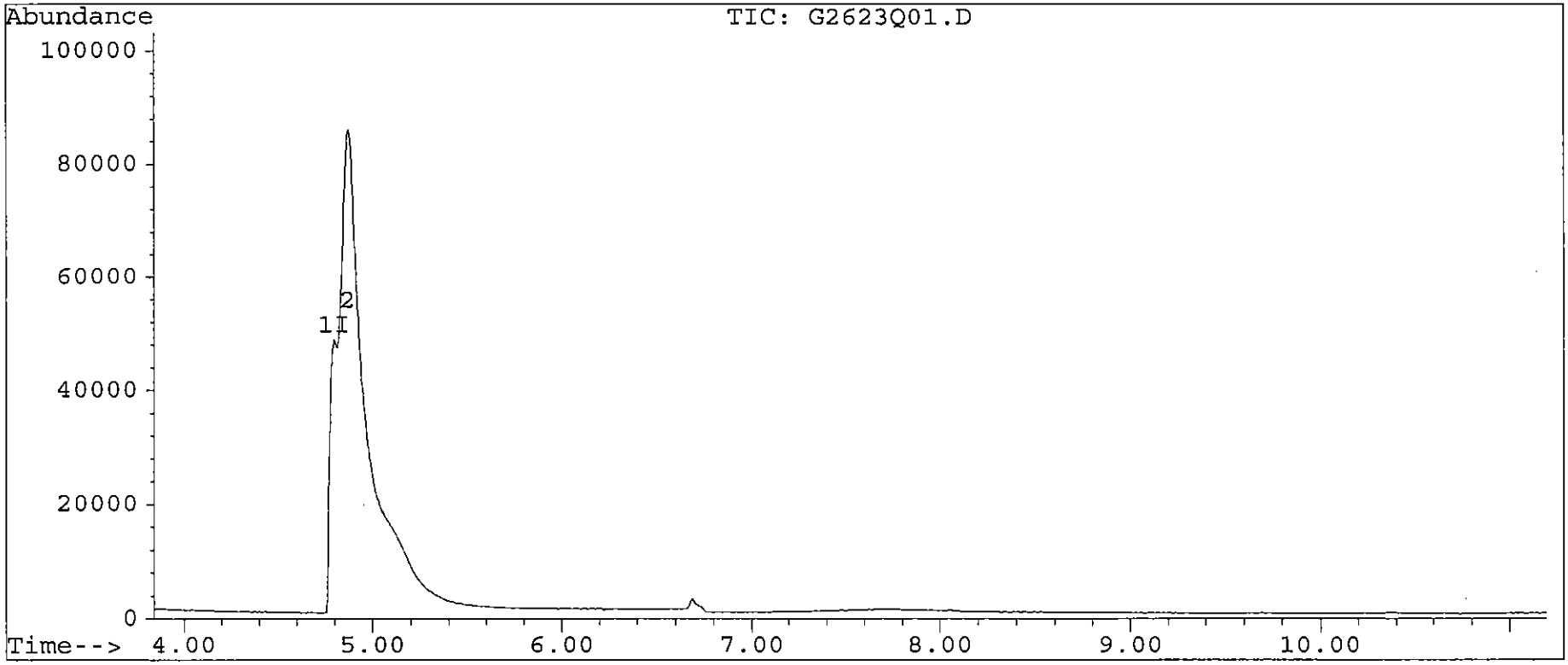
ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppm	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 1.4-Dioxane-d8	4.80	4.80	0.000	96	66	322.849	20.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
2	2 1,4-Dioxane	4.88	4.88	0.000	88	58	373.629	19.05	19047.7	75	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\03G2623\G2623Q01.D Vial: 100
Acq On : 23 May 03 12:48 pm Operator: Andy Huang
Sample : gc15155 Inst : GC/MS - M
Misc : Multiplr: 1.00
Quant Time: May 23 14:56 2003 Quant Results File: quant.res

Method : C:\HPCHEM\1\METHODS\DIOSIM06.M
Title : * Applied P & Ch Lab * GC/MS 8270
Last Update : Fri May 23 12:56:26 2003
Response via : Multiple Level Calibration



FORM-8B

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 8270-SIM

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	033351
Project ID:	JPL GW-Mon. 2Q03.	Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G2623Q01	Instrument ID:	M
Batch No:	03G2623				

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #
12 Hour CCV STD			05/23/03 12:48	322849	4.80
CCV Upper Limit				645698	5.30
CCV Lower Limit				161424	4.30
1	03G2623-MB-01	03G2623-MB-01	05/23/03 13:10	296242	4.83
2	03G2623-LCS-01	03G2623-LCS-01	05/23/03 13:31	246833	4.81
3	03G2623-LSD-01	03G2623-LSD-01	05/23/03 13:54	231813	4.83
4	04MW-01-1-GWMS	03-3318-4MS	05/23/03 15:01	266456	4.82
5	04MW-01-1-GWMSD	03-3318-4MSD	05/23/03 15:23	271289	4.82
6	DUPE-8-2Q03	03-3351-1	05/23/03 21:45	306192	4.77
7	EB-14-5/22/03	03-3351-2	05/23/03 22:05	299480	4.78
8	MW-4-2	03-3351-3	05/23/03 22:26	301802	4.78
9	MW-4-3	03-3351-4	05/23/03 22:47	275682	4.81
10	MW-4-4	03-3351-5	05/23/03 23:08	310393	4.79
11	MW-4-5	03-3351-6	05/23/03 23:29	320050	4.79
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

IS-1 = 1,4-DIOXANE-D8

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

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

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

Organic Sample Preparation Logbook

Batch # 03G2623 Matrix: W Target method: 1,4 Dioxane EXT Method: 3580C Date: 5.22.03

Solvent: CH_2Cl_2 Lot # 027447 ; Exchange Solvent: N/A Lot # N/A ; Analyst: HL

Lot #: Surr.: GC- NA Conc.: NA ppm Na_2SO_4: RC0078

Op. #	Sample Type	Sample ID #	Smpl Amnt (mL or g)	Surr. Vol ½ mL	Extract sub-ID	Final Vol. mL	Dilution F=V/X	Note & Anomaly
3431	MB	03G2623-K01	1000.0	NA	1,4 Dioxane	1.00	0.001	
3432	LCS	-L01	1000.0					
3433	LCSD	-J01	1000.0					
3434	Sample-1	3318-1	1000.0					
3435	MS	-1	1000.0					
3436	MSD	-1	1000.0					
3437	Sample-2	3318-2	1000.0					
3438	Sample-3	-3	1000.0					
3439	Sample-4	-4	1000.0					
3440	Sample-5	-5	1000.0					
3441	Sample-6	-6	1000.0					
3442	Sample-7	-7	1000.0					
3443	Sample-8	3301-2	1000.0					
3444	Sample-9	3304-1	1000.0					
3445	Sample-10	3334-1	1000.0					
3446	Sample-11	-2	1000.0					
3447	Sample-12	-3	1000.0					
3448	Sample-13	-4	1000.0					
3449	Sample-14	-5	1000.0					
3450	Sample-15	3351-1	1000.0					
3451	Sample-16	-2	1000.0					
3452	Sample-17	-3	1000.0					
3453	Sample-18	-4	1000.0					
3454	Sample-19	-5	1000.0					
3455	Sample-20	-6	1000.0					
	MTX Dup.							
	LCS'		5/22/03 HL					
	LCSD'							
	MS'	3318-4	1000.0	NA	1,4 Dioxane	1.00	0.001	
	MSD'	-4	1000.0	½				

Type	Op #	STD Lot #	$C_{std}(ppm) \times V_{std}(mL)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ppm) \times V_{std}(mL)/X(g \text{ or } mL) = T$
LCSD	3432	GC-15154	1000 × 20.0 × 1.00 /X= ppb	3433	GC-15154	1000 × 20.0 × 1.00 /X= ppb
MSD	3435	GC-	1000 × × /X= ppb	3436	GC-	1000 × × /X= ppb
LCSD'		GC-	1000 × × /X= ppb		GC-	1000 × × /X= ppb
MSD'	3459	GC-	1000 × × /X= ppb	3460	GC-	1000 × × /X= ppb

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

Organic Sample Preparation

Extraction method: **1** 3510–separate funnel; **2** 3520–L-L continue extraction; **3** 3550–Ultrasonic; **4** LUFT–Shaker; **5** 3540–Soxhlet; **6** Solid phase Extraction; **7** Microextraction; **8** SFE; **9** Dilution; **10** Concentration; **11** Other, specify.

Service ID: 3351 Batch 262623 Matrix W GC, GC/MS Method 1,4-Dioxane Ext Method 3520C

Sample Extraction

OP. by HL Date 5/20/03 Surro Lot GC- NA Conc. NA pp
LCS Lot GC- 14768 Conc. 20.0 pp MS Lot GC- 14768 Conc. 20.0 pp
Ext. solv. CHCl3 Lot # 027471 Exchage solv. NA Lot # NA

Sample ID	-1	-2	-3	-4	-5	-6		
Sample Matrix	W							
Sample Amount, X (g/mL)	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0		
Any TCLP, EP, WET, SPLP ?								
Surr. STD used, mL	NA							
Spike STD used, mL								
[Extracted at pH]	/	/	/	/	/	/	/	/
Solvent amount, mL	200	x	x	x	x	x	x	x
Final volume, V, mL	100							
Extraction DF $f_e = V/X$	0.001							
Sub-ID of extracts	1,4-Dioxane							
Anomaly Footnote† :								

Sample Cleanup

Op. by ____ Date / / (For details, see Cleanup worksheet)

Cleanup method:								
Cleanup DF, f_c								
Preparation DF, $f_1 = f_e\ f_c$								

Pre-injection*:

Op. by ____ Date / / IS Lot : GC- ____ Conc. ____ pp

2nd dilution, f_2	(1)							
V_t, μL	(40)							

Single Extract GC, GC/MS Analysis:

$V_2 = V_t/f_2$, μL	($40/f_2$)							
$V_{solvent} = V_t - V_2$, μL								

Double Extract GC, GC/MS Analysis:

$V_> = \frac{1}{2}V_t/f_2$, μL	($20/f_2$)							
$V_< = \frac{1}{2}\frac{V_t}{f_2}\frac{f_<}{f_>}$, μL	($\frac{20}{f_2}\frac{f_<}{f_>}$)							
$V_{solvent} = V_t - V_> - V_<$								
IS volume, μL	(10)							
Final Conc. of IS	(40 ppm)							
Total $F = 2\ f_1\ f_>$ or $f_1\ f_2$								

† Extraction Anomaly Footnote:

1. Difficult to concentrate to 1.0 mL.
2. Extract is dark color
3. Extract is sticky
4. Heterogenous matrix.
5. Too much precipitate during extraction.
6. There is an oil layer above the sample.
7. Mixture of soil & water.
8. BN-extract is interfered, A-extract only.
9. Sample has strong stink
10. Some solvent suspected
11. special color, specify

* For double extract analysis (ABN), $f_> = \max[f_A, f_B]$ and $f_< = \min[f_A, f_B]$, where f_A, f_B are f_1 for A and BN extracts, respectively. The values in () is the typical case for 625/8270 ABN analysis.

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Organic Sample Preparation

Extraction method: **1** 3510–separate funnel; **2** 3520–L-L continue extraction; **3** 3550–Ultrasonic; **4** LUFT–Shaker; **5** 3540–Soxhlet; **6** Solid phase Extraction; **7** Microextraction; **8** SFE; **9** Dilution; **10** Concentration; **11** Other, specify.

Service ID: 3318 Batch #036 2623 Matrix W GC, GC/MS Method 1,4-Dioxane Ext Method 3520 C

Sample Extraction

OP. by	Idl		Date 5/22/03		Surro Lot GC- NA		Conc. NA pp	
LCS Lot	GC- 14768		Conc. 20.0 pp		MS Lot GC- 14768		Conc. 20.0 pp	
Ext. solv.	CHrCl		Lot # 027471		Exchage solv. NA		Lot # NA	
Sample ID	-K01	-L01	-J01	-1 MS	-1 MSD	-4 MS	-4 MSD	-1
Sample Matrix	W							
Sample Amount, X (g/mL)	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Any TCLP, EP, WET, SPLP ?								
Surr. STD used, mL	NA							
Spike STD used, mL		1.00						
[Extracted at pH]	/	/	/	/	/	/	/	/
Solvent amount, mL	200	X	X	X	X	X	X	X
Final volume, V, mL	1.00							
Extraction DF $f_e = V/X$	0.001							
Sub-ID of extracts	1,4-Dioxane							
Anomaly Footnote† :								

Sample Cleanup

Op. by			Date / /		(For details, see Cleanup worksheet)			
Cleanup method:								
Cleanup DF, f_c								
Preparation DF, $f_1 = f_e\ f_c$								

Pre-injection*:

Op. by			Date / /		IS Lot : GC-		Conc. pp	
2nd dilution, f_2	(1)							
V_t, μL	(40)							
Single Extract GC, GC/MS Analysis:								
$V_2 = V_t/f_2$, μL	($40/f_2$)							
$V_{solvent} = V_t - V_2$, μL								
Double Extract GC, GC/MS Analysis:								
$V_> = \frac{1}{2}V_t/f_2$, μL	($20/f_2$)							
$V_< = \frac{1}{2}\frac{V_t}{f_2}\frac{f_<}{f_>}$, μL	($\frac{20}{f_2}\frac{f_<}{f_>}$)							
$V_{solvent} = V_t - V_> - V_<$								
IS volume, μL	(10)							
Final Conc. of IS	(40 ppm)							
Total $F = 2\ f_1\ f_>$ or $f_1\ f_2$								

† Extraction Anomaly Footnote:

1. Difficult to concentrate to 1.0 mL.
2. Extract is dark color
3. Extract is sticky
4. Heterogenous matrix.
5. Too much precipitate during extraction.
6. There is an oil layer above the sample.
7. Mixture of soil & water.
8. BN-extract is interfered, A-extract only.
9. Sample has strong stink
10. Some solvent suspected
11. special color, specify

* For double extract analysis (ABN), $f_>$=max[f_A, f_B] and $f_<$=min[f_A, f_B], where f_A, f_B are f_1 for A and BN extracts, respectively. The values in () is the typical case for 625/8270 ABN analysis.

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Semi-VOC Analysis Logbook

Sequence # 03G72623

Starting Date: 5/23/03 Time 12:09 pm Analyst: JMr

Seq. type: ☐ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study

Datafile Path: C:\APCHEM\1\DATA\03G

Routine Maintenance: ☐ Replace Septum ☒ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others

Op. #	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
1121			SP	G72623P01	DFTPP6M5			99	G72623P01	✓	5/23/03 12:09pm
1122			CCV	Q01	D105\M06			100	Q01	✓	GC14349
1123	03G72623	S	MB	K01			0.001	1	K01	✓	
1124			LCS	L01				2	L01	✓	
1125			LCSD	J01				3	J01	✓	
1126			MS	M01				4	M01	✓	#3318-01
1127			MSD	N01				5	N01	✓	1
1128			MS'	M02				6	M02	✓	#3318-04
1129			MSD'	N02				7	N02	✓	1
1130				3318-01				8	3318-01	✓	
1131				02				9	02	✓	
1132				03				10	03	✓	
1133				04				11	04	✓	
1134				05				12	05	✓	
1135				06				13	06	✓	
1136				07				14	07	✓	
1137				3304-01				15	3304-01	✓	
1138				3301-02				16	3301-02	✓	
1139				3334-01				17	3334-01	✓	
1140				02				18	02	✓	
1141				03				19	03	✓	
1142				04				20	04	✓	
1143				05				1	05	✓	
1144				3351-01				2	3351-01	✓	
1145				02				3	02	✓	
1146				03				4	03	✓	
1147				04				5	04	✓	
1148				05				6	05	✓	
1149				06				7	06	✓	
1150				JMr 5-23-03							

Footnote/Anomaly:

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

Supervisor Initial: BSA

M LOG-063

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

Semi-VOC Analysis Logbook

ence # 026502

Starting Date: 12-17-02 Time 2:19 pm Analyst: J.Y.

type: ☐ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study Datafile Path: _____

ine Maintenance: ☐ Replace Septum ☒ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

#	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
2985			SP	6502)P01	DFTPP625			99	6502)P01	✓	12-17-02 2:19pm
2986			Cali-	M06-040	D105M06			1	M06-040	✓	40ppm GC14554
2987				-030				2	-030	✓	30
2988				-020				3	-020	✓	20
2989				-010				4	-010	✓	10
2990				-001				5	-001	✓	1
2991			CCV	6502)Q01				100	6502)Q01	✓	GC14554
2992	026502	W	MB	K01			0.001	6	K01	✓	
2993			LCS	L01				7	L01	✓	
2994			LCSD	J01				8	J01	✓	
2995			MS	M01				9	M01	✓	$6556-03
2996			MSD	N01				10	N01	✓	1
2997			MS'	M02			0.000962	11	M02	✓	$6587-01
2998			MSD'	N02				12	N02	✓	1
2999				6587-01				13	6587-01	✓	
3000				-02				14	-02	✓	
3001				-03				15	-03	✓	
3002				6556-01			0.002	16	6556-01	✓	
3003				-02			0.001	17	-02	✓	
3004				-03				18	-03	✓	
3005				6588-01			0.000962	19	6588-01	✓	
3006				6603-01				20	6603-01	✓	
3007				-02				21	-02	✓	
3008				6558-01				22	6558-01	✓	
3009				-03			0.001	23	-03	✓	
3010				6586-02				24	6586-02	✓	
3011				-04				25	-04	✓	
3012				-05				26	-05	✓	
3013				-06				27	-06	R	overscale
3014				-08				28	-08	↓	✓

Footnote/Anomaly:

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

FILE: [CUST.DOC.GC]GC_LOG .TEX Root-File: GC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]GC_LOG1.TEX
APCL form 7-101, Nov 22, 2000; Ver 5.0 No pencil. Use blue pen for record. Use red pen for correction.

Supervisor Initial