Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Wet Analysis Results for Method SM2320B

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	SM2320B
Project ID:	JPL	Service ID:	32767	Collected by:	

Component Name: Bicarbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	<2	U
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	181	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	319	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	286	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	220	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/18/03	03W2446	mg/L	2	98.4	
03W2446-MB-01	03W2446-MB-01	Water	04/18/03	04/18/03	04/18/03	03W2446	mg/L	2	<2	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method SM2320B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method SM2320B
Project ID: JPL Service ID: 32767 Collected by:

Component Name: Carbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U
03W2446-MB-01	03W2446-MB-01	Water	04/18/03	04/18/03	04/18/03	03W2446	mg-$CaCO_3$/L	2	<2	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 9040

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 9040
Project ID: JPL Service ID: 32767 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	6.04	
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	6.88	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	7.28	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	7.44	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	7.23	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	7.71	
03W2443-MB-01	03W2443-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2443	pH unit	0.01	6.85	

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 160.1

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 160.1
Project ID: JPL Service ID: 32767 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	<10	U
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	637	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	755	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	651	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	413	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/21/03	03W2463	mg/L	10	503	
03W2463-MB-01	03W2463-MB-01	Water	04/21/03	04/21/03	04/21/03	03W2463	mg/L	10	<10	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 7196

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 7196
Project ID: JPL Service ID: 32767 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U
03W2441-MB-01	03W2441-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2441	mg/L	0.01	<0.01	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 314.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 314.0
Project ID: JPL Service ID: 32767 Collected by:

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	<4	U
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	3.6	B
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	2.9	B
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	2.9	B
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	2.1	B
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	2.7	B
03W2440-MB-01	03W2440-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2440	µg/L	4	<4	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 300.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 300.0
Project ID: JPL Service ID: 32767 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.25	0.29	
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	4	110	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	4	127	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	4	102	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	1.6	52.7	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	1.6	68.5	
03W2435-MB-01	03W2435-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.2	<0.2	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 300.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 300.0
Project ID: JPL Service ID: 32767 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.05	0.079	
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.8	13.2	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.8	5.3	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.8	8.8	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.32	7.1	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.32	6.8	
03W2435-MB-01	03W2435-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.04	<0.04	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 300.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	300.0
Project ID:	JPL	Service ID:	32767	Collected by:	

Component Name: Sulfate
CAS No: 14808-79-8

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2767-1	EB-1-4/17/03	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.63	0.70	
03-2767-2	MW-21-1	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	10	181	
03-2767-3	MW-21-2	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	10	144	
03-2767-4	MW-21-3	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	10	122	
03-2767-5	MW-21-4	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	4	65.2	
03-2767-6	MW-21-5	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	4	103	
03W2435-MB-01	03W2435-MB-01	Water	04/17/03	04/17/03	04/17/03	03W2435	mg/L	0.5	<0.5	U

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

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

FORM-3

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2435		
LCS Filename:	-	Date Analyzed:	041703	Time Analyzed:	12:32
LCSD Filename:	-	Date Analyzed:	041703	Time Analyzed:	12:45

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHLORIDE	mg/L	4.0	0	3.91	98	80-120
NITRATE AS N	mg/L	1.5	0	1.49	99	80-120
SULFATE	mg/L	15	0	14.7	98	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE	mg/L	4.0	3.91	98	0	20	80-120
NITRATE AS N	mg/L	1.5	1.49	99	0	20	80-120
SULFATE	mg/L	15	14.7	98	0	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: _____

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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:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2435		
MS Filename:	-	Date Analyzed:	041703	Time Analyzed:	16:01
MSD Filename:	-	Date Analyzed:	041703	Time Analyzed:	16:59
MS Sample No:	**MW-21-1**	Sample Lab ID:	03-2767-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHLORIDE	mg/L	160	110	269	99	75-125
NITRATE AS N	mg/L	60.0	13.2	72.3	99	75-125
SULFATE	mg/L	600	181	777	99	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE	mg/L	160	273	102	3	20	75-125
NITRATE AS N	mg/L	60.0	72.7	99	0	20	75-125
SULFATE	mg/L	600	781	100	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: _____

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:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2440		
LCS Filename:	-	Date Analyzed:	041703	Time Analyzed:	15:30
LCSD Filename:	-	Date Analyzed:	-	Time Analyzed:	-

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	25	0	24.1	96	80-120
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2440		
MS Filename:	-	Date Analyzed:	041703	Time Analyzed:	20:47
MSD Filename:	-	Date Analyzed:	041703	Time Analyzed:	21:06
MS Sample No:	**MW-21-4**	Sample Lab ID:	03-2767-5		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	50.0	2.1	54.0	104	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	53.4	103	1	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: _____

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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:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2463		
LCS Filename:	-	Date Analyzed:	042103	Time Analyzed:	09:57
LCSD Filename:	-	Date Analyzed:	042103	Time Analyzed:	09:57

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	0	391	98	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	395	99	1	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:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2463		
MS Filename:	-	Date Analyzed:	042103	Time Analyzed:	09:57
MSD Filename:	-	Date Analyzed:	042103	Time Analyzed:	09:57
MS Sample No:	**MW-21-5**	Sample Lab ID:	03-2767-6		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	503	886	96	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	893	98	2	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: _____

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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:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2441		
LCS Filename:	-	Date Analyzed:	041703	Time Analyzed:	15:04
LCSD Filename:	-	Date Analyzed:	041703	Time Analyzed:	15:04

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.233	93	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	0.231	92	1	19	80-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32767
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W2441		
MS Filename:	-	Date Analyzed:	041703	Time Analyzed:	15:04
MSD Filename:	-	Date Analyzed:	041703	Time Analyzed:	15:04
MS Sample No:	**MW-21-1**	Sample Lab ID:	03-2767-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.242	97	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	0.239	96	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: _____

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6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: 03-2767

Analysis: Chromium (VI) Calibration Date: 1/29/03

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

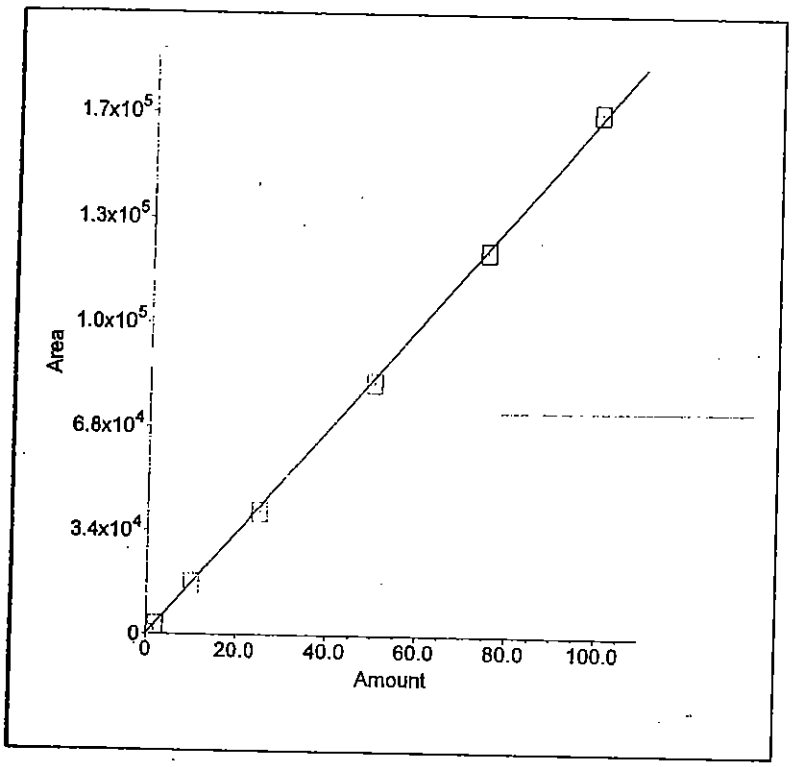
Matrix: Water

APCL Service ID: 03-2767

Analysis	Batch ID	Analysis Date	Sample Name	Unit	Result	Duplicate Result	RPD %	RPD Control limit
Bicarbonate	03W2446	4/18/03	03-2755-1	mg/L	207.0	209.5	1	20
pH	03W2443	4/17/03	MW-21-5	pH unit	7.71	7.73	0	20

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

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-1

DIONEX METHOD PARAMETERS - E300-063.MET

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

System Parameters

System Name: DX-100

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

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

-- DETECTOR 1 PARAMETERS --

Report Options

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

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

Integration Parameters

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

Data Events

Time	Description
0.13	Start peak detection
10.00	Stop peak detection

Calibration Parameters

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

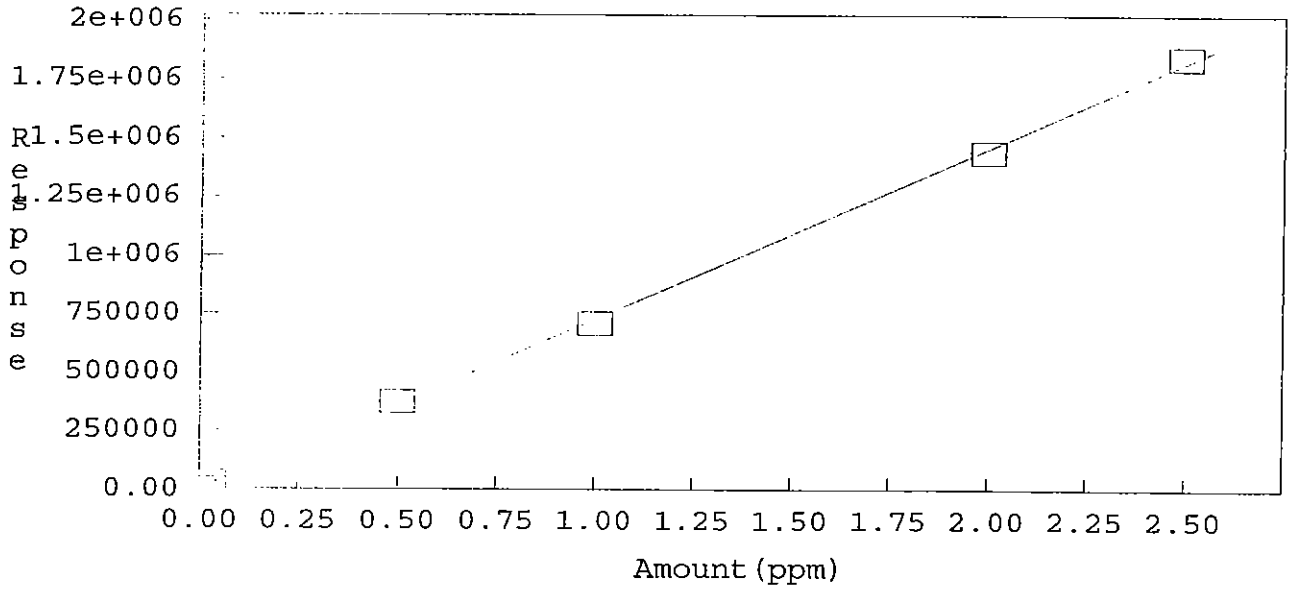
Level	Amount	Area	Height
1	3.76000E-001	129999	6524
2	7.50000E+000	2598757	138579
3	1.50000E+001	5330209	287851
4	3.00000E+001	11507107	615917
5	3.75000E+001	14859049	776426
6	0.00000E+000	0	0

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

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

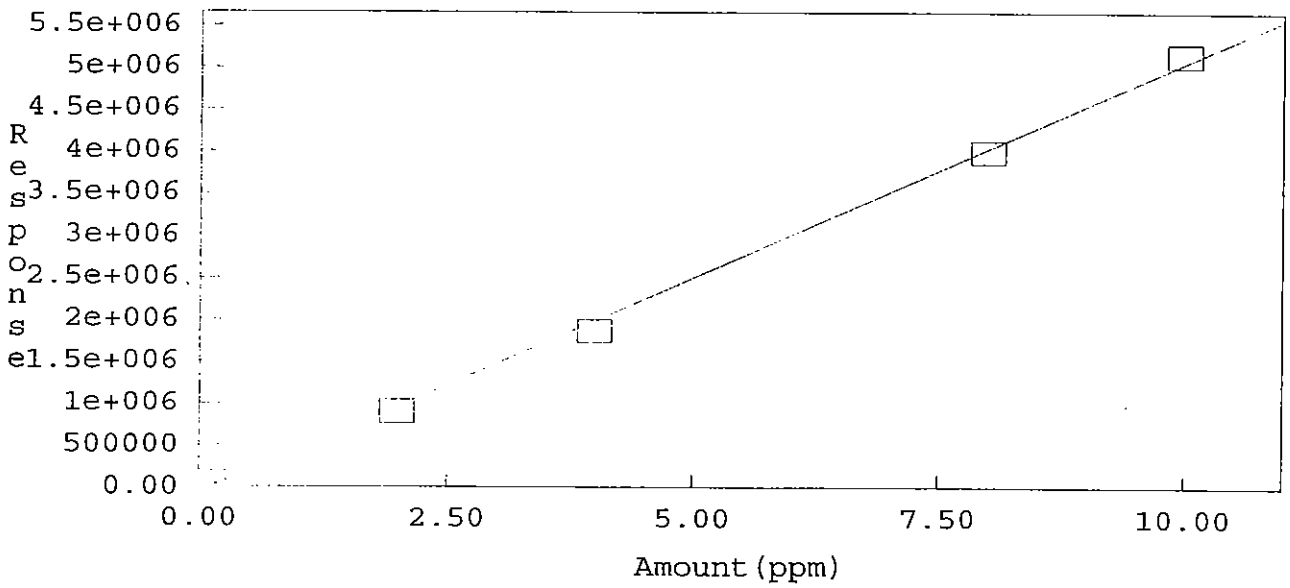
Method: E300-063.MET - Last Updated: 17:42 on Fri, 21 Mar 2003

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



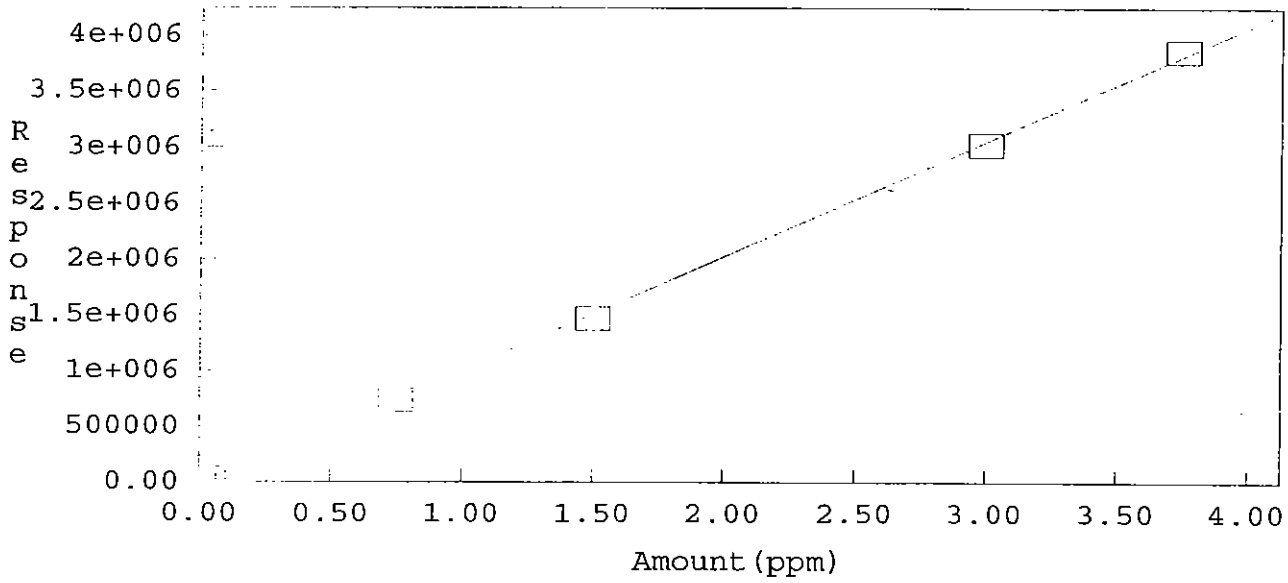
Method: C:\DX\METHOD\E300-063.MET

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



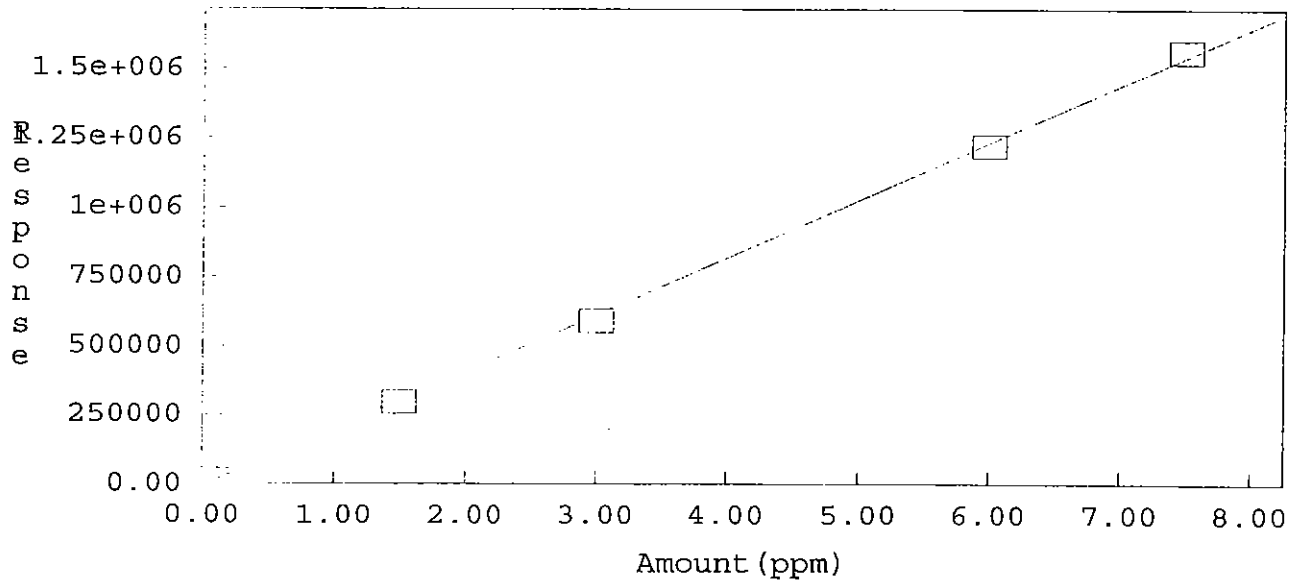
Method: C:\DX\METHOD\E300-063.MET

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



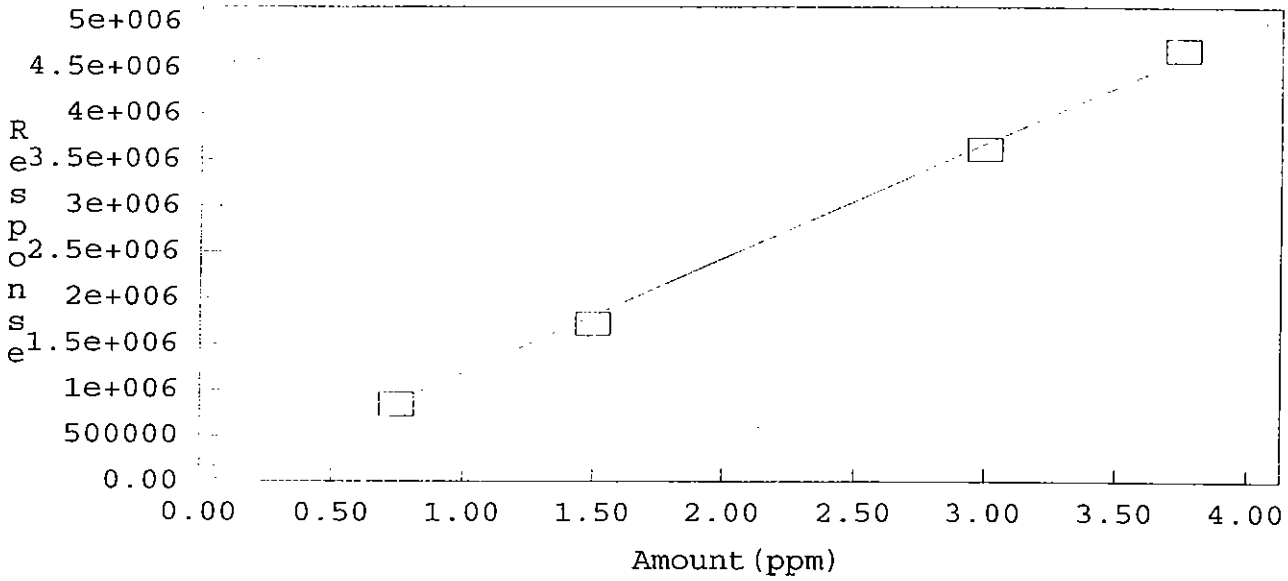
Method: C:\DX\METHOD\E300-063.MET

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



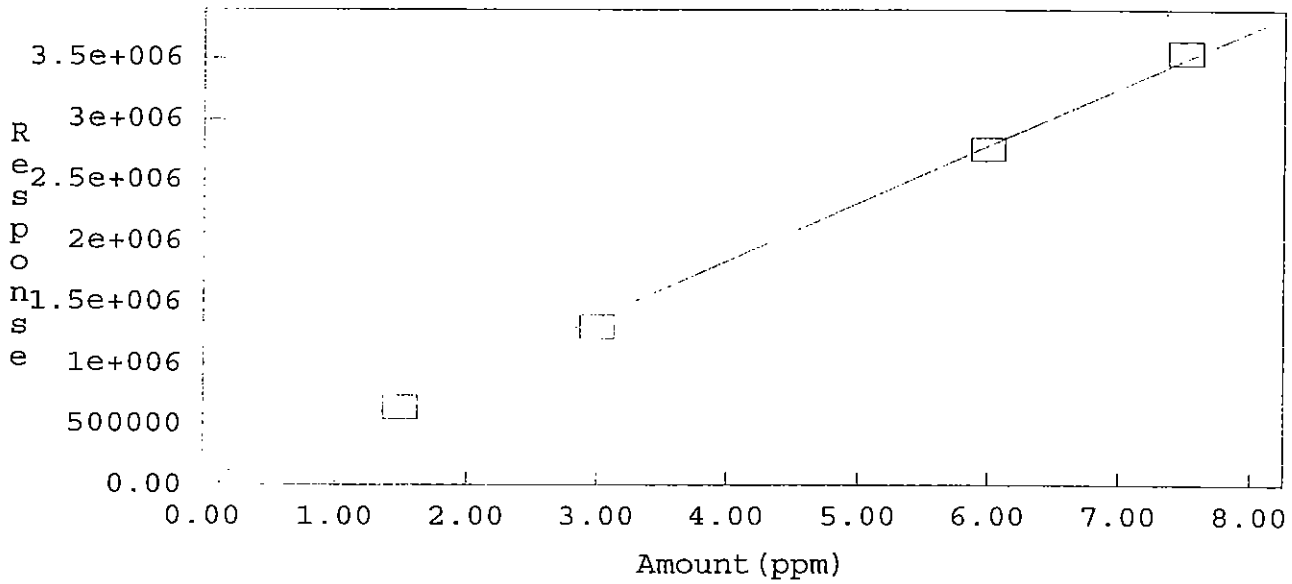
Method: C:\DX\METHOD\E300-063.MET

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



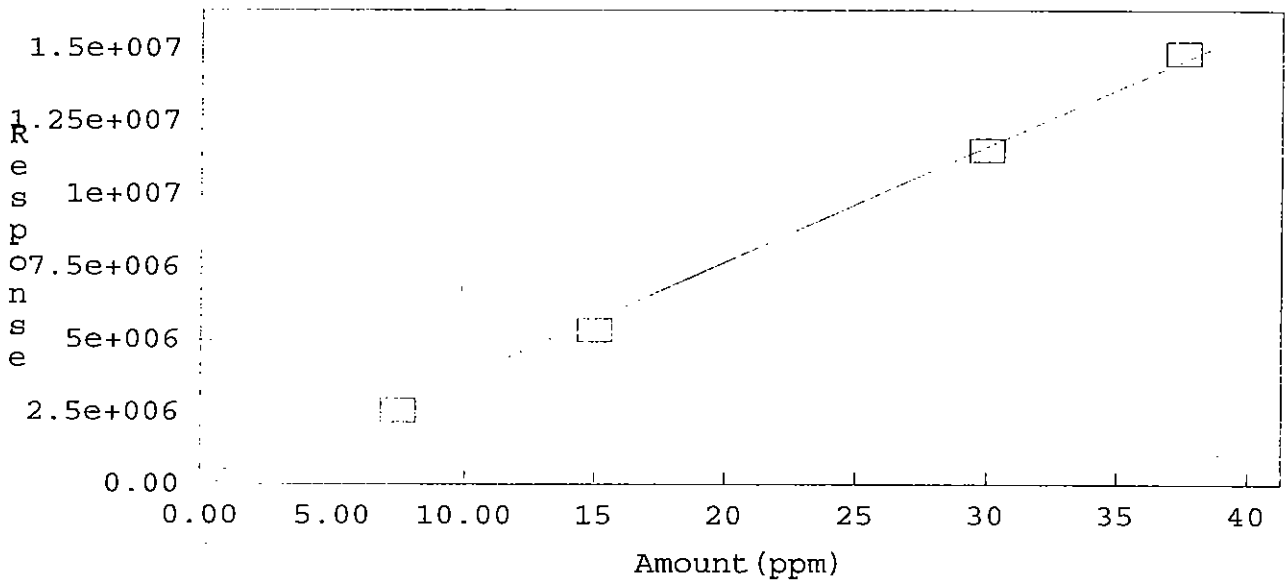
Method: C:\DX\METHOD\E300-063.MET

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



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

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



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: 32767

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	300.0	03W2435	mg/L	4.0	3.93	98	-2	√	90-110	04/17/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2435	mg/L	1.5	1.51	101	1	√	90-110	04/17/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2435	mg/L	15	14.8	99	-1	√	90-110	04/17/2003
	Chloride	300.0	03W2435	mg/L	4.0	3.90	98	-2	√	90-110	04/17/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2435	mg/L	1.5	1.48	99	-1	√	90-110	04/17/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2435	mg/L	15	14.7	98	-2	√	90-110	04/17/2003
	Chloride	300.0	03W2435	mg/L	4.0	3.87	97	-3	√	90-110	04/17/2003
	NITRATE as N-NO_3^-, BY	300.0	03W2435	mg/L	1.5	1.49	99	-1	√	90-110	04/17/2003
	SULFATE SO_4^{--}, BY I	300.0	03W2435	mg/L	15	14.5	97	-3	√	90-110	04/17/2003
2	Perchlorate	314.0	03W2440	mg/L	50	51.0	102	2	√	90-110	04/17/2003
	Perchlorate	314.0	03W2440	mg/L	50	51.3	103	3	√	90-110	04/17/2003
	Perchlorate	314.0	03W2440	mg/L	50	50.2	100	0	√	90-110	04/17/2003
3	Chromium (VI)	7196	03W2441	mg/L	0.25	0.252	101	1	√	90-110	04/17/2003
	Chromium (VI)	7196	03W2441	mg/L	0.25	0.249	100	0	√	90-110	04/17/2003

Line	Sample	Sample Type	Level	Method	Data File	Volume
1	##03w2440kw ipc 25ppb w7759	Sample		e314-011.met	c:\data\03w2440k\w2440k ipc 25ppb	1
2	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2440k\w2440k q01	1
3	ccb	Sample		e314-011.met	c:\data\03w2440k\w2440k ccb01	1
4	lcs 25ppb w7827d	Sample		e314-011.met	c:\data\03w2440k\w2440k l01	1
5	LCS 18PPB W7685D	Sample		e314-011.met	c:\data\03w2440k\w2440k j01	1
6	ICCS 4ppb w7827b	Sample		e314-011.met	c:\data\03w2440k\w2440k iccs 4ppb_006.dxd	1
7	mb	Sample		e314-011.met	c:\data\03w2440k\w2440k k01_007.dxd	1
8	2757-05 F=1	Sample		e314-011.met	c:\data\03w2440k\2757-05_008.dxd	1
9	2757-01 F=1	Sample		e314-011.met	c:\data\03w2440k\2757-01_009.dxd	1
10	2757-02 F=1	Sample		e314-011.met	c:\data\03w2440k\2757-02_010.dxd	1
11	2757-03 F=1	Sample		e314-011.met	c:\data\03w2440k\2757-03_011.dxd	1
12	2757-04 F=1	Sample		e314-011.met	c:\data\03w2440k\2757-04	1
13	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2440k\w2440k q02	1
14	ccb	Sample		e314-011.met	c:\data\03w2440k\w2440k k02	1
15	2767-01 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-01	1
16	2767-02 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-02	1
17	2767-03 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-03	1
18	2767-04 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-04	1
19	2767-05 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-05	1
20	2767-06 F=1	Sample		e314-011.met	c:\data\03w2440k\2767-06	1
21	2757-05 MS F=1	Sample		e314-011.met	c:\data\03w2440k\w2440k m01	1
22	2757-05 MSD F=1	Sample		e314-011.met	c:\data\03w2440k\w2440k n01	1
23	ccv 50ppb w7827e	Sample		e314-011.met	c:\data\03w2440k\w2440k q03	1
24		Sample		aastopcl.met		1

Analyst Wei Wang

Date 04/17/03

Instrument IC-K

3124

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

Default Method Path: C:\PEAKNET\METHOD
Default Data Path: C:\DATA\03W2323K
Comment:

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\03W2435.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	##03W2435, W CCVW77	..\E300-063	..\W2435Q01.D01	1	1	1
2	MB RW1407	..\E300-063	..\W2435K01.D02	1	1	1
3	LCS W7768-100X	..\E300-063	..\W2435L01.D03	1	1	1
4	LCSD W7768-100X	..\E300-063	..\W2435J01.D04	1	1	1
5	2755-1 F=1.25	..\E300-063	..\2755-101.D05	1	1.25	1
6	2755-2 F=2	..\E300-063	..\2755-201.D06	1	2	1
7	2757-1 F=800	..\E300-063	..\2757-101.D07	1	800	1
8	2757-2 F=20	..\E300-063	..\2757-201.D08	1	20	1
9	2757-3 F=20	..\E300-063	..\2757-301.D09	1	20	1
10	2757-4 F=20	..\E300-063	..\2757-401.D10	1	20	1
11	2757-5 F=1.25	..\E300-063	..\2757-501.D11	1	1.25	1
12	CCV2W7767-100X	..\E300-063	..\W2435Q01.D12	1	1	1
13	MB RW1407	..\E300-063	..\W2435K01.D13	1	1	1
14	$2767-2 MS F=40	..\E300-063	..\W2435M01.D14	1	40	1
15	$2767-2 MSD F=40	..\E300-063	..\W2435N01.D15	1	40	1
16	2767-2 F=20	..\E300-063	..\2767-201.D16	1	20	1
17	$2767-2 MSD F=40	..\E300-063	..\W2435N01.D17	1	40	1
18	2767-3 F=20	..\E300-063	..\2767-301.D18	1	20	1
19	2767-4 F=20	..\E300-063	..\2767-401.D19	1	20	1
20	2767-5 F=8	..\E300-063	..\2767-501.D20	1	8	1
21	2767-6 F=8	..\E300-063	..\2767-601.D21	1	8	1
22	2767-1 F=1.25	..\E300-063	..\2767-101.D22	1	1.25	1
23	CCV3W7767-100X	..\E300-063	..\W2435Q01.D23	1	1	1
24		..\STOP.MET		1	1	1

Comment:
LCS/LCSD LOT # W7768
MS/MSD LOT # W7767
ELUENT LOT # W7769
ANALYTICAL METHOD 9056/E300 MATRIX W

Analyst DC
Date 4/17/03
Instrument I

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

Chromium (VI) (7196) Worksheet

Batch # 03W2441 Matrix: W [Holding Time: 24 hours!!] Test Date: 4/17/03 Analyst: kn

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: 15:04 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 + 0.836C	

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	0.241	0.252 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: 11		/X_0 =	95.0/ =	0.195	mg/L	0.233 ppm	
Sample-1 EB	2767-1		/X_0 =	95.0/ =	0.000	mg/L	0.000 ppm	
MS on S-1 1	2		/X_0 =	95.0/ =	0.202	mg/L	0.242 ppm	
MSD on S-1 1	2		/X_0 =	95.0/ =	0.200	mg/L	0.239 ppm	
Sample 2 1	2		/X_0 =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 3 2	3		/X_0 =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 4 3	4		/X_0 =	95.0/ =	0.000	mg/L	0.000 ppm	
Sample 5 4	5		/X_0 =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 6 5	6		/X_0 =	95.0/ =	0.001	mg/L	0.00 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/ =	0.193	mg/L	0.231 ppm	
Sample 11			/X_0 =	95.0/ =		mg/L	ppm	
Sample 12			/X_0 =	95.0/ =		mg/L	ppm	
Sample 13			/X_0 =	95.0/ =		mg/L	ppm	
Sample 14			/X_0 =	95.0/ =		mg/L	ppm	
Sample 15			/X_0 =	95.0/ =		mg/L	ppm	
Sample 16			/X_0 =	95.0/ =		mg/L	ppm	
Sample 17			/X_0 =	95.0/ =		mg/L	ppm	
Sample 18			/X_0 =	95.0/ =		mg/L	ppm	
Sample 19			/X_0 =	95.0/ =		mg/L	ppm	
Sample 20			/X_0 =	95.0/ =		mg/L	ppm	
MTX Dup.	closing/0.25mg/L		/X_0 =	95.0/ =	0.208	0.249 mg/L	ppm	

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

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

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

Chromium (VI) (7196) Worksheet

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

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 $\bar{RF}$=	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+Bv 1/24/03	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0 = f_1$	Treat. Ratio $V/X = f_2$	540 nm A	Concentration $C' = A/\bar{RF}$	C (Sample) $C = f_1 f_2 C'$	Anomaly Note
CCV	Lot: W-7076.	Expected Conc.: × / =0.25 mg/L			0.246	0.258 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1115		/X_0 = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		/X_0 =	95.0/ =	0.209	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 2		/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.	Spiking 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

P & Ch Laboratory
[illegible]olia Ave. Chino CA 91710
[illegible]590-1828 Fax: (909) 590-1498

pH (150.1/9045B) Worksheet

0

[illegible] compensation must be performed by the instrument automatically. Analyst D.L SOP: G-

Batch # 03W2443	Analysis Date: 4/17/03			Batch # 03W2445	Analysis Date: 4/18/03		
Starting Time: 16:32	Ending Time: :			Starting Time: 08:19	Ending Time: :		
Matrix ☒ Aqueous ☐ Soil				Matrix ☐ Aqueous ☒ Soil			
Standard	4.00	7.00	10.00	Standard	4.00	7.00	10.00
Lot #		2120	030619-2	Lot #		2120	030619-2
Temperature °C		22.0	22.0	Temperature °C		22.2	22.2
pH Reading		7.03	10.02	pH Reading		7.02	10.01
T-corrected pH		7.01	10.03	T-corrected pH		7.01	10.03
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	TIIIS		6.85		MB	TIIIS THLS	4/18/03	6.84	1:1
1	2767-1		6.04		1	—		7.68	1
2	-2		6.88		2				
3	-3		7.28		3				
4	-4		7.44		4				
5	-5		7.23		5				
6	-6		7.21		6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13			4/17/03		13				
14					14				
15					15				
16					16				
17					17				
18					18				
19					19				
20					20				
Dup.	2767-6		7.23		Dup.	—		7.75	1:1

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

TDS

020

13760 Magnolia Ave. Chino CA 91710

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

Solid Analysis (160.1, 160.2, 160.3) Worksheet

Batch # 03W2463 Matrix W Method: 160.1 Balance No. _____ Date: 4/21/03 Analyst: DL

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	103.2185	103.1186	103.1187	0.0002	2	GC
2	LCS	T1115	1 =	100	115.7069	115.7487	115.7469	0.0391	391	HK
3	Sample-1	2738-1	1 =	100	105.3119	105.3117	105.3118	0.0000	0	12
4	MS on S-1	2767-6	1 =	100	103.9436	104.0323	104.0322	0.0886	886	14
5	MSD on S-1	↓-6	1 =	100	105.8972	105.9866	105.9868	0.0893	893	19
6	Sample-2	2787-1	1 =	20.0	112.9073	113.1379	113.1377	0.2304	11770	木
7	Sample-3	-2	1 =	100	117.8954	117.9654	117.9652	0.0697	697	7
8	Sample-4	-3	1 =	100	115.1073	115.1761	115.1762	0.0689	689	G
9	Sample-5	-4	1 =	100	115.8738	116.0194	116.0194	0.1464	1464	CK
10	Sample-6	-5	1 =	100	98.0947	98.0943	98.0942	0.0000	0	YI
11	Sample-7	2767-1	1 =	100	113.0698	113.0697	113.0698	0.0000	0	PR
12	Sample-8	-2	1 =	100	115.3407	115.4044	115.4044	0.0637	637	J
13	Sample-9	-3	1 =	100	112.3016	112.3773	112.3770	0.0754	754	K
14	Sample-10	-4	1 =	100	117.6052	117.6704	117.6703	0.0651	651	XJ
15	LCSD	T1115	1 =	100	115.1311	115.1708	115.1706	0.0395	395	10
16	Sample-11	2787-5	1 =	100	116.5582	116.5996	116.5995	0.0413	413	101
17	Sample-12	-6	1 =	100	103.3030	103.3531	103.3533	0.0503	503	C
18	Sample-13	2786-1	1 =	90.0	116.9497	116.9888	116.9886	0.0389	389	NJ
19	Sample-14		1 =						778	
20	Sample-15		1 =						4/21/03 DL	
21	Sample-16		1 =							
22	Sample-17		1 =							
23	Sample-18		1 =				4/21/03 DL			
24	Sample-19		1 =							
25	Sample-20		1 =							
26	Mtx Dup.		1 =							

Type	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

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

[QUST.DOC.WET]TDS.TEX ROOT-FILE: TDS_ROOT.TEX CONTROL-FILE: TDS.000 1-Page file: TDS1.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
13760 Magnolia Ave. Chino CA 91710
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Alkalinity/OH/CO_3/HCO_3 (310.1/SM2320B) Worksheet

Batch # 03W2446 Matrix: W Titrant H_2SO_4 Lot # W7177 Concentration (C) 0.02555 N; Test Date: 6/18/03 Analyst: SRL 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: T1118	/ =	100			0			0		0	0	0	0	
2	2755-1	/ =	25						4.05		207.0	0	0	207.0	
3	-2	/ =	"						3.90		199.3	0	0	199.3	
4	2757-1	/ =	50						5.40		138.0	0	0	138.0	
5	-2	/ =	25						5.40		~~138.0~~ 276.0 SRL 6/19/03	0	0	~~138.0~~ 276.0 SRL 6/19/03	
6	-3	/ =							5.00		255.5	0	0	255.5	
7	-4	/ =							6.60		337.3	0	0	337.3	
8	-5	/ =							0		0	0	0	0	
9	2767-1	/ =							0		0	0	0	0	
10	-2	/ =							3.55		181.4	0	0	181.4	
11	-3	/ =							6.25		319.4	0	0	319.4	
12	-4	/ =							5.60		286.2	0	0	286.2	
13	-5	/ =							4.30		219.7	0	0	219.7	
14	-6	/ =							3.85		98.4	0	0	98.4	
15		/ =													
16		/ =													
17		/ =													
18		/ =													
19	LCS	/ =	100			0			7.95		101.6				
20	LCSD	/ =	100						8.00		102.2				
Dup.	2755-1	/ =	25						4.10		209.5	0	0	209.5	

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

Calculation:

$A=S_A-E_A$

$B=S_B-E_B$

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

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

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

Using blue pen. Correcting by red pen.

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Root-File: [CUST.DOC.WET]ALK_ROOT.TEX

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

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

Balance Daily Calibration Worksheet

066
3133

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
4/17/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	200.0003 → 10.0001		✓ ✓ ✓	Y2
	A-02					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.0000	200.0001 → 10.0000		✓ ✓ ✓	
	A-03	1.00	10.00	200.01	✓	B-06	1.00	10.00	200.01	✓ ✓ ✓	C-					
	A-04					B-07	1.00	10.00	199.99	✓ ✓ ✓	C-			4/15/03		
	A-		4/15/03			B-			4/15/03		C-		4/15/03			
	A-					B-		4/15/03			C-					
4/16/03	A-01	Not	in	use	✓	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	10.00	200.0000	✓ ✓ ✓	Y2
	A-02					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.00000	10.02	199.9999	✓ ✓ ✓	
	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-		4/16/03			B-			4/16/03		C-		4/16/03			
	A-					B-		4/16/03			C-					
4/17/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	10.00	200.0001	✓ ✓ ✓	✓ Y2
	A-02					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.0000	10.01	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-			4/17/03		
	A-		4/17/03			B-			4/17/03		C-		4/17			
	A-					B-		4/17/03			C-					
4/18/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	10.00	200.0001	✓ ✓ ✓	Y2
	A-02					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.0000	10.01	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-		4/18/03			B-			4/18/03		C-		4/18/03			
	A-					B-		4/18/03			C-					

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

Applied P & Ch Laboratory
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Balance Daily Calibration Worksheet

3134

Weight Set S/N: 12006

Calib. Date	Lab Balance #	Lab Balance 1 g ±0.05g	Lab Balance 10 g ±0.1g	Lab Balance 200 g ±0.5g	Lab Balance Note (C)	Digital Balance #	Digital Balance 1 g ±0.02g	Digital Balance 10 g ±0.05g	Digital Balance 200 g ±0.10g	Digital Balance Note (D) (C) (AR)	Analytical Balance #	Analytical Balance 1 g ±0.0002g	Analytical Balance 10 g ±0.0005g	Analytical Balance 200 g ±0.0010g	Analytical Balance Note (D) (C) (AR)	Calib. by
4/21/03	A-01	Not	in	use	L	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	10.0000	200.0001	✓ ✓ ✓	YL
	~~A-02~~					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.00000	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-		4/21/03			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	✓ ✓ ✓	YL
	~~A-02~~					B-05	1.00	9.99	200.00	✓ ✓ ✓	C-02	1.00000	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-					C-		4/22/03			
	A-					B-		4/22/03			C-					
4/23/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.01	✓ ✓ ✓	C-01	1.0000	10.0002	200.0001	✓ ✓ ✓	YL
	~~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-		4/23/03			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	✓ ✓ ✓	YL
	~~A-02~~					B-05	1.00	10.01	200.01	✓ ✓ ✓	C-02	1.00000	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-		4/24/03			C-					

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

APCL

Applied Physics & Chemistry Laboratory

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

June 9, 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 03-3130 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 W. Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-033130 Received: 05/08/03
Collected by: Leo Williamson Extracted: N/A
Collected on: 05/08/03 Tested: 05/08-20/03
Reported: 05/30/03
Sample Description: Water from MW-22 (N. of Bl 180)
Project Description: 04-4428.10 JPL GW Mon-2Q03

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-12-5/8/03 03-03130-1	MW-22-1 03-03130-2	MW-22-2 03-03130-3
BICARBONATE	SM2320B	mg/L	2	<2	271	148
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	2.6
PH	9040B	pH unit	0.01	7.31	7.64	8.21
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	<10	646	287
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
PERCHLORATE	314.0	µg/L	4	<4	3.2J	1.6J
Dilution Factor				1.25	12.5	5
CHLORIDE CL^-	300.0	mg/L	0.2	0.27	107	34.7
NITRATE AS N	300.0	mg/L	0.04	0.087	9.1	6.8
SULFATE SO_4^{--}	300.0	mg/L	0.5	0.69	138	29.7
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5
CALCIUM	200.7	µg/L	200	<200	108,000	35,000
IRON	200.7	µg/L	50	31.4J	115	81.3
MAGNESIUM	200.7	µg/L	100	20.7J	39,100	16,800
POTASSIUM	200.7	µg/L	400	93.5J	3,110	2,360
SODIUM	200.7	µg/L	2000	1,240J	30,700	30,400
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-12-5/8/03 03-03130-1	MW-22-1 03-03130-2	MW-22-2 03-03130-3
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	1.1 (a)	<1.1	<1.1	<1.1
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	5J	3J	5J
METHYLENE CHLORIDE	524.2	µg/L	1.8 (a)	<1.8	2.0	<1.8
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 03-03130-4	MW-22-4 03-03130-5	MW-22-5 03-03130-6	TB-12-5/8/03 03-03130-7
BICARBONATE	SM2320B	mg/L	2	130	114	49.9	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	5.2	2.6	76.6	-
PH	9040B	pH unit	0.01	8.18	8.07	9.23	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	287	213	208	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	1.8J	<4	<4	-
Dilution Factor				5	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	33.9	11.8	8.1	-
NITRATE AS N	300.0	mg/L	0.04	6.9	4.1	0.11	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	34.6	7.6	22.0	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
CALCIUM	200.7	µg/L	200	29,500	29,400	4,580	-
IRON	200.7	µg/L	50	130	53.8	57.5	-
MAGNESIUM	200.7	µg/L	100	14,500	8,450	625	-
POTASSIUM	200.7	µg/L	400	2,360	1,700	1,130	-
SODIUM	200.7	µg/L	2000	36,800	26,900	70,200	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	1.1 [a]	<1.1	<1.1	<1.1	<1.1
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 03-03130-4	MW-22-4 03-03130-5	MW-22-5 03-03130-6	TB-12-5/8/03 03-03130-7
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	6J	9J	5J	5J
METHYLENE CHLORIDE	524.2	µg/L	1.8 [a]	<1.8	<1.8	<1.8	3.6
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 04-4428.10 JPL GW Mon-2Q03

APCL Service ID: 03-3130

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Case Narrative

Project: JPL / 04-4428.10

For GEOFON, Inc.

APCL Service No: 03-3130

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-22-5	03-03130-6
MW-22-4	03-03130-5
MW-22-3	03-03130-4
MW-22-2	03-03130-3
MW-22-1	03-03130-2
TB-12-5/8/03	03-03130-7
EB-12-5/8/03	03-03130-1

2. Analytical Methodology

Samples are analyzed by EPA methods

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

3. Holding Time

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

4. Preservation

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

5. Tele-log

None

6. Anomaly

(1) SW8260B:

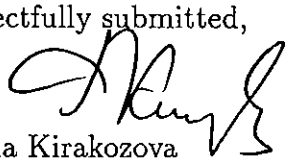
Methylene Chloride in the amount of 4.7 ug/L was detected in the Method Blank of batch 03G2534. Methylene Chloride was aldo detected in the associated field samples, due to lab contamination.

(2) Arsenic - 200.9:

Batch 03M1458E included SDG 03-3082 and 03-3130 from the same project. MS/MSD for Arsenic was performed only on the sample MW-11-3, from SDG 03-3082; and it was not analyzed on the sample MW-22-1, from SDG 03-3130.

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

Respectfully submitted,



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

GEOFON INCORPORATED

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DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

MW-22 0031

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-2003	PROJECT LOCATION: MW-22 (N. of BI 180)	PROJECT NUMBER: 04-442810	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: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA.	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: Chino CA. 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA. 91765
PROJECT MANAGER: Asrar Faheem	PROJECT MANAGER'S PHONE: (909) 396-7662	PROJECT MANAGER'S FAX: (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 524.2 (VOCs)	200.7 & 200.9 (Minerals)	7196 (Hex. Chrome)	SM 2320B (Carb. Bicarb)	300.0 (Cl/SO4/NO3)	314.0 (Perchlorate)	160.1 (TDS) + 9040B (pH)	200.8 (Cr+Pb)	Comments
1	MW-22-5	H_2O	5/8/03	800	HCl NONE HNO_3	3+1 1+1	III	NORMAL	X	X	X	X	X	X	X	X	MINERALS: Na/K/Ca/As/Mg/Fe
2	MW-22-4	↓	↓	840	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
3	MW-22-3	↓	↓	925	↓	↓	↓	↓	X	X	X	X	X	X	X	X	3130
4	MW-22-2	↓	↓	1000	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
5	MW-22-1	↓	↓	1105	↓	↓	↓	↓	X	X	X	X	X	X	X	X	MS/MSD
6																	
7	TB-12-5/8/03	H_2O	–	–	HCl	2	III	NORMAL	X								
8	EB-12-5/8/03	↓	5/8/03	850	HCl NONE HNO_3	3+1 1+1	↓	↓	X	X	X	X	X	X	X	X	
9																	
10																	

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	S. Bruckbauer	5-9-03	12:05	
S. Bruckbauer		5/8/03	1330	

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

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

Sample Receiving Checklist

APCL ServiceID: 3130 **Client Name/Project:** Geoton JPL

1. Sample Arrival

Date/Time Received 5/8/03 1330 Date/Time Opened 5/8/03 1330 By (name): Kenny Chan

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

2. Chain-of-Custody (CoC)

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

☐ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 6

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

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

3. Shipping Container/Cooler

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

Temp °C 4.0 _____ _____ _____ _____ _____

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

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

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

5. Holding-time Requirements

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

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

☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

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

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

☑ Quantity OK? ☐ Leaking? ☐ Anomaly?

☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

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

7. Turn Around Time

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

8. Sample Matrix

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

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

9. Pre-Login Check List Completed & OK?

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

Received/Checked by: _____ Date: 8 May 2003 Time: 7:41 a.m.

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

DocumentFile: [neal.texfiles]smprcl.tex.

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

Sample Login: Check List

03-03130 (0470_ 141) (2202777_ 141)

05/08/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL*
		Project #:	*04-4428.10*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/08/03 1330*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-22-5	VOC	03-03130-6-α	W	V	C	40	3	G	050803	N	0	7	☐
	MW-22-5	Metal	03-03130-6-β	W	P	N	500	1	G	050803	N	0	7	☐
	MW-22-5	300	03-03130-6-γ	W	P		1000	1	G	050803	N	0	7	☐
2	MW-22-4	VOC	03-03130-5-α	W	V	C	40	3	G	050803	N	0	7	☐
	MW-22-4	Metal	03-03130-5-β	W	P	N	500	1	G	050803	N	0	7	☐
	MW-22-4	300	03-03130-5-γ	W	P		1000	1	G	050803	N	0	7	☐
3	MW-22-3	VOC	03-03130-4-α	W	V	C	40	3	G	050803	N	0	7	☐
	MW-22-3	Metal	03-03130-4-β	W	P	N	500	1	G	050803	N	0	7	☐
	MW-22-3	300	03-03130-4-γ	W	P		1000	1	G	050803	N	0	7	☐
4	MW-22-2	VOC	03-03130-3-α	W	V	C	40	3	G	050803	N	0	7	☐
	MW-22-2	Metal	03-03130-3-β	W	P	N	500	1	G	050803	N	0	7	☐
	MW-22-2	300	03-03130-3-γ	W	P		1000	1	G	050803	N	0	7	☐
5	MW-22-1	VOC	03-03130-2-α	W	V	C	40	6	G	050803	N	0	7	☐
	MW-22-1	Metal	03-03130-2-β	W	P	N	500	2	G	050803	N	0	7	☐
	MW-22-1	300	03-03130-2-γ	W	P		1000	2	G	050803	N	0	7	☐
6	TB-12-5/8/03	VOC	03-03130-7	W	V	C	40	2	G	050803	N	0	7	☐
7	EB-12-5/8/03	VOC	03-03130-1-α	W	V	C	40	3	G	050803	N	0	7	☐
	EB-12-5/8/03	Metal	03-03130-1-β	W	P	N	500	1	G	050803	N	0	7	☐
	EB-12-5/8/03	300	03-03130-1-γ	W	P		1000	1	G	050803	N	0	7	☐

Part 3: Analysis Information

Test Items:

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

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

6505

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/19/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03G2534-MB-01	Received Date:	05/19/2003
Sample ID:	**03G2534-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	20:12
Data File Name:	G2534K01	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	<10	U
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8	4.7	
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	70-129	107
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	98
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	104
4	TOLUENE-D8	2037-26-5	73-129	107
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	85
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	89
3	FLUOROBENZENE	462-06-6	50-200	93
# of out-of-control				0

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

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-1	Received Date:	05/08/2003
Sample ID:	**EB-12-5/8/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	21:10
Data File Name:	3130-01	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	5	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	<1.8	U
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	98
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	96
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	99
4	TOLUENE-D8	2037-26-5	73-129	103
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	85
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	93
3	FLUOROBENZENE	462-06-6	50-200	93
# of out-of-control				0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-2	Received Date:	05/08/2003
Sample ID:	**MW-22-1**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	21:39
Data File Name:	3130-02	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	3	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	2.0	B
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	98
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	92
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	99
4 TOLUENE-D8	2037-26-5	73-129	104
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	92
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	101
3 FLUOROBENZENE	462-06-6	50-200	100
# of out-of-control			0

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

[a]MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-3	Received Date:	05/08/2003
Sample ID:	**MW-22-2**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	22:08
Data File Name:	3130-03	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	5	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	<1.8	U
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	90
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	87
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	93
4 TOLUENE-D8	2037-26-5	73-129	98
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	94
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	109
3 FLUOROBENZENE	462-06-6	50-200	107
# of out-of-control			0

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

[a]MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-4	Received Date:	05/08/2003
Sample ID:	**MW-22-3**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	22:37
Data File Name:	3130-04	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	6	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	<1.8	U
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	101
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	98
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	105
4	TOLUENE-D8	2037-26-5	73-129	111
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	90
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	105
3	FLUOROBENZENE	462-06-6	50-200	98
# of out-of-control				0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-5	Received Date:	05/08/2003
Sample ID:	**MW-22-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	23:06
Data File Name:	3130-05	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	9	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	<1.8	U
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	98
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	91
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	97
4 TOLUENE-D8	2037-26-5	73-129	102
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	97
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	105
3 FLUOROBENZENE	462-06-6	50-200	107
# of out-of-control			0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-6	Received Date:	05/08/2003
Sample ID:	**MW-22-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/19/03	Anal. Date:	05/19/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	23:35
Data File Name:	3130-06	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 (a)	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	5	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	<1.8	U
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	110
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	101
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	106
4 TOLUENE-D8	2037-26-5	73-129	114
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	83
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	96
3 FLUOROBENZENE	462-06-6	50-200	95
# of out-of-control			0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/08/2003
Project ID:	JPL GW Mon-2Q03	Service ID:	33130	Collected by:	
		Lab Sample ID:	03-3130-7	Received Date:	05/08/2003
Sample ID:	**TB-12-5/8/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/20/03	Anal. Date:	05/20/03
Batch No:	03G2534	Prep. No:	–	Anal. Time:	00:04
Data File Name:	3130-07	Sample Amount:	25 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	25 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	0.5	<0.5	U
2	BROMOBENZENE	108-86-1	µg/L	0.5	<0.5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	0.5	<0.5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	0.5	<0.5	U
5	BROMOFORM	75-25-2	µg/L	0.5	<0.5	U
6	BROMOMETHANE	74-83-9	µg/L	0.5	<0.5	U
7	2-BUTANONE	78-93-3	µg/L	10	<10	U
8	N-BUTYLBENZENE	104-51-8	µg/L	0.5	<0.5	U
9	SEC-BUTYLBENZENE	135-98-8	µg/L	0.5	<0.5	U
10	TERT-BUTYLBENZENE	98-06-6	µg/L	0.5	<0.5	U
11	CARBON TETRACHLORIDE	56-23-5	µg/L	0.5	<0.5	U
12	CHLOROBENZENE	108-90-7	µg/L	0.5	<0.5	U
13	CHLORODIBROMOMETHANE	124-48-1	µg/L	0.5	<0.5	U
14	CHLOROETHANE	75-00-3	µg/L	0.5	<0.5	U
15	CHLOROFORM	67-66-3	µg/L	0.5	<0.5	U
16	CHLOROMETHANE	74-87-3	µg/L	0.5	<0.5	U
17	2-CHLOROTOLUENE	95-49-8	µg/L	0.5	<0.5	U
18	4-CHLOROTOLUENE	106-43-4	µg/L	0.5	<0.5	U
19	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/L	1.1 [a]	<1.1	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	0.5	<0.5	U
21	DIBROMOMETHANE	74-95-3	µg/L	0.5	<0.5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	0.5	<0.5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	0.5	<0.5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	0.5	<0.5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	0.5	<0.5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	0.5	<0.5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	0.5	<0.5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	0.5	<0.5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	0.5	<0.5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	0.5	<0.5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	0.5	<0.5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	0.5	<0.5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	0.5	<0.5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	0.5	<0.5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	0.5	<0.5	U
36	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/L	0.5	<0.5	U
37	ETHYLBENZENE	100-41-4	µg/L	0.5	<0.5	U
38	HEXACHLOROBUTADIENE	87-68-3	µg/L	0.5	<0.5	U
39	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	0.5	<0.5	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	P-ISOPROPYLTOLUENE	99-87-6	µg/L	0.5	<0.5	U
41	4-METHYL-2-PENTANONE (MIBK)	108-10-1	µg/L	10	5	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	3.6	B
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	<0.5	U
45	N-PROPYLBENZENE	103-65-1	µg/L	0.5	<0.5	U
46	STYRENE	100-42-5	µg/L	0.5	<0.5	U
47	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	0.5	<0.5	U
48	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	0.5	<0.5	U
49	TETRACHLOROETHENE	127-18-4	µg/L	0.5	<0.5	U
50	TOLUENE	108-88-3	µg/L	0.5	<0.5	U
51	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	0.5	<0.5	U
52	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	0.5	<0.5	U
53	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	0.5	<0.5	U
54	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	0.5	<0.5	U
55	TRICHLOROETHENE	79-01-6	µg/L	0.5	<0.5	U
56	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	0.5	<0.5	U
57	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	0.5	<0.5	U
58	112TRICHLORO-122TRIFLUOROETHANE	76-13-1	µg/L	0.5	<0.5	U
59	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	0.5	<0.5	U
60	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	0.5	<0.5	U
61	VINYL CHLORIDE	75-01-4	µg/L	0.5	<0.5	U
62	O-XYLENE	95-47-6	µg/L	0.5	<0.5	U
63	M/P-XYLENE	108-38-3	µg/L	0.5	<0.5	U

Surrogates		Control Limit, %	Surro. Rec.%
1 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	94
2 1,2-DICHLOROETHANE-D4	17060-07-0	70-129	89
3 DIBROMOFLUOROMETHANE	1868-53-7	70-122	96
4 TOLUENE-D8	2037-26-5	73-129	101
# of out-of-control			0

Internal Standard		Control Limit, %	IS Rec.%
1 CHLOROBENZENE-D5	3114-55-4	50-200	97
2 1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	109
3 FLUOROBENZENE	462-06-6	50-200	107
# of out-of-control			0

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

[a] MDL reported.

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

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	033130
Project ID:	JPL GW Mon-2Q03	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2534		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	S3 %	#	S4 %	#	TOT OUT
1	03G2534-LCS-01	03G2534-LCS-01	88		105		102		99		0
2	MW-22-1MS	03-3130-2MS	87		97		95		94		0
3	MW-22-1MSD	03-3130-2MSD	96		111		107		103		0
4	03G2534-MB-01	03G2534-MB-01	107		98		104		107		0
5	EB-12-5/8/03	03-3130-1	98		96		99		103		0
6	MW-22-1	03-3130-2	98		92		99		104		0
7	MW-22-2	03-3130-3	90		87		93		98		0
8	MW-22-3	03-3130-4	101		98		105		111		0
9	MW-22-4	03-3130-5	98		91		97		102		0
10	MW-22-5	03-3130-6	110		101		106		114		0
11	TB-12-5/8/03	03-3130-7	94		89		96		101		0
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

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

Column to be used to flag recovery values:

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

FORM-3A

Applied P & Ch Laboratory

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

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33130
Project ID:	JPL GW Mon-2Q03	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2534		
LCS Filename:	G2534L01	Date Analyzed:	051903	Time Analyzed:	17:18
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	20.1	101	65-120
CHLOROBENZENE	µg/L	20	0	20.4	102	65-134
1,1-DICHLOROETHENE	µg/L	20	0	20.0	100	65-127
TOLUENE	µg/L	20	0	19.2	96	65-134
TRICHLOROETHENE	µg/L	20	0	20.0	100	67-122
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

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

Comments: _____

_____

FORM-3A

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33130
Project ID:	JPL GW Mon-2Q03	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2534		
MS Filename:	G2534M01	Date Analyzed:	051903	Time Analyzed:	17:47
MSD Filename:	G2534N01	Date Analyzed:	051903	Time Analyzed:	18:16
MS Sample No:	**MW-22-1**	Sample Lab ID:	03-3130-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	18.7	94	65-121
CHLOROBENZENE	µg/L	20	0	19.2	96	65-134
1,1-DICHLOROETHENE	µg/L	20	0	18.7	94	65-127
TOLUENE	µg/L	20	0	18.0	90	65-134
TRICHLOROETHENE	µg/L	20	0	19.1	96	65-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	µg/L	20	20.5	103	9	28	65-121
CHLOROBENZENE	µg/L	20	21.4	107	11	35	65-134
1,1-DICHLOROETHENE	µg/L	20	20.3	102	8	31	65-127
TOLUENE	µg/L	20	19.8	99	10	35	65-134
TRICHLOROETHENE	µg/L	20	21.6	108	12	30	65-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33130
Project ID:	JPL GW Mon-2Q03	Project No:	04-4428.10	Analysis Date:	05/19/03
		Sample Matrix:	Water	Analysis Time:	20:12
Sample ID:	**03G2534-MB-01**	Batch No:	03G2534	Instrument ID:	GC/MS: G
Lab Sample ID:	03G2534-MB-01	Data File Name:	G2534K01	GC Column:	DB-VEX
		Heated Purge: (Y/N)	N	Column ID:	0.45 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	03G2534-LCS-01	03G2534-LCS-01	Lab Control Spike	G2534L01	05/19/03	17:18
2	MW-22-1MS	03-3130-2MS	Matrix Spike	G2534M01	05/19/03	17:47
3	MW-22-1MSD	03-3130-2MSD	Matrix Spike Duplicate	G2534N01	05/19/03	18:16
4	EB-12-5/8/03	03-3130-1	Field Sample	3130-01	05/19/03	21:10
5	MW-22-1	03-3130-2	Field Sample	3130-02	05/19/03	21:39
6	MW-22-2	03-3130-3	Field Sample	3130-03	05/19/03	22:08
7	MW-22-3	03-3130-4	Field Sample	3130-04	05/19/03	22:37
8	MW-22-4	03-3130-5	Field Sample	3130-05	05/19/03	23:06
9	MW-22-5	03-3130-6	Field Sample	3130-06	05/19/03	23:35
10	TB-12-5/8/03	03-3130-7	Field Sample	3130-07	05/20/03	00:04
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

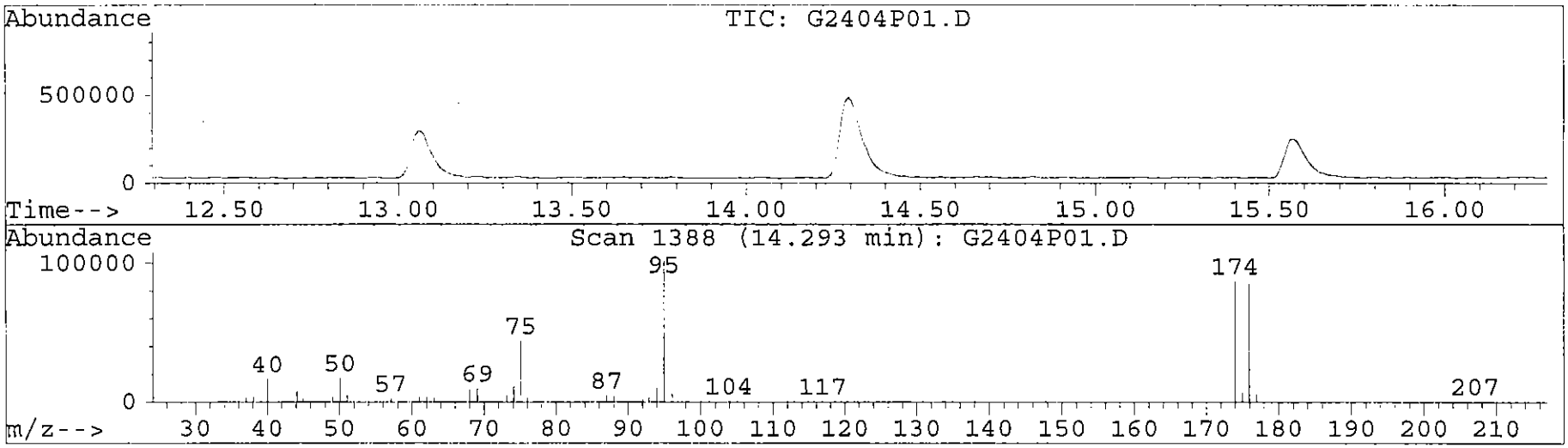
6526

BFB

Data File : C:\HPCHEM\1\DATA\03G2404\G2404P01.D
Acq On : 15 May 03 10:18 am
Sample : ##03g2404, w
Misc :

Vial: 18
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2



Peak Apex is scan: 1388

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	17208	PASS
75	95	30	60	43.0	44184	PASS
95	95	100	100	100.0	102784	PASS
96	95	5	9	6.1	6301	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	84.8	87112	PASS
175	174	5	9	7.7	6735	PASS
176	174	95	101	97.9	85240	PASS
177	176	5	9	6.8	5764	PASS

G2404P01.D E524G004.M Thu May 15 17:23:19 2003

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 03-3130

Lab File ID: G2404 P01 BFB Injection Date: 05/15/2003

Instrument ID: GCMS-G BFB Injection Time: 1018

GC Column: VOCOL ID: 0.32 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.7
75	30.0 - 60.0% of mass 95	43.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	84.8
175	5.0 - 9.0% of mass 174	6.6 (7.7)1
176	95.0 - 101.0% of mass 174	82.9 (97.9)1
177	5.0 - 9.0% of mass 176	5.6 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD003	004-003	004-0003.D	05/15/03	1047
02	VSTD002	004-002	004-0002.D	05/15/03	1145
03	VSTD010	004-0010	004-0010.D	05/15/03	1214
04	VSTD020	004-0020	004-0020.D	05/15/03	1243
05	VSTD040	004-0040	004-0040.D	05/15/03	1312
06	VSTD080	004-0080	004-0080.D	05/15/03	1341
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

6528

INITIAL CALIBRATION SUMMARY

Method File	E524G004
Last Calibration Update	Fri May 16 10:36:26 2003

Level 1 File Name	4-003.D	**Level 1 ID**	0.3
Level 2 File Name	4-002.D	**Level 2 ID**	2
Level 3 File Name	4-010.D	**Level 3 ID**	10
Level 4 File Name	4-020.D	**Level 4 ID**	20
Level 5 File Name	4-040.D	**Level 5 ID**	40
Level 6 File Name	4-080.D	**Level 6 ID**	80
Level 7 File Name	4-020.D	**Level 7 ID**	cc

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene I1 1	815158	799651	824804	746757	764394	689688	-1	------	------	------	------
3 di-Cl-di-F-methane 85 87	4181	35493	168476	314256	706635	1288384	-1	0.0000	0.2120	0.0000	0.1090
4 Chloromethane 50 52	1706	19850	102587	246113	534218	1069891	-1	-0.0408	0.1954	0.0000	0.9966
9 F114 85 135	4199	44804	220942	386132	819274	1556249	-1	-0.0188	0.2815	0.0000	0.9991
5 vinyl chloride 62 64	3355	33999	162051	300841	621901	1167862	-1	0.0000	0.1938	0.0000	0.1466
6 bromomethane 94 96	4372	26980	129267	267214	519945	1000442	-1	0.0000	0.1724	0.0000	0.0536
7 Chloroethane 64 66	3179	26106	123679	236431	478026	873637	-1	0.0000	0.1527	0.0000	0.0781
8 tri-Cl-F-methane 101 103	8951	64415	295972	594414	1265977	2395096	-1	0.0000	0.3956	0.0000	0.0724
111 isopropyl alcohol x10	3587	6299	29925	70395	111196	226721	-1	0.0000	0.0040	0.0000	0.1113
100 ethyl ether x5	26492	132391	571623	1090032	2124645	3947698	-1	0.0028	0.1423	0.0000	0.9997
102 Acrolein x10	1454	15421	124387	164659	294058	649263	-1	-0.0048	0.0115	0.0000	0.9858
119 methyl acetate	7468	34881	93789	329077	525452	898426	-1	0.0239	0.1624	0.0000	0.9860
104 Carbon disulfide	15360	108670	470593	924294	1876377	3448920	-1	0.0000	0.6226	0.0000	0.0560
103 Acrylonitrilex10	4460	38141	123788	403095	766254	1455017	-1	-0.0461	0.0268	0.0000	0.9965
95 Acetone x10	18003	42021	146218	266351	522927	928171	-1	0.0183	0.0166	0.0000	0.9999
108 F-113	7993	56604	258951	515229	1098171	2025833	-1	0.0000	0.3443	0.0000	0.0590
13 11-dichloroethene 61 96	8587	60316	284348	535921	1112083	2068506	-1	0.0000	0.3617	0.0000	0.0355
101 Acetonnitrilex10	2831	10077	31282	102405	196047	363830	-1	-0.0063	0.0067	0.0000	0.9966
109 Iodomethane	6929	75147	336586	628909	1205092	2300947	-1	-0.0067	0.4140	0.0000	0.9991
113 Tert butyl alcohol x10	1373	18588	77974	138129	265783	388696	-1	0.0000	0.0092	0.0000	0.1787
18 methylene chloride 49 84	-1	48402	184549	355095	696481	1289109	-1	0.0000	0.2451	0.0000	0.1330

112 Allyl chloride	13441	77142	331252	615063	1148799	1977528	-1	0.0468	0.3564	0.0000	0.9986
200 Nitro methane x10	6304	66437	325452	650702	1254351	2397871	-1	0.0000	0.0391	0.0000	0.1719
10 t-Bu-Me-ether 73 57	11529	91189	366763	722425	1502372	2824413	-1	0.0000	0.4955	0.0000	0.0864
19 t-12-di-Cl-ethene 96 61	5258	44435	215839	423127	799696	1549462	-1	0.0000	0.2634	0.0000	0.0969
98 Vinyl acetate x5	3645	167151	292003	1342007	2982123	5784036	-1	-0.2666	0.2134	0.0000	0.9933
21 11-dichloroethane 63 83	11126	88915	412703	833014	1647004	3000180	-1	0.0000	0.5252	0.0000	0.0765
91 2-butanone MEKx10	25733	153111	642126	1432839	2827847	5285771	-1	0.0000	0.0938	0.0000	0.0952
115 Di isoprop ether	40820	232542	1079994	2060781	4081017	7613956	-1	0.0000	1.4212	0.0000	0.0923
22 c-12-di-Cl-ethene 96 61	6716	44823	222557	432230	852613	1623067	-1	0.0000	0.2812	0.0000	0.0324
23 22-Dichloropropane 77 97	11379	71432	324674	629042	1268689	2353196	-1	0.0000	0.4280	0.0000	0.0585
24 Br-Cl-methane 128 130	619	19664	94361	180264	365219	680793	-1	-0.0056	0.1234	0.0000	0.9997
25 chloroform 83 85	15134	81585	381866	741343	1478585	2772452	-1	0.0000	0.5124	0.0000	0.1068
201 Ethyl acetate x2	2846	46100	136924	355515	703484	1425799	-1	-0.0563	0.1306	0.0000	0.9958
116 ETBE	33538	144136	644550	1245123	2437411	4486393	-1	0.0049	0.8099	0.0000	0.9998
117 Iso-butyl alcohol X10	940	62706	135151	357401	710558	1430613	-1	-0.0353	0.0259	0.0000	0.9953
26 tetrahydrofuranx5	257	8307	43847	84254	161549	290888	-1	0.0000	0.0107	0.0000	0.0325
27 Di-Br-F-Methane (S1) 111 1	8284	60816	289627	568312	1126216	2075916	-1	0.0000	0.3713	0.0000	0.0331
34 111-tri-Cl-ethane 97 99	8942	65770	311389	599971	1237882	2397744	-1	0.0000	0.3993	0.0000	0.0616
30 12-dichloroethane 64 62	1802	33229	153871	310815	631494	1211777	-1	-0.0194	0.2197	0.0000	0.9990
35 11-Di-Cl-propene 75 110	8689	58001	275836	532605	1078521	2009125	-1	0.0000	0.3543	0.0000	0.0301
29 1,2-di-Cl-ethane-d4 [Surr] 10	4884	26465	134448	261823	505671	963545	-1	0.0000	0.1688	0.0000	0.0341
36 benzene 78 52	20191	142907	668867	1302042	2578473	4754791	-1	0.0000	0.8512	0.0000	0.0359
37 CCl4 117 119	8483	58348	273728	543038	1134691	2073848	-1	0.0000	0.3590	0.0000	0.0461
97 thiophene	9443	75171	331986	649163	1291816	2373848	-1	0.0000	0.4243	0.0000	0.0680
118 TAME	2423	114119	445234	894867	1715454	3200762	-1	-0.0058	0.5780	0.0000	0.9994
39 12-di-Cl-propane 63 76	5331	41840	206799	390600	777542	1446554	-1	0.0000	0.2514	0.0000	0.0677
40 trichloroethene 130 132	7533	51222	233771	454200	926225	1695738	-1	0.0000	0.3044	0.0000	0.0393
96 Me-methacrylate	1437	15341	47596	161499	295494	591170	-1	-0.0168	0.1076	0.0000	0.9949
42 Br-di-Cl-methane 83 85	12659	54887	257854	508851	988624	1842908	-1	-0.0042	0.3328	0.0000	0.9996
41 dibromomethane 174 172	618	19288	93298	195812	390733	738622	-1	-0.0102	0.1342	0.0000	0.9994

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
45 c-13-di-Cl-propene 75 110	7615	48884	239463	477602	948616	1759634	-1	------	------	------	------
55 toluene-d8(S2) 100 99	13666	83281	390496	768293	1521774	2828221	-1	0.0000	0.5038	0.0000	0.0376
92 2-ClEt-Vi-ether10	5311	41678	205749	413282	830636	1543091	-1	0.0000	0.0259	0.0000	0.0904
56 toluene 91 92	24063	127484	612856	1179183	2400670	4445368	-1	0.0000	0.8174	0.0000	0.1033

107 Et methacrylate	3479	23955	53825	215372	441923	820108	-1	-0.0241	0.1510	0.0000	0.9952
93 2-Hexanone x5	1510	42848	144809	430950	860345	1584358	-1	-0.0326	0.0581	0.0000	0.9977
48 112-tri-Cl-Et 97 83	906	19429	109523	184224	367637	694437	-1	-0.0023	0.1252	0.0000	0.9994
58 1,2-di-br-ethane 107 109	1824	20769	99010	199115	395372	752280	-1	-0.0087	0.1362	0.0000	0.9993
51 di-Br-Cl-methane 129 127	7347	33435	155803	299945	605212	1137349	-1	-0.0082	0.2056	0.0000	0.9995
46 t-13-di-cl-propene 75 110	7615	48884	239463	477602	948616	1759634	-1	0.0000	0.3094	0.0000	0.0348
105 1-Chlorohexane	11922	55414	207900	393247	824539	1487258	-1	-0.0003	0.2692	0.0000	0.9998
47 Cl-benzene-d5, I2	231880	227963	249245	222899	243736	235423	-1	0.0000	1.0000	0.0000	0.0000
54 MIBK	4406	1842	61603	163289	329191	585241	-1	0.0022	0.3172	0.0000	0.9942
49 1,3-di-cl-propane 76 78	5042	34635	178128	334360	648825	1196619	-1	0.0000	0.7083	0.0000	0.0687
59 tetra-Cl-ethene 166 168	5645	43932	206527	398332	812967	1516368	-1	0.0000	0.8560	0.0000	0.0716

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
60 chlorobenzene 112 77	11129	80876	394322	752942	1478617	2729365	-1	0.0000	------	------	------
61 1112-tetra-Cl-Et 131 133	4438	35454	177813	344569	695345	1340863	-1	0.0000	0.7212	0.0000	0.0707
64 ethylbenzene 91 106	21645	144618	668986	1270086	2566878	4842788	-1	0.0000	2.8368	0.0000	0.0896
65 m/p-Xylenes x2	30844	222047	1015495	1972002	3905278	7205695	-1	0.0000	2.1361	0.0000	0.0886
99 1-4-di-Cl-butane	6740	36572	153006	301374	572112	1066373	-1	0.0798	0.5616	0.0000	0.9979
52 bromoform 173 175	2520	15462	69675	136091	278788	522738	-1	0.0000	0.3083	0.0000	0.1137
66 styrene 104 78	15564	84384	382712	759242	1511886	2814241	-1	0.1396	1.4904	0.0000	0.9987
67 o-xylene 91 106	15170	107821	489526	954644	1857499	3377446	-1	0.0000	2.0583	0.0000	0.1015
68 1122-Tetra-Cl-Et 83 85	2369	17006	81453	170717	330326	601304	-1	0.0000	0.3469	0.0000	0.0735
110 t-1,4-dichloro-2-butene	598	5155	17689	36488	58046	107382	-1	0.0000	0.0781	0.0000	0.2649
106 Cl-benzyl	1709	34984	130453	246745	493146	894786	-1	0.0686	0.4730	0.0000	0.9980
62 1,4-DCB-d4 150 152 I3	220209	211064	218269	198057	195846	179706	-1	0.0000	1.0000	0.0000	0.0000
69 123-tri-Cl-Pr 110 97	247	4417	25007	46613	92169	179941	-1	0.0000	0.1159	0.0000	0.0641
70 4-Br-1-F-Bz (S3) 174 95	7551	36349	170967	334015	639559	1173651	-1	0.0000	0.8241	0.0000	0.0360
71 isopropylbenzene 105 120	20338	154289	681700	1327629	2705126	5006864	-1	0.0000	3.3574	0.0000	0.0661
72 bromobenzene 156 158	3634	32102	153148	304357	590583	1107164	-1	0.0000	0.7174	0.0000	0.1196
73 n-propylbenzene 120 78	5459	46356	210844	394872	801684	1463801	-1	0.0000	0.9881	0.0000	0.0916
74 2-Cl-Tl 126 128	3366	25894	120864	249899	481903	908178	-1	0.0000	0.5924	0.0000	0.0839
75 4-Cl-Tl 126 128	4268	41895	196931	372201	722805	1334882	-1	0.0000	0.8886	0.0000	0.1380
76 135-tri-Me-Bz 105 120	17066	117538	539476	1018963	2059638	3828683	-1	0.0000	2.6173	0.0000	0.0399
79 tert-butylbenzene 119 91	16192	139975	610164	1182229	2412602	4386919	-1	0.0000	2.9464	0.0000	0.1001
78 124-tri-Me-Bz 105 120	13993	99021	441266	843153	1722397	3314335	-1	0.0000	2.1864	0.0000	0.0560
80 13-di-Cl-Bz 146 148	8334	52974	229141	454607	873397	1637769	-1	0.0000	1.1613	0.0000	0.0711

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82 14-di-Cl-Bz 146 148	9119	77324	360564	688087	1350534	2427479	-1	0.0000	1.6689	0.0000	0.0921
81 sec-butylbenzene 105 134	27562	188712	808141	1585357	3307792	5902646	-1	0.0000	4.1126	0.0000	0.0619
77 4-iso-Pr-toluene 119 134	19882	146089	661221	1200767	2437020	4387114	-1	0.0000	3.1156	0.0000	0.0554
84 12-di-Cl-benzene 146 148	6500	51953	234009	454651	862171	1667156	-1	0.0000	1.1158	0.0000	0.0757
85 n-butylbenzene 91 134	17225	125422	538366	1017966	2160614	4022017	-1	0.0000	2.6951	0.0000	0.0677
86 12-diBr-3-Cl-Pra 157 155	-1	1829	14905	28995	56245	114486	-1	-0.0147	0.0803	0.0000	0.9979
87 124-tri-Cl-Bz 180 182	2922	30767	135221	262726	578192	1051545	-1	-0.0553	0.7381	0.0000	0.9992
88 naphthalene 128 129	1954	26649	107459	235161	598470	1033706	-1	-0.0995	0.7367	0.0000	0.9955
90 123-tri-Cl-Bz 180 182	1279	22090	101362	206041	447433	779205	-1	-0.0222	0.5495	0.0000	0.9986
89 hx-Cl-butadiene 225 260	4633	32362	134569	257067	538819	952000	-1	0.0000	0.6806	0.0000	0.0759

6532

Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Initial Calibration

Calibration Files
0.3 =4-003.D 2 =4-002.D 10 =4-010.D
20 =4-020.D 40 =4-040.D 80 =4-080.D

			Compound	0.3	2	10	20	40	80	Avg	%RSD	r^2
1)	I	1	Fluorobenzene I1	ISTD								
2)		3	di-Cl-di-F-metha	0.171	0.222	0.204	0.210	0.231	0.234	0.212	10.90	
3)	P	4	Chloromethane	0.070	0.124	0.124	0.165	0.175	0.194	0.142	31.72#	0.996
4)		9	F114 85 135	0.172	0.280	0.268	0.259	0.268	0.282	0.255	16.33	0.999
5)	C	5	vinyl chloride	0.137	0.213	0.196	0.201	0.203	0.212	0.194	14.66	
6)		6	bromomethane	0.179	0.169	0.157	0.179	0.170	0.181	0.172	5.36	
7)		7	Chloroethane	0.130	0.163	0.150	0.158	0.156	0.158	0.153	7.81	
8)		8	tri-Cl-F-methane	0.366	0.403	0.359	0.398	0.414	0.434	0.396	7.24	
9)		111	isopropyl alcoh		0.004	0.004	0.005	0.004	0.004	0.004#	11.13	
10)		100	ethyl ether x5	0.217	0.166	0.139	0.146	0.139	0.143	0.158	19.19	1.000
11)		102	Acrolein x10		0.010	0.015	0.011	0.010	0.012	0.011#	19.61	0.986
12)		119	methyl acetate		0.218	0.114	0.220	0.172	0.163	0.177	24.90	0.980
13)		104	Carbon disulfid	0.628	0.679	0.571	0.619	0.614	0.625	0.623	5.60	
14)		103	Acrylonitrilex1		0.024	0.015	0.027	0.025	0.026	0.023#	20.79	0.996
15)		95	Acetone x10		0.026	0.018	0.018	0.017	0.017	0.019#	20.91	1.000
16)		108	F-113	0.327	0.354	0.314	0.345	0.359	0.367	0.344	5.90	
17)	M,C	13	11-dichloroethen	0.351	0.377	0.345	0.359	0.364	0.375	0.362	3.55	
18)		101	Acetonnitrilex1	0.012	0.006	0.004	0.007	0.006	0.007	0.007#	36.67	0.996
19)		109	Iodomethane	0.283	0.470	0.408	0.421	0.394	0.417	0.399	15.58	0.999
20)		113	Tert butyl alco		0.012	0.009	0.009	0.009	0.007	0.009#	17.87	
21)		18	methylene chlori		0.303	0.224	0.238	0.228	0.234	0.245	13.30	
22)		112	Allyl chloride	0.550	0.482	0.402	0.412	0.376	0.358	0.430	16.86	0.998
23)		200	Nitro methane x	0.026	0.042	0.039	0.044	0.041	0.043	0.039#	17.19	~~0.0~~
24)		10	t-Bu-Me-ether	0.471	0.570	0.445	0.484	0.491	0.512	0.496	8.64	
25)		19	t-12-di-Cl-ethen	0.215	0.278	0.262	0.283	0.262	0.281	0.263	9.69	
26)		98	Vinyl acetate x5	0.030	0.209	0.071	0.180	0.195	0.210	0.149	52.56	0.993
27)	P	21	11-dichloroethan	0.455	0.556	0.500	0.558	0.539	0.544	0.525	7.65	
28)		91	2-butanone MEKx1	0.105	0.096	0.078	0.096	0.092	0.096	0.094	9.52	

(#) = Out of Range

Response Factor Report GCMS-G

6533

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Initial Calibration

Calibration Files
0.3 =4-003.D 2 =4-002.D 10 =4-010.D
20 =4-020.D 40 =4-040.D 80 =4-080.D

		Compound	0.3	2	10	20	40	80	Avg	%RSD	r^2
29)		115 Di isoprop ethe	1.669	1.454	1.309	1.380	1.335	1.380	1.421	9.23	
30)		22 c-12-di-Cl-ethen	0.275	0.280	0.270	0.289	0.279	0.294	0.281	3.24	
31)		23 22-Dichloropropa	0.465	0.447	0.394	0.421	0.415	0.426	0.428	5.85	
32)		24 Br-Cl-methane	0.025	0.123	0.114	0.121	0.119	0.123	0.104	37.24	1.000
33)	C	25 chloroform	0.619	0.510	0.463	0.496	0.484	0.502	0.512	10.68	
34)		201 Ethyl acetate x		0.144	0.083	0.119	0.115	0.129	0.118	19.14	0.996
35)		116 ETBE	1.371	0.901	0.781	0.834	0.797	0.813	0.916	24.75	1.000
36)		117 Iso-butyl alcoh	0.004	0.039	0.016	0.024	0.023	0.026	0.022#	52.71	0.995
37)		26 tetrahydrofuranx		0.010	0.011	0.011	0.011	0.011	0.011#	3.25	
38)	S	27 Di-Br-F-Methane		0.380	0.351	0.381	0.368	0.376	0.371	3.31	
39)		34 111-tri-Cl-ethan	0.366	0.411	0.378	0.402	0.405	0.435	0.399	6.16	
40)		30 12-dichloroethan	0.074	0.208	0.187	0.208	0.207	0.220	0.184	29.91	0.999
41)		35 11-Di-Cl-propene	0.355	0.363	0.334	0.357	0.353	0.364	0.354	3.01	
42)	S	29 1,2-di-Cl-ethane		0.165	0.163	0.175	0.165	0.175	0.169	3.41	
43)	M	36 benzene	0.826	0.894	0.811	0.872	0.843	0.862	0.851	3.59	
44)		37 CCl4	0.347	0.365	0.332	0.364	0.371	0.376	0.359	4.61	
45)		97 thiophene	0.386	0.470	0.403	0.435	0.422	0.430	0.424	6.80	
46)		118 TAME	0.099	0.714	0.540	0.599	0.561	0.580	0.515	41.29	0.999
47)	C	39 12-di-Cl-propane	0.218	0.262	0.251	0.262	0.254	0.262	0.251	6.77	
48)	M	40 trichloroethene	0.308	0.320	0.283	0.304	0.303	0.307	0.304	3.93	
49)		96 Me-methacrylate	0.059	0.096	0.058	0.108	0.097	0.107	0.087	26.49	0.994
50)		42 Br-di-Cl-methane	0.518	0.343	0.313	0.341	0.323	0.334	0.362	21.31	1.000
51)		41 dibromomethane	0.025	0.121	0.113	0.131	0.128	0.134	0.109	38.23	0.999
52)		45 c-13-di-Cl-prope	0.311	0.306	0.290	0.320	0.310	0.319	0.309	3.48	
53)	S	55 toluene-d8(S2)		0.521	0.473	0.514	0.498	0.513	0.504	3.76	
54)		92 2-ClEt-Vi-ether1	0.022	0.026	0.025	0.028	0.027	0.028	0.026#	9.04	
55)	M C	56 toluene	0.984	0.797	0.743	0.790	0.785	0.806	0.817	10.33	
56)		107 Et methacrylate	0.142	0.150	0.065	0.144	0.145	0.149	0.132	24.94	0.995
57)		93 2-Hexanone x5	0.012	0.054	0.035	0.058	0.056	0.057	0.045#	40.36	0.998

(#) = Out of Range

Response Factor Report GCMS-G

6534

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Initial Calibration

Calibration Files
0.3 =4-003.D 2 =4-002.D 10 =4-010.D
20 =4-020.D 40 =4-040.D 80 =4-080.D

			Compound	0.3	2	10	20	40	80	Avg	%RSD	r²
58)		48	112-tri-Cl-Et	0.037	0.121	0.133	0.123	0.120	0.126	0.110	32.76	0.999
59)		58	1,2-di-br-ethane	0.075	0.130	0.120	0.133	0.129	0.136	0.121	19.23	0.999
60)		51	di-Br-Cl-methane	0.300	0.209	0.189	0.201	0.198	0.206	0.217	19.04	1.000
61)		46	t-13-di-cl-prope	0.311	0.306	0.290	0.320	0.310	0.319	0.309	3.48	
62)		105	1-Chlorohexane	0.488	0.346	0.252	0.263	0.270	0.270	0.315	28.95	1.000
63)	I	47	Cl-benzene-d5, I2	----------ISTD----------								
64)		54	MIBK	0.633	0.040	0.247	0.366	0.338	0.311	0.323	59.49	0.993
65)		49	1,3-di-cl-propan	0.725	0.760	0.715	0.750	0.665	0.635	0.708	6.87	
66)		59	tetra-Cl-ethene	0.811	0.964	0.829	0.894	0.834	0.805	0.856	7.16	
67)	M P	60	chlorobenzene	1.600	1.774	1.582	1.689	1.517	1.449	1.602	7.29	
68)		61	1112-tetra-Cl-Et	0.638	0.778	0.713	0.773	0.713	0.712	0.721	7.07	
69)	C	64	ethylbenzene	3.112	3.172	2.684	2.849	2.633	2.571	2.837	8.96	
70)		65	m/p-Xylenes x2	2.217	2.435	2.037	2.212	2.003	1.913	2.136	8.86	
71)		99	1-4-di-Cl-butane	0.969	0.802	0.614	0.676	0.587	0.566	0.702	22.19	0.997
72)	P	52	bromoform	0.362	0.339	0.280	0.305	0.286	0.278	0.308	11.37	
73)		66	styrene	2.237	1.851	1.535	1.703	1.551	1.494	1.729	16.33	0.998
74)		67	o-xylene	2.181	2.365	1.964	2.141	1.905	1.793	2.058	10.15	
75)	P	68	1122-Tetra-Cl-Et	0.341	0.373	0.327	0.383	0.339	0.319	0.347	7.35	
76)		110	t-1,4-dichloro-	0.086	0.113	0.071	0.082	0.060	0.057	0.078	26.49	
77)		106	Cl-benzyl	0.246	0.767	0.523	0.553	0.506	0.475	0.512	32.62	0.997
78)	I	62	1,4-DCB-d4 150 152	----------ISTD----------								
79)		69	123-tri-Cl-Pr	0.105	0.115	0.118	0.118	0.125	0.116		6.41	
80)	S	70	4-Br-1-F-Bz (S3)	0.861	0.783	0.843	0.816	0.816	0.824		3.60	
81)		71	isopropylbenzene	3.079	3.655	3.123	3.352	3.453	3.483	3.357	6.61	
82)		72	bromobenzene	0.550	0.760	0.702	0.768	0.754	0.770	0.717	11.96	
83)		73	n-propylbenzene	0.826	1.098	0.966	0.997	1.023	1.018	0.988	9.16	
84)		74	2-Cl-Tl 126	0.510	0.613	0.554	0.631	0.615	0.632	0.592	8.39	

(#) = Out of Range

Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Initial Calibration

Calibration Files
0.3 =4-003.D 2 =4-002.D 10 =4-010.D
20 =4-020.D 40 =4-040.D 80 =4-080.D

	Compound		0.3	2	10	20	40	80	Avg	%RSD	
85)	75 4-Cl-Tl	126	0.646	0.992	0.902	0.940	0.923	0.929	0.889	13.80	
86)	76 135-tri-Me-Bz		2.583	2.784	2.472	2.572	2.629	2.663	2.617	3.99	
87)	79 tert-butylbenzen		2.451	3.316	2.795	2.985	3.080	3.051	2.946	10.01	
88)	78 124-tri-Me-Bz		2.118	2.346	2.022	2.129	2.199	2.305	2.186	5.60	
89)	80 13-di-Cl-Bz	146	1.262	1.255	1.050	1.148	1.115	1.139	1.161	7.11	
90)	82 14-di-Cl-Bz	146	1.380	1.832	1.652	1.737	1.724	1.689	1.669	9.21	
91)	81 sec-butylbenzene		4.172	4.470	3.703	4.002	4.222	4.106	4.113	6.19	
92)	77 4-iso-Pr-toluene		3.010	3.461	3.029	3.031	3.111	3.052	3.116	5.54	
93)	84 12-di-Cl-benzene		0.984	1.231	1.072	1.148	1.101	1.160	1.116	7.57	
94)	85 n-butylbenzene		2.607	2.971	2.467	2.570	2.758	2.798	2.695	6.77	
95)	86 12-diBr-3-Cl-Pra			0.043	0.068	0.073	0.072	0.080	0.067	20.80	0.998
96)	87 124-tri-Cl-Bz		0.442	0.729	0.620	0.663	0.738	0.731	0.654	17.40	0.999
97)	88 naphthalene		0.296	0.631	0.492	0.594	0.764	0.719	0.583	29.17	0.994
98)	90 123-tri-Cl-Bz		0.194	0.523	0.464	0.520	0.571	0.542	0.469	29.72	0.999
99)	89 hx-Cl-butadiene		0.701	0.767	0.617	0.649	0.688	0.662	0.681	7.59	

(#) = Out of Range

Continuing Calibration Concentration Summary

Data File G2404Q01.D
Method File E524G004

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene I1 1	10	10.00	ppb	0.00	649888
3 di-Cl-di-F-methane 85 87	20	20.14	ppb	0.70	277528
4 Chloromethane 50 52	20	21.53	ppb	7.65	246888
9 F114 85 135	20	17.01	ppb	14.97	298895
5 vinyl chloride 62 64	20	21.36	ppb	6.82	269070
6 bromomethane 94 96	20	24.95	ppb	24.76	279586
7 Chloroethane 64 66	20	21.23	ppb	6.16	210692
8 tri-Cl-F-methane 101 103	20	21.76	ppb	8.80	559460
111 isopropyl alcohol x10	200	203.55	ppb	1.78	52983
100 ethyl ether x5	100	107.60	ppb	7.60	996988
102 Acrolein x10	200	139.76	ppb	30.12	100897
119 methyl acetate	20	21.45	ppb	7.23	241873
104 Carbon disulfide	20	18.24	ppb	8.80	738097
103 Acrylonitrilex10	200	214.62	ppb	7.31	344451
95 Acetone x10	200	396.54	ppb	98.27	439971
108 F-113	20	21.41	ppb	7.07	479223
13 11-dichloroethene 61 96	20	20.09	ppb	0.46	472350
101 Acetonnitrilex10	200	243.89	ppb	21.95	101324
[illegible] Iodomethane	20	13.22	ppb	33.89	351403
Tert butyl alcohol x10	200	216.00	ppb	8.00	129323
18 methylene chloride 49 84	20	23.61	ppb	18.05	376106
112 Allyl chloride	20	22.42	ppb	12.12	549774
200 Nitro methane x10	200	197.96	ppb	1.02	503531
10 t-Bu-Me-ether 73 57	20	21.00	ppb	4.99	676223
19 t-12-di-Cl-ethene 96 61	20	21.43	ppb	7.15	366814
98 Vinyl acetate x5	100	143.85	ppb	43.85	1821937
21 11-dichloroethane 63 83	20	21.03	ppb	5.16	717926
91 2-butanone MEKx10	200	234.40	ppb	17.20	1429484
115 Di isoprop ether	20	18.37	ppb	8.14	1696951
22 c-12-di-Cl-ethene 96 61	20	20.62	ppb	3.09	376787
23 22-Dichloropropane 77 97	20	21.99	ppb	9.97	611798
24 Br-Cl-methane 128 130	20	21.08	ppb	5.42	165470
25 chloroform 83 85	20	20.12	ppb	0.61	670049
201 Ethyl acetate x2	40	46.95	ppb	17.39	361793
116 ETBE	20	22.19	ppb	10.95	1171113
117 Iso-butyl alcohol X10	200	238.82	ppb	19.41	378345
26 tetrahydrofuranx5	100	105.40	ppb	5.40	73174
27 Di-Br-F-Methane (S1) 111 1	20	21.39	ppb	6.97	516235
34 111-tri-Cl-ethane 97 99	20	21.29	ppb	6.44	552365
30 12-dichloroethane 64 62	20	21.09	ppb	5.45	288522
35 11-Di-Cl-propene 75 110	20	20.00	ppb	0.02	460611
29 1,2-di-Cl-ethane-d4 [Surr] 10	20	22.15	ppb	10.74	242901
36 benzene 78 52	20	20.55	ppb	2.74	1136626
[illegible]Cl4 117 119	20	21.01	ppb	5.06	490276

97 thiophene	20	20.54	ppb	2.72	566534
TAME	20	21.35	ppb	6.73	798122
39 12-di-Cl-propane 63 76	20	21.07	ppb	5.34	344200
40 trichloroethene 130 132	20	20.87	ppb	4.36	412821
96 Me-methacrylate	20	21.65	ppb	8.25	140547
42 Br-di-Cl-methane 83 85	20	21.90	ppb	9.50	470944
41 dibromomethane 174 172	20	20.55	ppb	2.73	172546
45 c-13-di-Cl-propene 75 110	20	21.45	ppb	7.23	431214
55 toluene-d8(S2) 100 99	20	20.92	ppb	4.62	685077
92 2-ClEt-Vi-ether10	200	223.46	ppb	11.73	376438

Compound Name	Amount	Actual	Units	%Dev	Target Response
56 toluene 91 92	20	19.45	ppb	2.77	1033014
107 Et methacrylate	20	27.67	ppb	38.34	255854
93 2-Hexanone x5	100	146.36	ppb	46.36	531705
48 112-tri-Cl-Et 97 83	20	20.22	ppb	1.10	163013
58 1,2-di-br-ethane 107 109	20	20.86	ppb	4.30	179065
51 di-Br-Cl-methane 129 127	20	21.16	ppb	5.82	277463
46 t-13-di-cl-propene 75 110	20	21.45	ppb	7.23	431214
105 1-Chlorohexane	20	19.65	ppb	1.75	343562
47 Cl-benzene-d5, I2	10	10.00	ppb	0.00	204425
54 MIBK	20	23.65	ppb	18.24	153762
49 1,3-di-cl-propane 76 78	20	20.32	ppb	1.58	294186
59 tetra-Cl-ethene 166 168	20	19.77	ppb	1.13	346025
60 chlorobenzene 112 77	20	20.73	ppb	3.67	678907
1112-tetra-Cl-Et 131 133	20	22.02	ppb	10.09	324606
ethylbenzene 91 106	20	19.75	ppb	1.24	1145468

Compound Name	Amount	Actual	Units	%Dev	Target Response
65 m/p-Xylenes x2	40	39.48	ppb	1.30	1723939
99 1-4-di-Cl-butane	20	22.55	ppb	12.74	275180
52 bromoform 173 175	20	21.37	ppb	6.85	134679
66 styrene 104 78	20	20.97	ppb	4.85	667454
67 o-xylene 91 106	20	20.91	ppb	4.53	879630
68 1122-Tetra-Cl-Et 83 85	20	21.50	ppb	7.52	152489
110 t-1,4-dichloro-2-butene	20	24.42	ppb	22.08	38966
106 Cl-benzyl	20	25.41	ppb	27.04	259687
62 1,4-DCB-d4 150 152 I3	10	10.00	ppb	0.00	177200
69 123-tri-Cl-Pr 110 97	20	22.77	ppb	13.86	46786
70 4-Br-1-F-Bz (S3) 174 95	20	20.47	ppb	2.34	298875
71 isopropylbenzene 105 120	20	20.08	ppb	0.39	1194531
72 bromobenzene 156 158	20	21.33	ppb	6.63	271114
73 n-propylbenzene 120 78	20	19.94	ppb	0.29	349176
74 2-Cl-Tl 126 128	20	21.49	ppb	7.47	225624
75 4-Cl-Tl 126 128	20	21.36	ppb	6.82	336390
76 135-tri-Me-Bz 105 120	20	20.52	ppb	2.58	951479
79 tert-butylbenzene 119 91	20	20.34	ppb	1.70	1061912
78 124-tri-Me-Bz 105 120	20	20.47	ppb	2.37	793217
80 13-di-Cl-Bz 146 148	20	21.95	ppb	9.75	451713
82 14-di-Cl-Bz 146 148	20	20.48	ppb	2.39	605588
sec-butylbenzene 105 134	20	18.63	ppb	6.87	1357391

77 4-iso-Pr-toluene	119 134	20	20.27	ppb	1.36	1119193
2-di-Cl-benzene	146 148	20	21.15	ppb	5.73	418081
85 n-butylbenzene	91 134	20	19.11	ppb	4.45	912663
86 12-diBr-3-Cl-Pra	157 155	20	20.75	ppb	3.74	26931
87 124-tri-Cl-Bz	180 182	20	19.47	ppb	2.66	244810
88 naphthalene	128 129	20	18.09	ppb	9.54	218555
90 123-tri-Cl-Bz	180 182	20	19.04	ppb	4.81	181441
				Ave.% Dev	9.11	

Evaluate Continuing Calibration Report

6539

Data File : C:\HPCHEM\1\DATA\03G2404\G2404Q01.D Vial: 18
Acq On : 16 May 03 11:08 am Operator: Eddie
Sample : f=1 ccv/icv/bfb Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1 Fluorobenzene I1 1	1.000	1.000	0.0	87	0.00
2		3 di-Cl-di-F-methane 85 8	0.212	0.214	-0.7	88	0.00
3	P	4 Chloromethane 50 5	0.142	0.190	-33.8#	100	0.00
4		9 F114 85 135	0.255	0.230	9.7	77	0.00
5	C	5 vinyl chloride 62 6	0.194	0.207	-6.8	89	0.00
6		6 bromomethane 94 9	0.172	0.215	-24.8#	105	0.00
7		7 Chloroethane 64 66	0.153	0.162	-6.2	89	0.00
8		8 tri-Cl-F-methane 101 10	0.396	0.430	-8.8	94	0.00
9		111 isopropyl alcohol x10	0.004	0.004#	-1.8	75	0.00
10		100 ethyl ether x5	0.158	0.153	3.0	91	0.00
11		102 Acrolein x10	0.011	0.008#	32.1#	61	0.00
12		119 methyl acetate	0.177	0.186	-4.9	74	0.00
13		104 Carbon disulfide	0.623	0.568	8.8	80	0.00
14		103 Acrylonitrilex10	0.023	0.027#	-13.0	85	0.00
15		95 Acetone x10	0.019	0.034#	-76.7#	165#	0.00
16		108 F-113	0.344	0.369	-7.1	93	0.00
17	M,C	13 11-dichloroethene 61 9	0.362	0.363	-0.5	88	0.00
18		101 Acetonnitrilex10	0.007	0.008#	-12.6	99	0.00
19		109 Iodomethane	0.399	0.270	32.2#	56	0.00
20		113 Tert butyl alcohol x10	0.009	0.010#	-8.0	94	0.00
21		18 methylene chloride 49 8	0.245	0.289	-18.1	106	0.00
22		112 Allyl chloride	0.430	0.423	1.6	89	0.00
23		200 Nitro methane x10	0.039	0.039#	1.0	77	0.00
24		10 t-Bu-Me-ether 73 57	0.496	0.520	-5.0	94	0.00
25		19 t-12-di-Cl-ethene 96 6	0.263	0.282	-7.2	87	0.00
26		98 Vinyl acetate x5	0.149	0.280	-88.1#	136	0.00
27	P	21 11-dichloroethane 63 8	0.525	0.552	-5.2	86	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

6540

Data File : C:\HPCHEM\1\DATA\03G2404\G2404Q01.D Vial: 18
Acq On : 16 May 03 11:08 am Operator: Eddie
Sample : f=1 ccv/icv/bfb Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
28		91 2-butanone MEKx10	0.094	0.110	-17.2	100	0.00
29		115 Di isoprop ether	1.421	1.306	8.1	82	0.00
30		22 c-12-di-Cl-ethene 96 6	0.281	0.290	-3.1	87	0.00
31		23 22-Dichloropropane 77 9	0.428	0.471	-10.0	97	0.00
32		24 Br-Cl-methane 128 13	0.104	0.127	-22.0#	92	0.00
33	C	25 chloroform 83 8	0.512	0.516	-0.6	90	0.00
34		201 Ethyl acetate x2	0.118	0.139	-17.9	102	0.00
35		116 ETBE	0.916	0.901	1.7	94	0.00
36		117 Iso-butyl alcohol X10	0.022	0.029#	-31.8#	106	0.00
37		26 tetrahydrofuranx5	0.011	0.011#	-5.4	87	0.00
38	S	27 Di-Br-F-Methane (S1) 11	0.371	0.397	-7.0	91	0.00
39		34 111-tri-Cl-ethane 97 9	0.399	0.425	-6.4	92	0.00
40		30 12-dichloroethane 64 6	0.184	0.222	-20.8#	93	0.00
41		35 11-Di-Cl-propene 75 11	0.354	0.354	-0.0	86	0.00
42	S	29 1,2-di-Cl-ethane-d4 [Sur	0.169	0.187	-10.7	93	0.00
43	M	36 benzene 78 5	0.851	0.874	-2.7	87	0.00
44		37 CCl4 117 11	0.359	0.377	-5.1	90	0.00
45		97 thiophene	0.424	0.436	-2.7	87	0.00
46		118 TAME	0.515	0.614	-19.1	89	0.00
47	C	39 12-di-Cl-propane 63 7	0.251	0.265	-5.3	88	0.00
48	M	40 trichloroethene 130 13	0.304	0.318	-4.4	91	0.00
49		96 Me-methacrylate	0.087	0.108	-23.7#	87	0.00
50		42 Br-di-Cl-methane 83 8	0.362	0.362	-0.1	93	0.00
51		41 dibromomethane 174 17	0.109	0.133	-22.2#	88	0.00
52		45 c-13-di-Cl-propene 75 11	0.309	0.332	-7.2	90	0.00
53	S	55 toluene-d8(S2) 100	0.504	0.527	-4.6	89	0.00
54		92 2-ClEt-Vi-ether10	0.026	0.029#	-11.7	91	0.00

(#) = Out of Range

6541

Data File : C:\HPCHEM\1\DATA\03G2404\G2404Q01.D Vial: 18
Acq On : 16 May 03 11:08 am Operator: Eddie
Sample : f=1 ccv/icv/bfb Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

			Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
55	M	C	56 toluene	91 9	0.817	0.795	2.8	88	0.00
56			107 Et methacrylate		0.132	0.197	-48.6#	119	0.00
57			93 2-Hexanone x5		0.045	0.082	-80.2#	123	0.00
58			48 112-tri-Cl-Et	97 8	0.110	0.125	-13.9	88	0.00
59			58 1,2-di-br-ethane	107 109	0.121	0.138	-14.3	90	0.00
60			51 di-Br-Cl-methane	129 12	0.217	0.213	1.7	93	0.00
61			46 t-13-di-cl-propene	75 11	0.309	0.332	-7.2	90	0.00
62			105 1-Chlorohexane		0.315	0.264	16.0	87	0.00
63	I		47 Cl-benzene-d5, I2		1.000	1.000	0.0	92	0.00
64			54 MIBK		0.323	0.376	-16.6	94	0.00
65			49 1,3-di-cl-propane	76 78	0.708	0.720	-1.6	88	0.00
66			59 tetra-Cl-ethene	166 16	0.856	0.846	1.1	87	0.00
67	M	P	60 chlorobenzene	112 7	1.602	1.661	-3.7	90	0.00
68			61 1112-tetra-Cl-Et	131 13	0.721	0.794	-10.1	94	0.00
69	C		64 ethylbenzene	91 10	2.837	2.802	1.2	90	0.00
70			65 m/p-Xylenes x2		2.136	2.108	1.3	87	0.00
71			99 1-4-di-Cl-butane		0.702	0.673	4.2	91	0.00
72	P		52 bromoform	173 17	0.308	0.329	-6.9	99	0.00
73			66 styrene	104 7	1.729	1.633	5.6	88	0.00
74			67 o-xylene	91 10	2.058	2.151	-4.5	92	0.00
75	P		68 1122-Tetra-Cl-Et	83 8	0.347	0.373	-7.5	89	0.00
76			110 t-1,4-dichloro-2-butene		0.078	0.095	-22.1#	107	0.00
77			106 Cl-benzyl		0.512	0.635	-24.1#	105	0.00
78	I		62 1,4-DCB-d4 150 152 I3		1.000	1.000	0.0	89	0.00
79			69 123-tri-Cl-Pr	110 9	0.116	0.132	-13.9	100	0.00

(#) = Out of Range

6542

Data File : C:\HPCHEM\1\DATA\03G2404\G2404Q01.D Vial: 18
Acq On : 16 May 03 11:08 am Operator: Eddie
Sample : f=1 ccv/icv/bfb Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 10:36:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound			AvgRF	CCRF	%Dev	Area%	Dev(min)
80	S	70 4-Br-1-F-Bz (S3)	174	9	0.824	0.843	-2.3	89	0.00
81		71 isopropylbenzene	105	12	3.357	3.371	-0.4	90	0.00
82		72 bromobenzene	156	15	0.717	0.765	-6.6	89	0.00
83		73 n-propylbenzene	120	7	0.988	0.985	0.3	88	0.00
84		74 2-Cl-Tl	126	128	0.592	0.637	-7.5	90	0.00
85		75 4-Cl-Tl	126	128	0.889	0.949	-6.8	90	0.00
86		76 135-tri-Me-Bz	105	12	2.617	2.685	-2.6	93	0.00
87		79 tert-butylbenzene	119	9	2.946	2.996	-1.7	90	0.00
88		78 124-tri-Me-Bz	105	12	2.186	2.238	-2.4	94	0.00
89		80 13-di-Cl-Bz	146	148	1.161	1.275	-9.8	99	0.00
90		82 14-di-Cl-Bz	146	148	1.669	1.709	-2.4	88	0.00
91		81 sec-butylbenzene	105	13	4.113	3.830	6.9	86	0.00
92		77 4-iso-Pr-toluene	119	13	3.116	3.158	-1.4	93	0.00
93		84 12-di-Cl-benzene	146	14	1.116	1.180	-5.7	92	0.00
94		85 n-butylbenzene	91	13	2.695	2.575	4.4	90	0.00
95		86 12-diBr-3-Cl-Pra	157	15	0.067	0.076	-13.0	93	0.00
96		87 124-tri-Cl-Bz	180	18	0.654	0.691	-5.6	93	0.00
97		88 naphthalene	128	12	0.583	0.617	-5.8	93	0.00
98		90 123-tri-Cl-Bz	180	18	0.469	0.512	-9.1	88	0.00
99		89 hx-Cl-butadiene	225	26	0.681	0.669	1.7	92	0.00

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

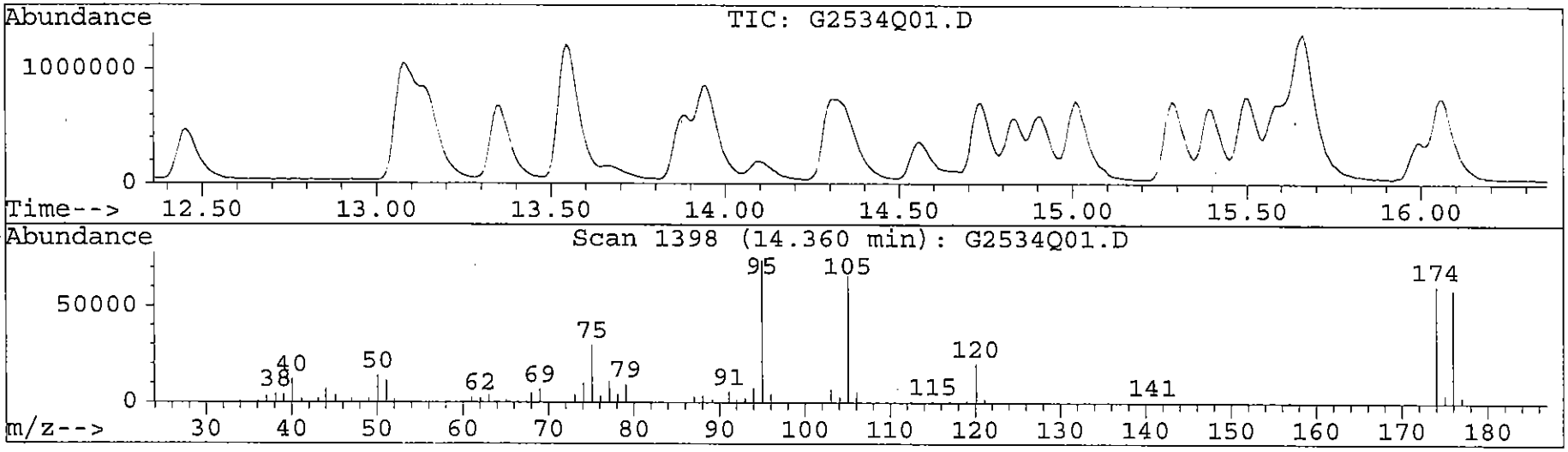
6543

BFB

Data File : C:\HPCHEM\1\DATA\03G2534\G2534Q01.D
Acq On : 19 May 03 4:49 pm
Sample : f=1 ccv
Misc :

Vial: 17
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2



Peak Apex is scan: 1398

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.9	14018	PASS
75	95	30	60	40.1	29696	PASS
95	95	100	100	100.0	74024	PASS
96	95	5	9	6.6	4915	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	82.5	61048	PASS
175	174	5	9	7.3	4481	PASS
176	174	95	101	96.5	58928	PASS
177	176	5	9	5.8	3407	PASS

G2534Q01.D E524G004.M Tue May 20 11:15:27 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 524.2

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	033130
Project ID:	JPL GW Mon-2Q03	BFB Inj. Date:	05/19/03	Batch No:	03G2534
		BFB Inj. Time:	16:49	Sequence No:	03G2534
Project No:	04-4428.10	Instrument ID:	G	GC Column:	DB-VEX
Data File Name:	G2534Q01	Heated Purge: (Y/N)	N	Column ID:	0.45 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	03G2534-CCV-01	03G2534-CCV-01	G2534Q01	05/19/03	16:49
2	03G2534-LCS-01	03G2534-LCS-01	G2534L01	05/19/03	17:18
3	MW-22-1MS	03-3130-2MS	G2534M01	05/19/03	17:47
4	MW-22-1MSD	03-3130-2MSD	G2534N01	05/19/03	18:16
5	03G2534-MB-01	03G2534-MB-01	G2534K01	05/19/03	20:12
6	EB-12-5/8/03	03-3130-1	3130-01	05/19/03	21:10
7	MW-22-1	03-3130-2	3130-02	05/19/03	21:39
8	MW-22-2	03-3130-3	3130-03	05/19/03	22:08
9	MW-22-3	03-3130-4	3130-04	05/19/03	22:37
10	MW-22-4	03-3130-5	3130-05	05/19/03	23:06
11	MW-22-5	03-3130-6	3130-06	05/19/03	23:35
12	TB-12-5/8/03	03-3130-7	3130-07	05/20/03	00:04
13					
14					
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22					
23					
24					
25					

Continuing Calibration Concentration Summary

Data File G2534Q01.D
Method File E524G004

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene I1 1	10	10.00	ppb	0.00	696385
3 di-Cl-di-F-methane 85 87	20	20.97	ppb	4.86	309653
4 Chloromethane 50 52	20	20.56	ppb	2.79	251325
9 F114 85 135	20	18.59	ppb	7.07	351251
5 vinyl chloride 62 64	20	20.81	ppb	4.07	280900
6 bromomethane 94 96	20	18.42	ppb	7.91	221134
7 Chloroethane 64 66	20	20.46	ppb	2.32	217609
8 tri-Cl-F-methane 101 103	20	20.64	ppb	3.19	568603
111 isopropyl alcohol x10	200	217.87	ppb	8.93	60767
100 ethyl ether x5	100	99.63	ppb	0.37	989373
102 Acrolein x10	200	157.46	ppb	21.27	122234
119 methyl acetate	20	16.67	ppb	16.63	205204
104 Carbon disulfide	20	18.08	ppb	9.61	783822
103 Acrylonitrilex10	200	202.87	ppb	1.44	347141
95 Acetone x10	200	394.72	ppb	97.36	469337
108 F-113	20	20.71	ppb	3.53	496504
13 11-dichloroethene 61 96	20	19.95	ppb	0.25	502571
101 Acetonnitrilex10	200	232.77	ppb	16.39	103421
109 Iodomethane	20	16.60	ppb	16.98	474077
113 Tert butyl alcohol x10	200	187.64	ppb	6.18	120381
18 methylene chloride 49 84	20	20.93	ppb	4.66	357316
112 Allyl chloride	20	21.53	ppb	7.65	566911
200 Nitro methane x10	200	212.62	ppb	6.31	579503
10 t-Bu-Me-ether 73 57	20	19.93	ppb	0.35	687757
19 t-12-di-Cl-ethene 96 61	20	19.92	ppb	0.40	365332
98 Vinyl acetate x5	100	141.46	ppb	41.46	1916784
21 11-dichloroethane 63 83	20	19.95	ppb	0.26	729629
91 2-butanone MEKx10	200	223.85	ppb	11.92	1462810
115 Di isoprop ether	20	18.47	ppb	7.67	1827519
22 c-12-di-Cl-ethene 96 61	20	19.66	ppb	1.71	384942
23 22-Dichloropropane 77 97	20	20.84	ppb	4.18	621068
24 Br-Cl-methane 128 130	20	19.92	ppb	0.39	167328
25 chloroform 83 85	20	18.82	ppb	5.88	671671
201 Ethyl acetate x2	40	47.58	ppb	18.94	393341
116 ETBE	20	20.72	ppb	3.59	1171933
117 Iso-butyl alcohol X10	200	241.27	ppb	20.63	409818
26 tetrahydrofuranx5	100	99.31	ppb	0.69	73877
27 Di-Br-F-Methane (S1) 111 1	20	20.15	ppb	0.77	521115
34 111-tri-Cl-ethane 97 99	20	20.16	ppb	0.81	560579
30 12-dichloroethane 64 62	20	20.04	ppb	0.19	293077
35 11-Di-Cl-propene 75 110	20	19.61	ppb	1.94	483926
29 1,2-di-Cl-ethane-d4 [Surr] 10	20	20.42	ppb	2.10	239972
36 benzene 78 52	20	19.59	ppb	2.05	1161177
37 CCl4 117 119	20	20.01	ppb	0.03	500192

97 thiophene	20	19.48	ppb	2.62	575552
118 TAME	20	19.58	ppb	2.11	784093
39 12-di-Cl-propane 63 76	20	20.73	ppb	3.67	362992
40 trichloroethene 130 132	20	20.21	ppb	1.03	428249
96 Me-methacrylate	20	18.71	ppb	6.43	128592
42 Br-di-Cl-methane 83 85	20	20.28	ppb	1.41	467155
41 dibromomethane 174 172	20	18.96	ppb	5.21	170037
45 c-13-di-Cl-propene 75 110	20	20.52	ppb	2.58	442013
55 toluene-d8(S2) 100 99	20	19.76	ppb	1.21	693153
92 2-ClEt-Vi-ether10	200	205.01	ppb	2.51	370077

Compound Name	Amount	Actual	Units	%Dev	Target Response
56 toluene 91 92	20	18.50	ppb	7.48	1053296
107 Et methacrylate	20	25.19	ppb	25.96	248112
93 2-Hexanone x5	100	133.09	ppb	33.09	516042
48 112-tri-Cl-Et 97 83	20	19.07	ppb	4.65	164651
58 1,2-di-br-ethane 107 109	20	19.13	ppb	4.33	175497
51 di-Br-Cl-methane 129 127	20	19.42	ppb	2.92	272277
46 t-13-di-cl-propene 75 110	20	20.52	ppb	2.58	442013
105 1-Chlorohexane	20	19.66	ppb	1.68	368383
47 Cl-benzene-d5, I2	10	10.00	ppb	0.00	217118
54 MIBK	20	21.00	ppb	4.98	145050
49 1,3-di-cl-propane 76 78	20	19.64	ppb	1.78	302095
59 tetra-Cl-ethene 166 168	20	18.79	ppb	6.05	349215
60 chlorobenzene 112 77	20	19.50	ppb	2.52	678038
61 1112-tetra-Cl-Et 131 133	20	20.50	ppb	2.51	321009
64 ethylbenzene 91 106	20	18.87	ppb	5.66	1162099

Compound Name	Amount	Actual	Units	%Dev	Target Response
65 m/p-Xylenes x2	40	37.33	ppb	6.69	1731107
99 1-4-di-Cl-butane	20	21.22	ppb	6.10	276088
52 bromoform 173 175	20	18.64	ppb	6.78	124788
66 styrene 104 78	20	19.47	ppb	2.63	660492
67 o-xylene 91 106	20	19.48	ppb	2.58	870690
68 1122-Tetra-Cl-Et 83 85	20	20.88	ppb	4.40	157269
110 t-1,4-dichloro-2-butene	20	18.21	ppb	8.95	30864
106 Cl-benzyl	20	14.06	ppb	29.68	159323
62 1,4-DCB-d4 150 152 I3	10	10.00	ppb	0.00	186313
69 123-tri-Cl-Pr 110 97	20	21.95	ppb	9.73	47407
70 4-Br-1-F-Bz (S3) 174 95	20	19.61	ppb	1.94	301114
71 isopropylbenzene 105 120	20	19.92	ppb	0.41	1245976
72 bromobenzene 156 158	20	19.99	ppb	0.03	267246
73 n-propylbenzene 120 78	20	19.25	ppb	3.74	354454
74 2-Cl-Tl 126 128	20	19.21	ppb	3.95	212025
75 4-Cl-Tl 126 128	20	19.99	ppb	0.03	331027
76 135-tri-Me-Bz 105 120	20	19.38	ppb	3.10	945079
79 tert-butylbenzene 119 91	20	19.22	ppb	3.90	1055116
78 124-tri-Me-Bz 105 120	20	20.06	ppb	0.28	816993
80 13-di-Cl-Bz 146 148	20	18.20	ppb	9.01	393743
82 14-di-Cl-Bz 146 148	20	21.23	ppb	6.13	659992
81 sec-butylbenzene 105 134	20	17.62	ppb	11.92	1349801

77 4-iso-Pr-toluene 119 134	20	19.78	ppb	1.08	1148361
84 12-di-Cl-benzene 146 148	20	19.97	ppb	0.13	415242
85 n-butylbenzene 91 134	20	19.19	ppb	4.06	963542
86 12-diBr-3-Cl-Pra 157 155	20	20.80	ppb	3.99	28392
87 124-tri-Cl-Bz 180 182	20	19.46	ppb	2.68	257359
88 naphthalene 128 129	20	19.54	ppb	2.29	249689
90 123-tri-Cl-Bz 180 182	20	19.66	ppb	1.68	197180
			Ave.% Dev	6.35	

Evaluate Continuing Calibration Report

6548

Data File : C:\HPCHEM\1\DATA\03G2534\G2534Q01.D Vial: 17
Acq On : 19 May 03 4:49 pm Operator: Eddie
Sample : f=1 ccv Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 12:11:07 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1 Fluorobenzene I1 1	1.000	1.000	0.0	93	0.00
2		3 di-Cl-di-F-methane 85 8	0.212	0.222	-4.9	99	0.00
3	P	4 Chloromethane 50 5	0.142	0.180	-27.1#	102	0.00
4		9 F114 85 135	0.255	0.252	1.0	91	0.00
5	C	5 vinyl chloride 62 6	0.194	0.202	-4.1	93	0.00
6		6 bromomethane 94 9	0.172	0.159	7.9	83	0.00
7		7 Chloroethane 64 66	0.153	0.156	-2.3	92	0.00
8		8 tri-Cl-F-methane 101 10	0.396	0.408	-3.2	96	0.00
9		111 isopropyl alcohol x10	0.004	0.004#	-8.9	86	0.00
10		100 ethyl ether x5	0.158	0.142	10.2	91	0.00
11		102 Acrolein x10	0.011	0.009#	23.2#	74	0.00
12		119 methyl acetate	0.177	0.147	16.9	62	0.00
13		104 Carbon disulfide	0.623	0.563	9.6	85	0.00
14		103 Acrylonitrilex10	0.023	0.025#	-6.3	86	0.00
15		95 Acetone x10	0.019	0.034#	-75.9#	176#	0.00
16		108 F-113	0.344	0.356	-3.5	96	0.00
17	M,C	13 11-dichloroethene 61 9	0.362	0.361	0.2	94	0.00
18		101 Acetonnitrilex10	0.007	0.007#	-7.3	101	0.00
19		109 Iodomethane	0.399	0.340	14.7	75	0.00
20		113 Tert butyl alcohol x10	0.009	0.009#	6.2	87	0.00
21		18 methylene chloride 49 8	0.245	0.257	-4.7	101	0.00
22		112 Allyl chloride	0.430	0.407	5.3	92	0.00
23		200 Nitro methane x10	0.039	0.042#	-6.3	89	0.00
24		10 t-Bu-Me-ether 73 57	0.496	0.494	0.4	95	0.00
25		19 t-12-di-Cl-ethene 96 6	0.263	0.262	0.4	86	0.00
26		98 Vinyl acetate x5	0.149	0.275	-84.7#	143	0.00
27	P	21 11-dichloroethane 63 8	0.525	0.524	0.3	88	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2534\G2534Q01.D Vial: 17
Acq On : 19 May 03 4:49 pm Operator: Eddie
Sample : f=1 ccv Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 12:11:07 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
28		91 2-butanone MEKx10	0.094	0.105	-11.9	102	0.00
29		115 Di isoprop ether	1.421	1.312	7.7	89	0.00
30		22 c-12-di-Cl-ethene 96 6	0.281	0.276	1.7	89	0.00
31		23 22-Dichloropropane 77 9	0.428	0.446	-4.2	99	0.00
32		24 Br-Cl-methane 128 13	0.104	0.120	-15.1	93	0.00
33	C	25 chloroform 83 8	0.512	0.482	5.9	91	0.00
34		201 Ethyl acetate x2	0.118	0.141	-19.6	111	0.00
35		116 ETBE	0.916	0.841	8.2	94	0.00
36		117 Iso-butyl alcohol X10	0.022	0.029#	-33.2#	115	0.00
37		26 tetrahydrofuranx5	0.011	0.011#	0.7	88	0.00
38	S	27 Di-Br-F-Methane (S1) 11	0.371	0.374	-0.8	92	0.00
39		34 111-tri-Cl-ethane 97 9	0.399	0.402	-0.8	93	0.00
40		30 12-dichloroethane 64 6	0.184	0.210	-14.5	94	0.00
41		35 11-Di-Cl-propene 75 11	0.354	0.347	1.9	91	0.00
42	S	29 1,2-di-Cl-ethane-d4 [Sur	0.169	0.172	-2.1	92	0.00
43	M	36 benzene 78 5	0.851	0.834	2.1	89	0.00
44		37 CCl4 117 11	0.359	0.359	-0.0	92	0.00
45		97 thiophene	0.424	0.413	2.6	89	0.00
46		118 TAME	0.515	0.563	-9.2	88	0.00
47	C	39 12-di-Cl-propane 63 7	0.251	0.261	-3.7	93	0.00
48	M	40 trichloroethene 130 13	0.304	0.307	-1.0	94	0.00
49		96 Me-methacrylate	0.087	0.092	-5.7	80	0.00
50		42 Br-di-Cl-methane 83 8	0.362	0.335	7.3	92	0.00
51		41 dibromomethane 174 17	0.109	0.122	-12.4	87	0.00
52		45 c-13-di-Cl-propene 75 11	0.309	0.317	-2.6	93	0.00
53	S	55 toluene-d8(S2) 100	0.504	0.498	1.2	90	0.00
54		92 2-ClEt-Vi-ether10	0.026	0.027#	-2.5	90	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

6550

Data File : C:\HPCHEM\1\DATA\03G2534\G2534Q01.D Vial: 17
Acq On : 19 May 03 4:49 pm Operator: Eddie
Sample : f=1 ccv Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 12:11:07 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	M C	56 toluene 91 9	0.817	0.756	7.5	89	0.00
56		107 Et methacrylate	0.132	0.178	-34.5#	115	0.00
57		93 2-Hexanone x5	0.045	0.074	-63.2#	120	0.00
58		48 112-tri-Cl-Et 97 8	0.110	0.118	-7.3	89	0.00
59		58 1,2-di-br-ethane 107 109	0.121	0.126	-4.5	88	0.00
60		51 di-Br-Cl-methane 129 12	0.217	0.195	10.0	91	0.00
61		46 t-13-di-cl-propene 75 11	0.309	0.317	-2.6	93	0.00
62		105 1-Chlorohexane	0.315	0.264	16.0	94	0.00
63	I	47 Cl-benzene-d5, I2	1.000	1.000	0.0	97	0.00
64		54 MIBK	0.323	0.334	-3.5	89	0.00
65		49 1,3-di-cl-propane 76 78	0.708	0.696	1.8	90	0.00
66		59 tetra-Cl-ethene 166 16	0.856	0.804	6.1	88	0.00
67	M P	60 chlorobenzene 112 7	1.602	1.561	2.5	90	0.00
68		61 1112-tetra-Cl-Et 131 13	0.721	0.739	-2.5	93	0.00
69	C	64 ethylbenzene 91 10	2.837	2.676	5.7	91	0.00
70		65 m/p-Xylenes x2	2.136	1.993	6.7	88	0.00
71		99 1-4-di-Cl-butane	0.702	0.636	9.5	92	0.00
72	P	52 bromoform 173 17	0.308	0.287	6.8	92	0.00
73		66 styrene 104 7	1.729	1.521	12.0	87	0.00
74		67 o-xylene 91 10	2.058	2.005	2.6	91	0.00
75	P	68 1122-Tetra-Cl-Et 83 8	0.347	0.362	-4.4	92	0.00
76		110 t-1,4-dichloro-2-butene	0.078	0.071	9.0	85	0.00
77		106 Cl-benzyl	0.512	0.367	28.3#	65	0.00
78	I	62 1,4-DCB-d4 150 152 I3	1.000	1.000	0.0	94	0.00
79		69 123-tri-Cl-Pr 110 9	0.116	0.127	-9.7	102	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2534\G2534Q01.D Vial: 17
Acq On : 19 May 03 4:49 pm Operator: Eddie
Sample : f=1 ccv Inst : GCMS-G
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G004.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Fri May 16 12:11:07 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
80	S	70 4-Br-1-F-Bz (S3)	174 9	0.824	0.808	1.9	90	0.00
81		71 isopropylbenzene	105 12	3.357	3.344	0.4	94	0.00
82		72 bromobenzene	156 15	0.717	0.717	0.0	88	0.00
83		73 n-propylbenzene	120 7	0.988	0.951	3.7	90	0.00
84		74 2-Cl-Tl	126 128	0.592	0.569	4.0	85	0.00
85		75 4-Cl-Tl	126 128	0.889	0.888	0.0	89	0.00
86		76 135-tri-Me-Bz	105 12	2.617	2.536	3.1	93	0.00
87		79 tert-butylbenzene	119 9	2.946	2.832	3.9	89	0.00
88		78 124-tri-Me-Bz	105 12	2.186	2.193	-0.3	97	0.00
89		80 13-di-Cl-Bz	146 148	1.161	1.057	9.0	87	0.00
90		82 14-di-Cl-Bz	146 148	1.669	1.771	-6.1	96	0.00
91		81 sec-butylbenzene	105 13	4.113	3.622	11.9	85	0.00
92		77 4-iso-Pr-toluene	119 13	3.116	3.082	1.1	96	0.00
93		84 12-di-Cl-benzene	146 14	1.116	1.114	0.1	91	0.00
94		85 n-butylbenzene	91 13	2.695	2.586	4.1	95	0.00
95		86 12-diBr-3-Cl-Pra	157 15	0.067	0.076	-13.3	98	0.00
96		87 124-tri-Cl-Bz	180 18	0.654	0.691	-5.6	98	0.00
97		88 naphthalene	128 12	0.583	0.670	-15.0	106	0.00
98		90 123-tri-Cl-Bz	180 18	0.469	0.529	-12.8	96	0.00
99		89 hx-Cl-butadiene	225 26	0.681	0.657	3.4	95	0.00

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

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 524.2

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	033130
Project ID:	JPL GW Mon-2Q03	Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G2534Q01	Instrument ID:	G

Batch No: 03G2534

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			05/19/03 16:49	696385	9.51	217118	13.12	186313	15.63
CCV Upper Limit				1392770	10.01	434236	13.62	372626	16.13
CCV Lower Limit				348192	9.01	108559	12.62	93156	15.13
1	03G2534-LCS-01	03G2534-LCS-01	05/19/03 17:18	665707	9.51	201715	13.11	191235	15.61
2	MW-22-1MS	03-3130-2MS	05/19/03 17:47	691053	9.50	213121	13.11	194829	15.63
3	MW-22-1MSD	03-3130-2MSD	05/19/03 18:16	624964	9.50	187075	13.11	178631	15.62
4	03G2534-MB-01	03G2534-MB-01	05/19/03 20:12	648041	9.50	183940	13.11	165027	15.62
5	EB-12-5/8/03	03-3130-1	05/19/03 21:10	649527	9.50	183699	13.10	173342	15.62
6	MW-22-1	03-3130-2	05/19/03 21:39	693146	9.49	199411	13.10	188055	15.60
7	MW-22-2	03-3130-3	05/19/03 22:08	743798	9.50	203470	13.10	203953	15.60
8	MW-22-3	03-3130-4	05/19/03 22:37	681813	9.49	195978	13.10	194874	15.60
9	MW-22-4	03-3130-5	05/19/03 23:06	748362	9.49	211588	13.10	196346	15.61
10	MW-22-5	03-3130-6	05/19/03 23:35	664342	9.49	180402	13.10	178007	15.63
11	TB-12-5/8/03	03-3130-7	05/20/03 00:04	744335	9.49	210234	13.11	203725	15.61
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

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

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

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

VOC-089

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

VOC Analysis General Logbook

Sequence # 03G2404 Batch # 03G2404 Matrix: W Date: 5-15-03 Analyst: Eddie

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

Cabo + Ini. Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
3817	SP	G2404P01	E524G	25/25 = 1	/ =	/ =	1		G2404P01	5-15-03 10:18AM	GC15137
3818	Calib	4-003	004	/ =	/ =	/ =			4-003	gc15137	
3819		4-002		/ =	/ =	/ =			4-002		
3820		4-010		/ =	/ =	/ =			4-010		
3821		4-020		/ =	/ =	/ =			4-020		
3822		4-040		/ =	/ =	/ =			4-040		
3823		4-080		/ =	/ =	/ =			4-080		
3824	CW	G2404Q01		/ =	/ =	/ =			G2404Q01	CW/iCW 5-16-03 11:08AM	
3825	LS	L01		/ =	/ =	/ =			L01	GC15138	
3826	MS	M01		/ =	/ =	/ =			M01	$3082-04	<2
3827	MSD	N01		/ =	/ =	/ =			N01	$3082-04	<2
3828	MB	K01		/ =	/ =	/ =			K01		
3829	sample	3082-01		/ =	/ =	/ =			3082-01		<2
3830		02		/ =	/ =	/ =			02		
3831		03		/ =	/ =	/ =			03		
3832		04		/ =	/ =	/ =			04	MS	
3833		05		/ =	/ =	/ =			05		
3834		06		/ =	/ =	/ =			06		
3835		07		/ =	/ =	/ =			07		
3836		3102-01		/ =	/ =	/ =			3102-01		
3837		02		/ =	/ =	/ =			02		
3838		03		/ =	/ =	/ =			03		
3839		04		/ =	/ =	/ =			04		
3840		05		/ =	/ =	/ =			05		
3841		06		/ =	/ =	/ =			06		
3842		07		/ =	/ =	/ =			07		
3843		08		/ =	/ =	/ =			08		
3844		3115-01		/ =	/ =	/ =			3115-01		
3845		02		/ =	/ =	/ =			02		
3846		03		/ =	/ =	/ =			03		
3847		04		/ =	/ =	/ =			04	pass 12hrs	
3848				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g\ or\ mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g\ or\ mL)=T$
LCS/LCSD	3825	GC- 15138	200 × 2.5 /X= 20 ppb		GC-	× /X= ppb
MS/MSD	3826/3827	GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

6553

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VOC Analysis General Logbook

Sequence # 03G2534 Batch # 03G2534 Matrix: W Date: 5-19-03 Analyst: Eddie

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

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

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
3849	SP	G2534P01	E524G	25/25 = 1	/ =	/ =	1		G2534P01		
3850	CW	Q01	004	/ =	/ =	/ =			Q01	5-19-03 4:49 pm	G4537
3851	LS	L01		/ =	/ =	/ =			L01		
3852	MS	M01		/ =	/ =	/ =			M01	03130-02	<2
3853	MSD	N01		/ =	/ =	/ =			N01	03130-02	<2
3854	MB	K01		/ =	/ =	/ =			K01		
3855	Sample	3115-04A		/ =	/ =	/ =			3115-04A		<2
3856		3130-01		/ =	/ =	/ =			3130-01	eb	
3857		02		/ =	/ =	/ =			02	ms	
3858		03		/ =	/ =	/ =			03		
3859		04		/ =	/ =	/ =			04		
3860		05		/ =	/ =	/ =			05		
3861		06		/ =	/ =	/ =			06		
3862		07		/ =	/ =	/ =			07		
3863		3205-01		/ =	/ =	/ =			3205-01		
3864		02		/ =	/ =	/ =			02		
3865		03		/ =	/ =	/ =			03		
3866		04		/ =	/ =	/ =			04		
3867		05		/ =	/ =	/ =			05		
3868		06		/ =	/ =	/ =			06		
3869		07		/ =	/ =	/ =			07		
3870		08		/ =	/ =	/ =			08		
3871				/ =	/ =	/ =					
3872				/ =	/ =	/ =					
3873				/ =	/ =	/ =					
3874				/ =	/ =	/ =					
3875				/ =	/ =	/ =					
3876				/ =	/ =	/ =					
3877				/ =	/ =	/ =					
3878				/ =	/ =	/ =					
3879				/ =	/ =	/ =					
3880				/ =	/ =	/ =					

5-21-03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	3851	GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD	3852/3853	GC- 15138	20 × 1.5 /X= 20 ppb		GC-	× /X= ppb

Footnote/Anomaly:

FILE: [CUST.DOC.GC]VOC_LOG .TEX Root-File: VOC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]VOC_LOG1.TEX; pH for field water sample only.
APCL form 7-201, April 03, 1996; Ver 4.1 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial _____
6554