Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

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Wet Analysis Results for Method SM2320B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method SM2320B
Project ID: JPL Service ID: 33444 Collected by:

Component Name: Bicarbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3444-1	MW-6	Water	05/29/03	05/29/03	06/02/03	03W3113	mg/L	2	284	
03-3444-2	MW-7	Water	05/29/03	05/29/03	06/02/03	03W3113	mg/L	2	124	
03-3444-3	MW-15	Water	05/29/03	05/29/03	06/02/03	03W3113	mg/L	2	194	
03W3113-MB-01	03W3113-MB-01	Water	06/02/03	06/02/03	06/02/03	03W3113	mg/L	2	<2	U

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

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

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: 33444 Collected by:

Component Name: Carbonate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3444-1	MW-6	Water	05/29/03	05/29/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U
03-3444-2	MW-7	Water	05/29/03	05/29/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U
03-3444-3	MW-15	Water	05/29/03	05/29/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U
03W3113-MB-01	03W3113-MB-01	Water	06/02/03	06/02/03	06/02/03	03W3113	mg-$CaCO_3$/L	2	<2	U

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

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 9040B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 9040B
Project ID: JPL Service ID: 33444 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
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/29/03	03W3085	pH unit	0.01	6.63	
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/29/03	03W3085	pH unit	0.01	7.18	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/29/03	03W3085	pH unit	0.01	7.00	
03W3085-MB-01	03W3085-MB-01	Water	05/29/03	05/29/03	05/29/03	03W3085	pH unit	0.01	6.88	

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

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Wet Analysis Results for Method 160.1

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 160.1
Project ID: JPL Service ID: 33444 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
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3098	mg/L	10	812	
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3098	mg/L	10	314	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3098	mg/L	10	329	
03W3098-MB-01	03W3098-MB-01	Water	05/30/03	05/30/03	05/30/03	03W3098	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: 33444 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
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3094	mg/L	0.01	<0.01	U
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3094	mg/L	0.01	<0.01	U
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3094	mg/L	0.01	<0.01	U
03W3094-MB-01	03W3094-MB-01	Water	05/30/03	05/30/03	05/30/03	03W3094	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: 33444 Collected by:

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3074	µg/L	4	2.3	B
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3074	µg/L	400	5560	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3074	µg/L	4	<4	U
03W3074-MB-01	03W3074-MB-01	Water	05/29/03	05/29/03	05/29/03	03W3074	µg/L	4	<4	U

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

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

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: 33444 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	4	118	
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	0.8	29.2	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	0.8	22.1	
03W3095-MB-01	03W3095-MB-01	Water	05/30/03	05/30/03	05/30/03	03W3095	mg/L	0.2	<0.2	U

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

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

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Wet Analysis Results for Method 300.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	300.0
Project ID:	JPL	Service ID:	33444	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
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	0.8	10.7	
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	0.16	9.0	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	0.16	1.4	
03W3095-MB-01	03W3095-MB-01	Water	05/30/03	05/30/03	05/30/03	03W3095	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: 33444 Collected by:

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

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-3444-1	MW-6	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	10	165	
03-3444-2	MW-7	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	2	43.0	
03-3444-3	MW-15	Water	05/29/03	05/29/03	05/30/03	03W3095	mg/L	2	47.9	
03W3095-MB-01	03W3095-MB-01	Water	05/30/03	05/30/03	05/30/03	03W3095	mg/L	0.5	<0.5	U

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

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

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method SM2320B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3113		
LCS Filename:	-	Date Analyzed:	060203	Time Analyzed:	11:45
LCSD Filename:	-	Date Analyzed:	060203	Time Analyzed:	11:45

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

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BICARBONATE	mg/L	100	99.6	100	1	20	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3098		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39
MS Sample No:	**MW-6**	Sample Lab ID:	03-3444-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	812	1220	102	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	1210	100	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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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3098		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39
MS Sample No:	**MW-7**	Sample Lab ID:	03-3444-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	314	715	100	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	722	102	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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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3098		
LCS Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39
LCSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	09:39

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	0	397	99	88-108
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	400	391	98	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: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3095		
LCS Filename:	-	Date Analyzed:	053003	Time Analyzed:	12:15
LCSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	12:30

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	0	4.02	101	80-120
NITRATE AS N	mg/L	1.5	0	1.52	101	80-120
SULFATE SO_4^{--}	mg/L	15	0	15.0	100	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	4.0	4.03	101	0	20	80-120
NITRATE AS N	mg/L	1.5	1.54	103	2	20	80-120
SULFATE SO_4^{--}	mg/L	15	15.1	101	1	25	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3095		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	13:32
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	13:45
MS Sample No:	**MW-6**	Sample Lab ID:	03-3444-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	160	118	285	104	75-125
NITRATE AS N	mg/L	60.0	10.7	70.5	100	75-125
SULFATE SO_4^{--}	mg/L	600	165	780	103	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	160	283	103	1	20	75-125
NITRATE AS N	mg/L	60.0	71.5	101	1	20	75-125
SULFATE SO_4^{--}	mg/L	600	777	102	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: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3095		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	14:00
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	14:13
MS Sample No:	**MW-7**	Sample Lab ID:	03-3444-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHLORIDE CL^-	mg/L	32.0	29.2	62.0	103	75-125
NITRATE AS N	mg/L	12.0	9.0	21.2	102	75-125
SULFATE SO_4^{--}	mg/L	120	43.0	165	102	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHLORIDE CL^-	mg/L	32.0	62.1	103	0	20	75-125
NITRATE AS N	mg/L	12.0	21.3	103	1	20	75-125
SULFATE SO_4^{--}	mg/L	120	164	101	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: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3074		
LCS Filename:	-	Date Analyzed:	053003	Time Analyzed:	11:43
LCSD Filename:	-	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	25	0	24.3	97	80-120
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

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

Comments: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3074		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	11:19
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	11:37
MS Sample No:	**MW-6**	Sample Lab ID:	03-3444-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	50	2.3	51.9	99	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PERCHLORATE	µg/L	50	53.5	102	3	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3074		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	16:00
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	16:19
MS Sample No:	**MW-7**	Sample Lab ID:	03-3444-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	µg/L	50	5560	5610	100	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	5600	80	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 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3094		
LCS Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34
LCSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.251	100	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	0.233	93	7	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: _____

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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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3094		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34
MS Sample No:	MW-6	Sample Lab ID:	03-3444-1		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.240	96	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	0.238	95	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: _____

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:	33444
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W3094		
MS Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34
MSD Filename:	-	Date Analyzed:	053003	Time Analyzed:	08:34
MS Sample No:	**MW-7**	Sample Lab ID:	03-3444-2		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.255	102	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	0.233	93	9	19	78-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

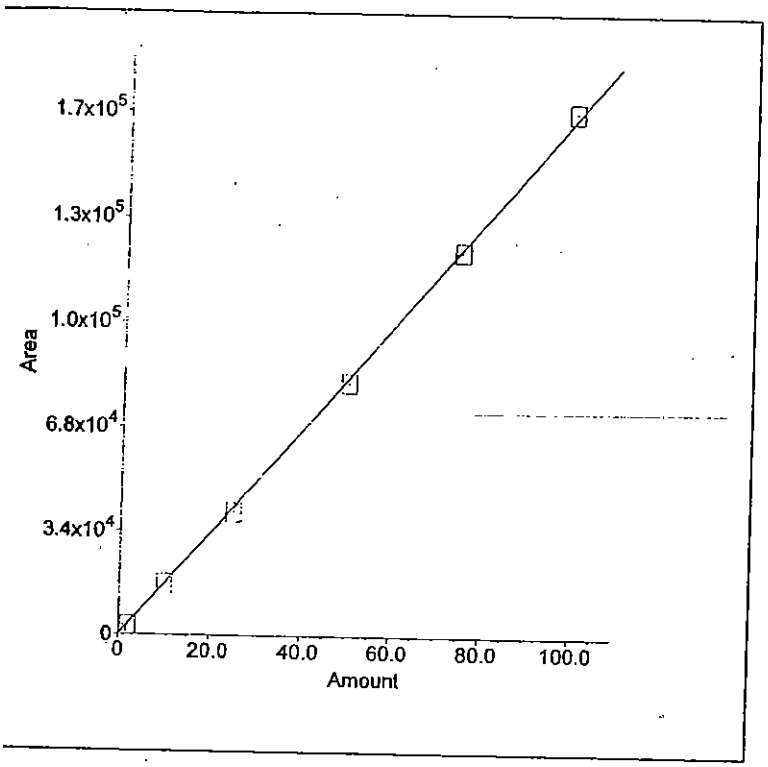
Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL

Case No: SAS No.: Service ID: 33444

Project ID: JPL Project No.: 04-4428.10

#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	Chloride Cl^-	300.0	03W3095	mg/L	4.0	4.01	100	0	√	90-110	05/30/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3095	mg/L	1.5	1.53	102	2	√	90-110	05/30/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3095	mg/L	15	15.0	100	0	√	90-110	05/30/2003
	Chloride Cl^-	300.0	03W3095	mg/L	4.0	4.17	104	4	√	90-110	05/30/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3095	mg/L	1.5	1.52	101	1	√	90-110	05/30/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3095	mg/L	15	15.0	100	0	√	90-110	05/30/2003
	Chloride Cl^-	300.0	03W3095	mg/L	4.0	4.01	100	0	√	90-110	05/30/2003
	NITRATE as N-NO_3^-, BY	300.0	03W3095	mg/L	1.5	1.51	101	1	√	90-110	05/30/2003
	SULFATE SO_4^{--}, BY I	300.0	03W3095	mg/L	15	14.9	99	-1	√	90-110	05/30/2003
2	Perchlorate	314.0	03W3074	µg/L	50	49.7	99	-1	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	µg/L	50	52.5	105	5	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	µg/L	50	50.8	102	2	√	85-115	05/29/2003
	Perchlorate	314.0	03W3074	µg/L	50	49.9	100	0	√	85-115	05/30/2003
3	Chromium (VI)	7196	03W3094	mg/L	0.25	0.254	102	2	√	90-110	05/30/2003
	Chromium (VI)	7196	03W3094	mg/L	0.25	0.250	100	0	√	90-110	05/30/2003

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

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

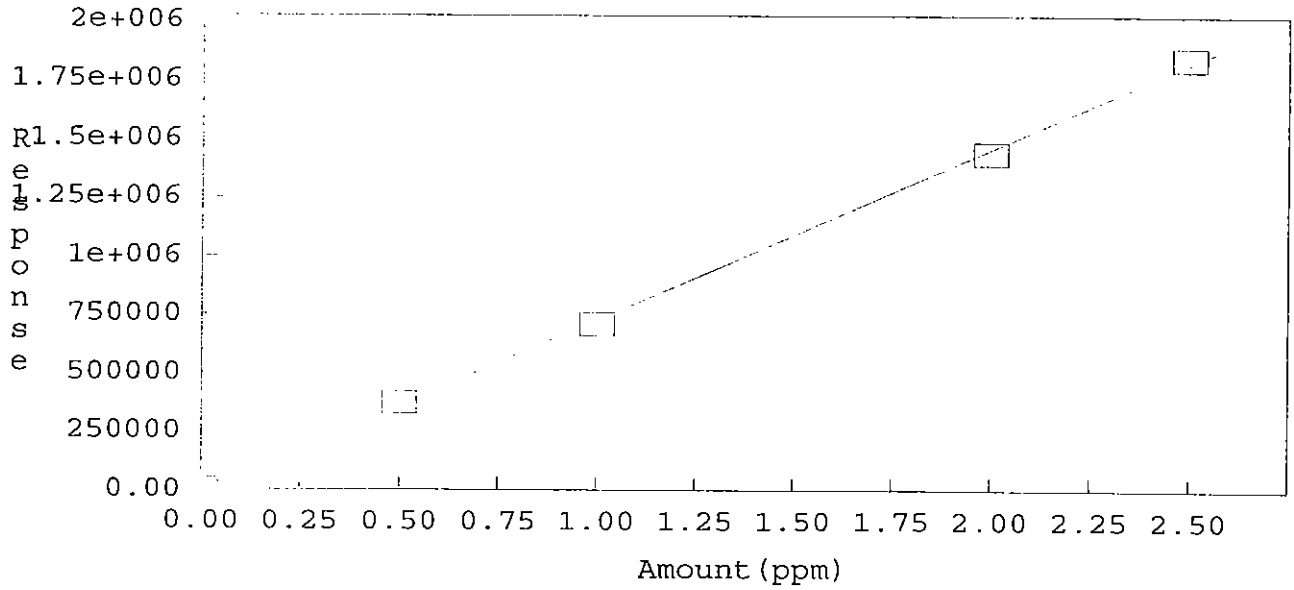
Level	Amount	Area	Height
1	3.76000E-001	129999	6524
2	7.50000E+000	2598757	138579
3	1.50000E+001	5330209	287851
4	3.00000E+001	11507107	615917
5	3.75000E+001	14859049	776426
6	0.00000E+000	0	0

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

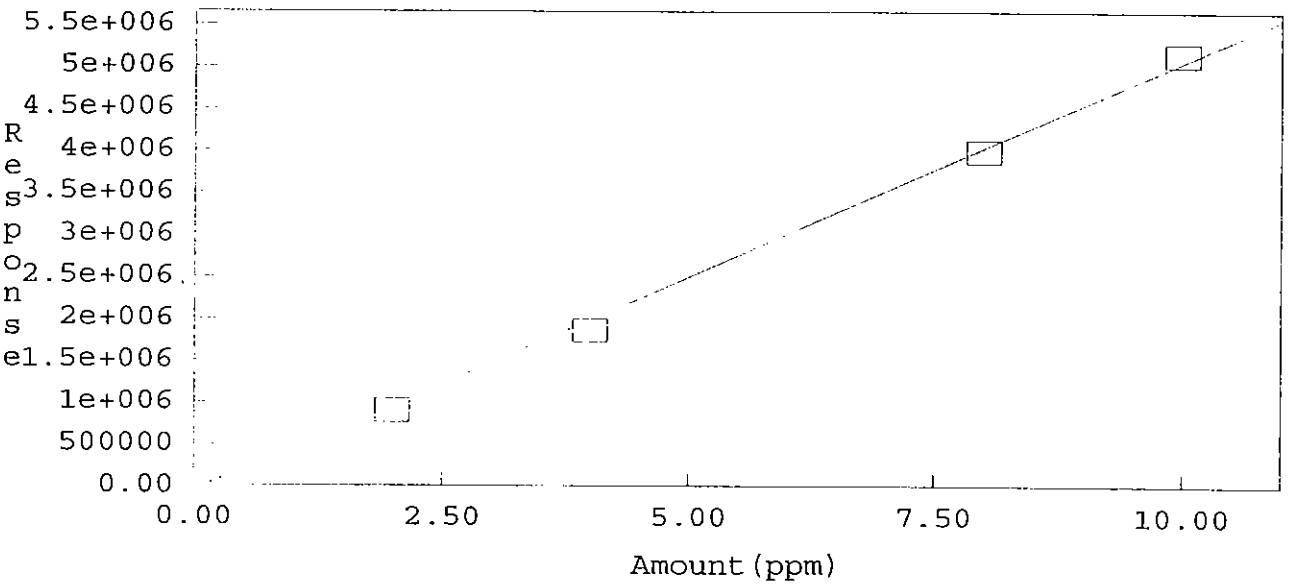
Method: E300-063.MET - Last Updated: 17:42 on Fri, 21 Mar 2003

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



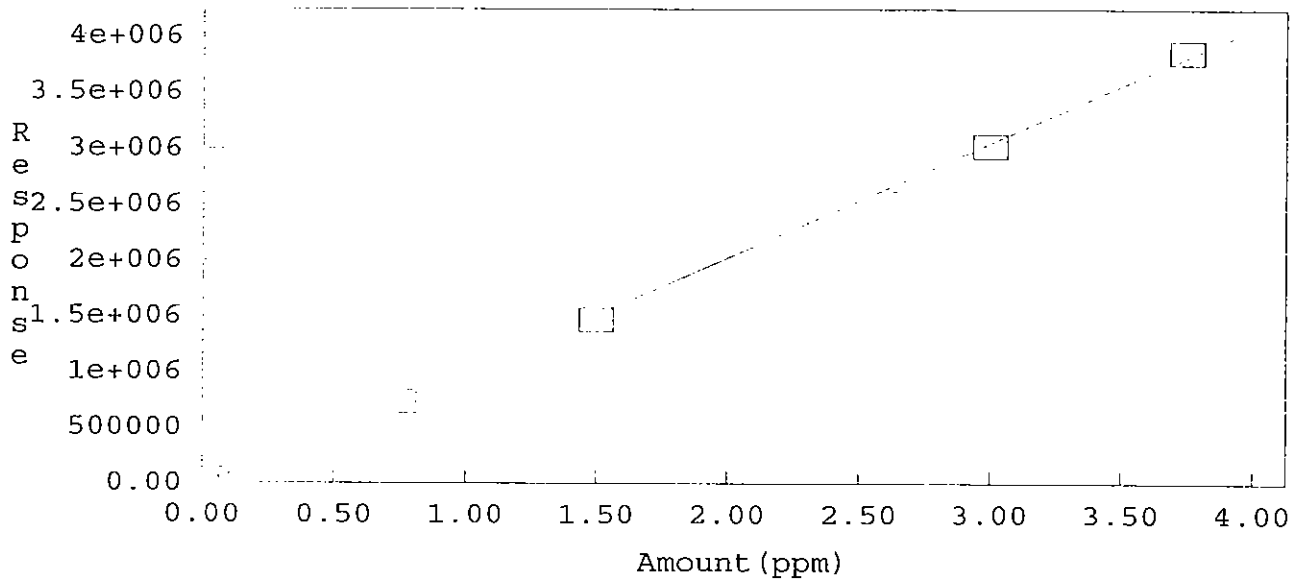
Method: C:\DX\METHOD\E300-063.MET

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



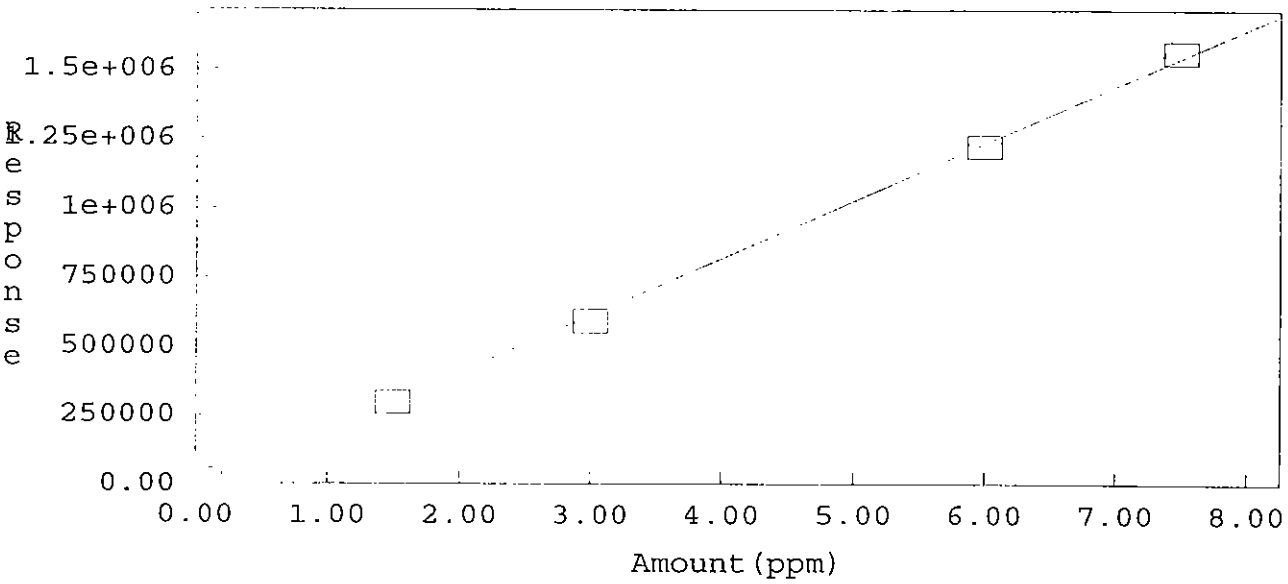
Method: C:\DX\METHOD\E300-063.MET

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



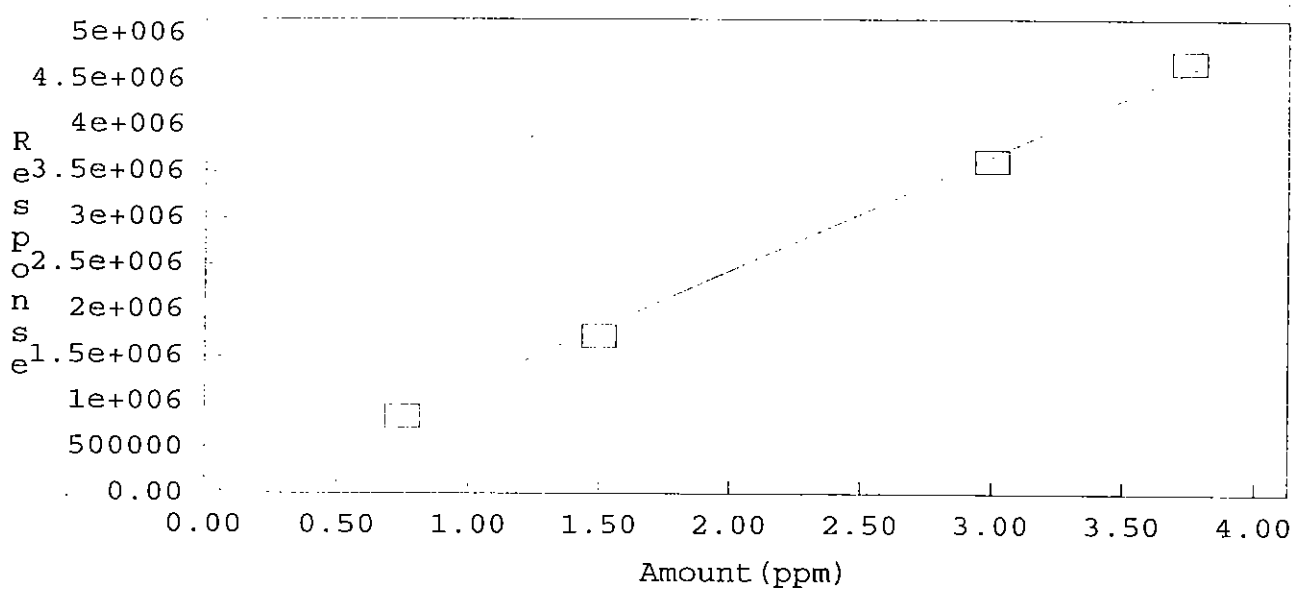
Method: C:\DX\METHOD\E300-063.MET

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



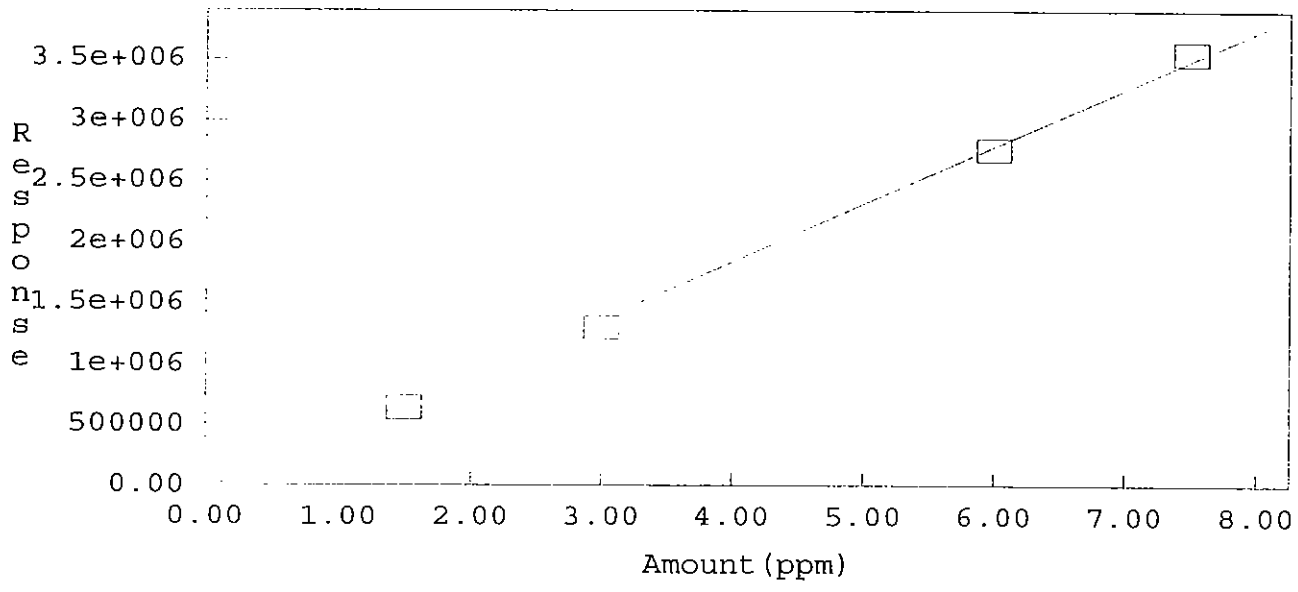
Method: C:\DX\METHOD\E300-063.MET

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



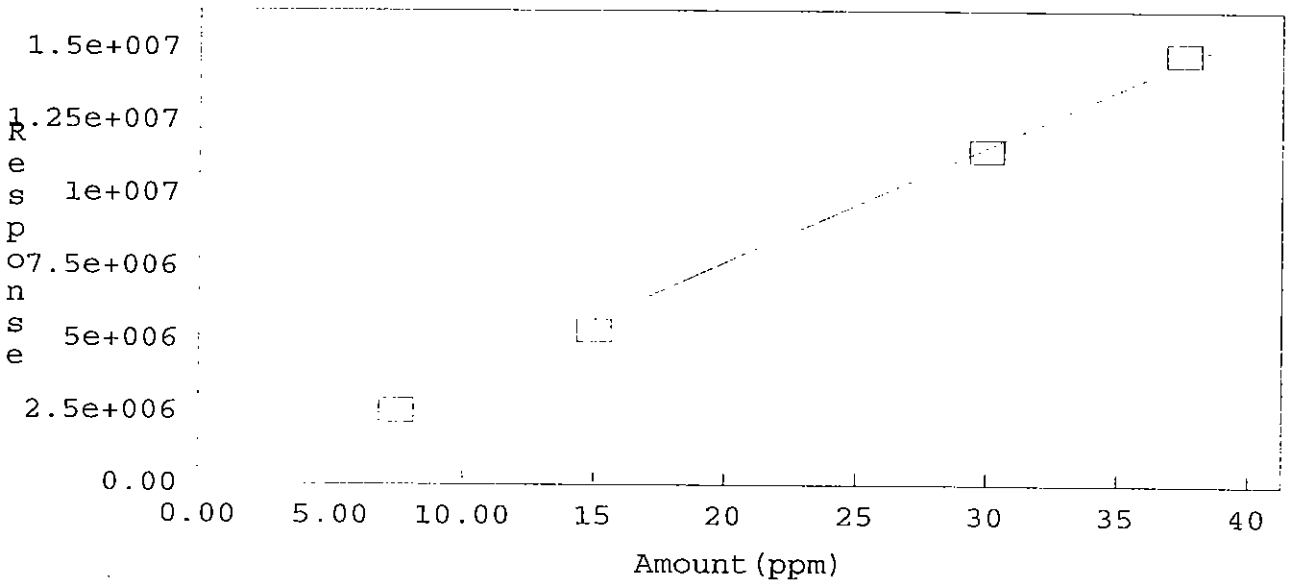
Method: C:\DX\METHOD\E300-063.MET

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



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

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

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

Batch # 03W3113 Matrix: W Titrant H_2SO_4 Lot # W795-2 Concentration (C) 0.0277 N; Test Date: 6/26/03 Analyst: DL SOP: G-51

#	Sample ID	Dilution $V_f/V_i=f_1$	Smpl Amnt V, mL	H_2SO_4 (mL) by Phnln S_A	E_A	A	H_2SO_4 (mL) by MR-BCG S_B	E_B	B	Phnln-Alk., P	Tot. Alk., T (in unit of mg$CaCO_3$/L)	OH^-	CO_3^{2-}	HCO_3^-	Note & Anomaly
1	MB: T1116	/ =	100			0			0		0	0	0	0	
2	LCS	/ =	100						7.90		100.9				
3	LCSD	/ =	100						7.80		99.6				
4	3391-1	/ =	100			0			4.50		115.0	0	0	115.0	
5	-2	/ =	100			0			4.50		115.0	0	0	115.0	
6	3413-1	/ =	100			0			9.15		233.8	0	0	233.8	
7	3414-1	/ =	100			0			5.70		145.6	0	0	145.6	
8	-2	/ =	100			0			6.00		153.3	0	0	153.3	
9	3444-1	/ =	100			0			11.10		283.6	0	0	283.6	
10	↓ -2	/ =	100			0			4.85		123.9	0	0	123.9	
11	↓ -3	/ =	100			0			7.60		194.2	0	0	194.2	
12	3461-1	/ =	100			0			8.55		218.5	0	0	218.5	
13	-2	/ =	100			0			6.85		175.0	0	0	175.0	
14	↓ -3	/ =	100			0			8.55		218.5	0	0	218.5	
15		/ =													
16		/ =													
17		/ =													
18		/ =													
19		/ =													
20		/ =													
Dup.	3444-1	/ =	100			0			11.05		282.3	0	0	282.3	

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

Calculation:

$A=S_A-E_A$

$B=S_B-E_B$

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

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

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

Using blue pen. Correcting by red pen.

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

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

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

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

Solid Analysis (160.1, 160.2, 160.3) Worksheet

Batch # 63W3098 Matrix W Method: 160.1 Balance No. _____ Date: 4/30/03 Analyst: Dr

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

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

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

Other method (specify):

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

#	Analysis Type	Sample ID (STD Lot #)	Treatment Ratio $V_1/X=f_1$	Volume V, mL	W_1 g	W_2 1st, g	W_2 2nd, g	$\Delta W = W_2 - W_1$, g	Results (ppm)	Note
1	Blank	T1116	/ =	100	117.9000	117.9001	117.9003	0.0003	3	7
2	LCS	T1116	/ =	100	99.0843	99.1244	99.1240	0.0397	397	42
3	Sample-1	3444-1	/ =	100	116.6494	116.7304	116.7306	0.0812	812	2Y
4	~~MS on S-1~~ MS	3390-2	/ =	100	115.3101	115.3836	115.3839	0.0738	738	38
5	~~MSD on S-1~~ MSD	3444-1	/ =	100	108.5459	108.6682	108.6681	0.1222	1222	1P
6	~~Duplicate~~ DUP	↓ -1	/ =	100	113.8678	113.9837	113.9834	0.1206	1206	6
7	Sample-3	3444-2	/ =	100	115.1147	115.1463	115.1461	0.0314	314	G
8	Sample-4	↓ -3	/ =	100	106.3514	106.3807	106.3803	0.0329	329	8
9	~~Sample-5~~ LCS	3444-2	/ =	100	113.8248	113.8958	113.8956	0.0718	718	3S
10	~~Sample-6~~ DUP	↓ -2	/ =	100	114.7871	114.8591	114.8593	0.0722	722	12
11	Sample-7	3394-2	/ =	100	115.1331	115.1736	115.1733	0.0402	402	10
12	Sample-8		/ =							
13	Sample-9		/ =							
14	Sample-10		/ =							
15	LCSD	T1116	/ =	100	114.1701	114.2094	114.2092	0.0391	391	41
16	Sample-11		/ =							
17	Sample-12		/ =							
18	Sample-13		/ =							
19	Sample-14		/ =							
20	Sample-15		/ =							
21	Sample-16		/ =							
22	Sample-17		/ =							
23	Sample-18		/ =							
24	Sample-19		/ =							
25	Sample-20		/ =							
26	Mtx Dup.		/ =							

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

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

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pH (150.1/9045B) Worksheet

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

Batch # 03W3078	Analysis Date: 5/29/03	Batch # 03W3085	Analysis Date: 5/29/03
Starting Time: 11:52	Ending Time: :	Starting Time: 17:12	Ending Time: :
Matrix ☐ Aaueous ☒ Soil		Matrix ☑ Aaueous ☐ Soil	

Standard	4.00	7.00	10.00
Lot #		030660-24	030659-24
Temperature °C		24.2	24.2
pH Reading		7.07	10.03
T-corrected pH		7.00	10.01
Control Limit	±0.05 pH unit		

Standard	4.00	7.00	10.00
Lot #		030660-24	030659-24
Temperature °C		23.0	23.0
pH Reading		7.02	10.01
T-corrected pH		7.01	10.02
Control Limit	±0.05 pH unit		

#	Sample ID	Pre-treat	pH	Note
MB	0821H/R		6.86	1:1
1	3405-3		9.15	
2	-2		8.43	
3	-1		8.80	
4	-6		8.64	
5	-4		8.61	
6	-8		8.46	
7	-9		9.74	
8	-10		9.60	
9	3400-4		8.91	
10	-1		8.80	
11	3369-5		8.69	
12	-6		9.08	
13	3367-1		8.65	
14	-11		8.47	
15	-9		9.24	
16	-10		9.13	
17	-17		9.05	
18	-24		8.34	
19	3426-1		8.97	
20				
Dup.	3405-2		8.79	1:1

#	Sample ID	Pre-treat	pH	Note
MB	7116		6.88	
1	3444-1		6.63	
2	-2		7.18	
3	-3		7.00	
4				
5				
6				
7				
8				
9				
10				
11			5/29/03	
12				
13				
14				
15				
16				
17				
18				
19				
20				
Dup.	3444-1		6.61	

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Chromium (VI) (7196) Worksheet

Batch #: 03W3094 Matrix: W

[Holding Time: 24 hours!!]

Test Date: 5/30/03 Analyst: [illegible]

Lot #: Reagent Water _____ Diphenylcazide solution _____

Test Time: 8:24 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 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=0.0007+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 $C'=A/RF$	C (Sample) $C=f_1 f_2 C'$	Anomaly Note
CCV	Lot: W-7850	Expected Conc.:	× / = 0.25 mg/L		0.212	0.254 mg/L	REC. %	90-110 %
Method Blank	Bt. Lot: T116		/X_0 = 1	95.0/ =	0.000	mg/L	0.000 ppm	
LCS1	Bt. Lot: "		/X_0 = 1	95.0/ =	0.210	mg/L	0.251 ppm	
Sample-1	3444-1		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
MS on S-1	1		/X_0 =	95.0/ =	0.201	mg/L	0.240 ppm	
MSD on S-1	1		/X_0 =	95.0/ =	0.199	mg/L	0.238 ppm	
Sample 2	2		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 3	3		/X_0 =	95.0/ =	0.006	mg/L	0.007 ppm	
Sample 4 MS	2		/X_0 =	95.0/ =	0.213	mg/L	0.255 ppm	
Sample 5 MSD	2		/X_0 = ✓	95.0/ =		mg/L	ppm	
Sample 6			/X_0 =	95.0/ =		mg/L	ppm	
Sample 7			/X_0 =	95.0/ =		mg/L	ppm	
Sample 8			/X_0 =	95.0/ =		mg/L	ppm	
Sample 9			/X_0 =	95.0/ =		mg/L	ppm	
Sample 10			/X_0 =	95.0/ =		mg/L	ppm	
Blank	Lot:		/X_0 =	95.0/ =		mg/L	ppm	
LCS2	Bt. Lot: T116		/X_0 = 1	95.0/ =	0.195	mg/L	0.233 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.	doping 0.25 ppm ↓		/X_0 =	95.0/ =	0.209	0.250 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-7850	× / = 0.25 ppm	%	80-120 %/80-120 %
MSD	W- "	× / = ppm	%	.. ..
LCS	W-7759	× / = ppm	%	80-120 %/80-120 %
LCSD	W-	× / = ppm	%	.. ..

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

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Chromium (VI) (7196) Worksheet

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

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ SOP: G-22

Calibration	STD Lot #	$C_{std} \times V_{std} / V_f = C_i$	A_i	$RF_i = A_i / C_i$
STD-1	W-7191	× / =0.000 mg/L	0.000	
STD-2	W-	× / =0.025 mg/L	0.006	
STD-3	W-	× / =0.050 mg/L	0.011	
STD-4	W-	× / =0.125 mg/L	0.109	
STD-5	W-	× / =0.250 mg/L	0.214	
STD-6	W-	× / =0.50 mg/L	0.415	

Calibration results	Note
Least Square [RF]=	Cal. Code:
Average $\overline{RF}$=	A=0.000+0.836C
C.C.=0.9917 (≥ 0.995)	
RSD= % (≤ 15%)	
Ref. page	
~~A=0.003+Bx~~ 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 $C'=A/\overline{RF}$	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	0.25 ppm	
Sample 11			/X_0 =	95.0/ =		mg/L	ppm	
Sample 12			/X_0 =	95.0/ =		mg/L	ppm	
Sample 13			/X_0 =	95.0/ =		mg/L	ppm	
Sample 14			/X_0 =	95.0/ =		mg/L	ppm	
Sample 15			/X_0 =	95.0/ =		mg/L	ppm	
Sample 16			/X_0 =	95.0/ =		mg/L	ppm	
Sample 17			/X_0 =	95.0/ =		mg/L	ppm	
Sample 18			/X_0 =	95.0/ =		mg/L	ppm	
Sample 19			/X_0 =	95.0/ =		mg/L	ppm	
Sample 20			/X_0 =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		/X_0 =	95.0/ =	0.204	mg/L	0.248 ppm	

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

DIONEX SCHEDULE - C:\DX\SCHEDULE\03W3095.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std
1	##03W3095, W CCVW79	..\E300-063	..\W3095Q01.D01	1	1	1
2	MB RW1413	..\E300-063	..\W3095K11.D02	1	1	1
3	LCS W7934-100X	..\E300-063	..\W3095L01.D03	1	1	1
4	LCSD W7934-100X	..\E300-063	..\W3095J01.D04	1	1	1
5	3444-1 F=20	..\E300-063	..\3444-101.D05	1	20	1
6	3444-2 F=4	..\E300-063	..\3444-201.D06	1	4	1
7	3444-3 F=4	..\E300-063	..\3444-301.D07	1	4	1
8	$3444-1 MS F=40	..\E300-063	..\W3095M01.D08	1	40	1
9	$3444-1 MSD F=40	..\E300-063	..\W3095N01.D09	1	40	1
10	$3444-2 MS F=8	..\E300-063	..\W3095M01.D10	1	8	1
11	$3444-2 MSD F=8	..\E300-063	..\W3095N01.D11	1	8	1
12	CCV2W7933-100X	..\E300-063	..\W3095Q01.D12	1	1	1
13	MB RW1413	..\E300-063	..\W3095K01.D13	1	1	1
14	3465-1 F=4	..\E300-063	..\3465-101.D14	1	4	1
15	3465-2 F=2.5	..\E300-063	..\3465-201.D15	1	2.5	1
16	3465-3 F=10	..\E300-063	..\3465-301.D16	1	10	1
17	CCV3W7933-100X	..\E300-063	..\W3095Q01.D17	1	1	1
18		..\STOP.MET		1	1	1

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

Analyst DR
Date 4/25/03
Instrument 1

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

Analyst _____

Date 5/29-30/03

Instrument Ic-K

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Conductance (120.1) Worksheet

083

#for reference Matrix: W

Test Date: 5/29/03 Analyst: MW

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

	Sample ID	Treatment V/X=f0	Dilution V_f/V_i=f1	Temperature T, °C	$C_{25}=C_T f_1/[1-0.0191(25-T)]$ C_T, µmhos/cm	C_{25}, µmhos/cm	ρ=1/C_{25} MΩ cm	Note & Anomaly
BL	Lot #:	-	-	25°C				C_{25}=1,413±20
MB		/ =	/ =					for calc
1	3381-1 MW 5/29/03	/ =	/ =			8160		
2	-6	/ =	/ =			10000		
3	-7	/ =	/ =			8940		
4	3391-1	/ =	/ =			676		
5	-2	/ =	/ =			550		
6	3414-1	/ =	/ =			660		
7	-2	/ =	/ =			501		
8	3444-1	/ =	/ =			1300		
9	-2	/ =	/ =			593		
10	-3	/ =	/ =			597		
11		/ =	/ =					
12		/ =	/ =					
13		/ =	/ =					
14		/ =	/ =					
15		/ =	/ =					
16		/ =	/ =					
17		/ =	/ =					
18		/ =	/ =					
19		/ =	/ =					
20		/ =	/ =					
Dup.		/ =	/ =					

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	Cal blank	Sample		e314-011.met	c:\data\e314-011\mb_001.dxd	1	1
2	cal standard 2ppb W7827a	Sample		e314-011.met	c:\data\e314-011\std-2pb_002.dxd	1	1
3	cal standard 4ppb W7827b	Sample		e314-011.met	c:\data\e314-011\std-4pb_003.dxd	1	1
4	cal standard 10ppb W7827c	Sample		e314-011.met	c:\data\e314-011\std-10pb_004.dxd	1	1
5	cal standard 25ppb W7827d	Sample		e314-011.met	c:\data\e314-011\std-25pb_005.dxd	1	1
6	cal standard 50ppb W7827e	Sample		e314-011.met	c:\data\e314-011\std-50pb_006.dxd	1	1
7	cal standard 75ppb W7827f	Sample		e314-011.met	c:\data\e314-011\std-75pb_007.dxd	1	1
8	cal standard 100ppb W7827g	Sample		e314-011.met	c:\data\e314-011\std-100pb_008.dxd	1	1
9	ICV 50 ppb w7828a	Sample		e314-011.met	c:\data\e314-011\icv-50pb_009.dxd	1	1
0	icb	Sample		e314-011.met	c:\data\e314-011\icb_010.dxd	1	1
1	anion 100pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-100_011.dxd	1	1
2	anion 200pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-200_012.dxd	1	1
3	anion 300pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-300_013.dxd	1	1
4	anion 400pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-400_014.dxd	1	1
5	anion 500pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-500_015.dxd	1	1
6	anion 600pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-600_016.dxd	1	1
7	anion 800pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-800_017.dxd	1	1
8	anion 1000pm each ,25pb CLO4	Sample		e314-011.met	c:\data\e314-011\mct-1000_018.dxd	1	1
9	anion 400pm each 2pb	Sample		e314-011.met	c:\data\e314-011\ipc-2pb_019.dxd	1	1
0	anion 400pm each 4pb	Sample		e314-011.met	c:\data\e314-011\ipc-4pb_020.dxd	1	1
1	anion 400pm each 25pb	Sample		e314-011.met	c:\data\e314-011\ipc-25pb_021.dxd	1	1
2	ICV 50 ppb	Sample		e314-011.met	c:\data\e314-011\ccv-50pb	1	1
3	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-02_023.dxd	1	1
4	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-03_024.dxd	1	1
5	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-04	1	1
6	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-05	1	1
7	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-06	1	1
8	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-07	1	1
9	MDL 4pb	Sample		e314-011.met	c:\data\e314-011\mdl-08	1	1
0	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
1	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
2	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
3	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
4	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
5	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
6	IDP and IDA 25pb	Sample		e314-011.met	c:\data\e314-011\idap-25pb	1	1
7	MCT anion 800pm each, 25pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-25pb	1	1
8	MCT anion 800pm each, 25pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-25pb	1	1
9	MCT anion 800pm each, 4pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-4pb	1	1
0	MCT anion 800pm each, 4pbCLO4	Sample		e314-011.met	c:\data\e314-011\ipc-4pb	1	1
1	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s01	1	5
2	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s02	1	5
3	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s03	1	5
4	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s04	1	5
5	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s05	1	5
6	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s06	1	5
7	MDL 20pb soil	Sample		e314-011.met	c:\data\e314-011\mdl-s07	1	5
8	standard 25ppb W7827d	Sample		e314-011.met	c:\data\e314-011\std-25pb	1	1
9	anion 100pm each,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-100-4pb	1	1
0	anion 200pm each ,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-200-4pb	1	1
1	anion 300pm each ,4pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-300-4pb	1	1
2	anion 100pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-100-2pb	1	1
3	anion 200pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-200-2pb	1	1
4	anion 300pm each,2pb CLO4	Sample		e314-011.met	c:\data\e314-011\am-300-2pb	1	1
5	1982-01 B S.C 4450us/cm	Sample		e314-011.met	c:\data\e314-011\1982-01	1	1
6	1982-01 B S.C 4450us/cm	Sample		e314-011.met	c:\data\e314-011\1982-01	1	2
7	1982-02 f=10	Sample		e314-011.met	c:\data\e314-011\1982-02_057.dxd	1	10
8		Sample		aastopcl.met		1	1

Line	Weight	Int. Std.	Comment
1	1	1	
2	1	1	
3	1	1	
4	1	1	
5	1	1	
6	1	1	
7	1	1	
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93	1	1	
94	1	1	
95	1	1	
96	1	1	
97	1	1	
98	1	1	
99	1	1	
100	1	1	

fault Method Path: C:\PEAKNET\METHOD
fault Data Path: C:\DATA\03W1286K
mment:
mark:

ondition information:

Column

Separator column: AS16 4mm

Guard column: AS16 4mm

Eluent : NaOH 38mM

Flow rate: 1.2mL/min

Suppressor: ASRS-ULTRA 4mm

Detector: CD20

nalyst: Charles Wu and Wei Wang

ate: 03 / 12 / 2003

nstrument: IC-K DX-500 Dionex

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 03-3082 and your project : 04-4428.10 JPL. Enclosed please find:

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

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

Respectfully submitted,

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

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

APCL Analytical Report

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

Service ID #: 801-033082 Received: 05/06/03
Collected by: Leo W. Williamson Extracted: N/A
Collected on: 05/06/03 Tested: 05/06-16/03
Reported: 05/21/03
Sample Description: Water from MW-11 S. of Bl 277
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-10-5/6/03 03-03082-1	MW-11-1 03-03082-2	MW-11-2 03-03082-3
BICARBONATE	SM2320B	mg/L	2	< 2	208	171
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	< 2	< 2	2.6
PH	9040B	pH unit	0.01	6.95	7.85	8.08
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	< 10	323	215
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	< 4	< 4
Dilution Factor				1.25	2.5	2.5
CHLORIDE CL^-	300.0	mg/L	0.2	0.33	20.0	15.4
NITRATE AS N	300.0	mg/L	0.04	0.16	0.97	0.15
SULFATE SO_4^{--}	300.0	mg/L	0.5	0.82	43.9	33.6
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	< 5	< 5	< 5
CALCIUM	200.7	µg/L	200	< 200	56,200	39,200
IRON	200.7	µg/L	50	31.4J	92.6	216
MAGNESIUM	200.7	µg/L	100	56.5J	18,700	15,900
POTASSIUM	200.7	µg/L	400	59.3J	3,130	2,770
SODIUM	200.7	µg/L	2000	1,200J	24,700	21,200
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-10-5/6/03 03-03082-1	MW-11-1 03-03082-2	MW-11-2 03-03082-3
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	7J	6J	6J
METHYLENE CHLORIDE	524.2	µg/L	1.8 [a]	4.7	4.4	4.0
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
112TRICHLORO-122TRIFLUOROETHANE	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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Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 03-03082-4	MW-11-4 03-03082-5	MW-11-5 03-03082-6	TB-10-5/6/03 03-03082-7
BICARBONATE	SM2320B	mg/L	2	176	80.5	114	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	20.4	5.2	-
PH	9040B	pH unit	0.01	7.95	8.77	8.43	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	222	120	156	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
Dilution Factor				2.5	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	11.8	11.6	12.2	-
NITRATE AS N	300.0	mg/L	0.04	0.15	0.11	0.11	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	22.5	2.2	9.7	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
CALCIUM	200.7	µg/L	200	38,600	9,050	13,300	-
IRON	200.7	µg/L	50	2,310	61.5	250	-
MAGNESIUM	200.7	µg/L	100	11,900	7,550	1,610	-
POTASSIUM	200.7	µg/L	400	2,050	1,820	1,170	-
SODIUM	200.7	µg/L	2000	24,700	25,100	46,800	-
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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13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 03-03082-4	MW-11-4 03-03082-5	MW-11-5 03-03082-6	TB-10-5/6/03 03-03082-7
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	7J	7J	<10
METHYLENE CHLORIDE	524.2	µg/L	1.8 [a]	5.2	3.4	12	4.5
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	1.4
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	0.4J

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 04-4428.10 JPL

APCL Service ID: 03-3082

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

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

Case Narrative

Project: JPL/04-4428.10

For GEOFON, Inc.

APCL Service No: 03-3082

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-11-5	03-03082-6
MW-11-4	03-03082-5
MW-11-3	03-03082-4
MW-11-2	03-03082-3
MW-11-1	03-03082-2
TB-10-5/6/03	03-03082-7
EB-10-5/6/03	03-03082-1

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 (Metlas by ICP),
200.9 (Arsenic, As, by GFAA),

3. Holding Time

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

4. Preservation

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

5. Tele-log

None

6. Anomaly

(1) SW8260B:

Methylene Chloride in the amount of 6.7 ug/L was detected in the Method Blank of batch 03G2404. Methylene Chloride was aldo detected in the associated field samples, due to lab contamination.

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

Respectfully submitted,

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

GEOFON INCORPORATED

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

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

MW-11 0029

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-11 (S. of BI 277)	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Leo W. Williamson
PROJECT CONTACT: Leo W. Williamson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave		ADDRESS: 22632 Golden Springs Dr. #270
PROJECT ADDRESS: 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. (Tr. Alk.)	300.0 (Cl / SO4 / NO3)	314.0 (Perchlorate)	160.1 (TDS) + 9040B (pH)	200.8 (Cr + Pb)	Comments
1	MW-11-5	H_2O	5/6/03	755	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-11-4			840					X	X	X	X	X	X	X	X	
3	MW-11-3			950					X	X	X	X	X	X	X	X	MS/MSD
4	MW-11-2			1030					X	X	X	X	X	X	X	X	
5	MW-11-1	↓	↓	1105	↓	↓	↓	↓	X	X	X	X	X	X	X	X	
6																	
7	TB-10-5/6/03	H_2O	—	—	HCl	2	III	NORMAL	X								3082
8	EB-10-5/6/03	↓	5/6/03	855	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		5/6/03	1230	
		5/6/03	1315	

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: 3082 **Client Name/Project:** Geofon

1. Sample Arrival

Date/Time Received 5/6/03 1315 Date/Time Opened 5/6/03 1315 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☐ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 7
☑ 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 4.1 _____ _____ _____ _____ _____
(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: 6 May 2003 Time: 7:38a.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.

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Sample Login: Check List

03-03082 (0470_ 138) (2202777_ 138)

05/06/03

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:	*05/06/03 1315*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.1 °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-11-5	VOC	03-03082-6-α	W	V	C	40	3	G	050603	N	0	7	☐
	MW-11-5	Metal	03-03082-6-β	W	P	N	500	1	G	050603	N	0	7	☐
	MW-11-5	300	03-03082-6-γ	W	P		1000	1	G	050603	N	0	7	☐
2	MW-11-4	VOC	03-03082-5-α	W	V	C	40	3	G	050603	N	0	7	☐
	MW-11-4	Metal	03-03082-5-β	W	P	N	500	1	G	050603	N	0	7	☐
	MW-11-4	300	03-03082-5-γ	W	P		1000	1	G	050603	N	0	7	☐
3	MW-11-3	VOC	03-03082-4-α	W	V	C	40	6	G	050603	N	0	7	☐
	MW-11-3	Metal	03-03082-4-β	W	P	N	500	2	G	050603	N	0	7	☐
	MW-11-3	300	03-03082-4-γ	W	P		1000	2	G	050603	N	0	7	☐
4	MW-11-2	VOC	03-03082-3-α	W	V	C	40	3	G	050603	N	0	7	☐
	MW-11-2	Metal	03-03082-3-β	W	P	N	500	1	G	050603	N	0	7	☐
	MW-11-2	300	03-03082-3-γ	W	P		1000	1	G	050603	N	0	7	☐
5	MW-11-1	VOC	03-03082-2-α	W	V	C	40	3	G	050603	N	0	7	☐
	MW-11-1	Metal	03-03082-2-β	W	P	N	500	1	G	050603	N	0	7	☐
	MW-11-1	300	03-03082-2-γ	W	P		1000	1	G	050603	N	0	7	☐
6	TB-10-5/6/03	VOC	03-03082-7	W	V	C	40	2	G	050603	N	0	7	☐
7	EB-10-5/6/03	VOC	03-03082-1-α	W	V	C	40	3	G	050603	N	0	7	☐
	EB-10-5/6/03	Metal	03-03082-1-β	W	P	N	500	1	G	050603	N	0	7	☐
	EB-10-5/6/03	300	03-03082-1-γ	W	P		1000	1	G	050603	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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/16/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03G2404-MB-01	Received Date:	05/16/2003
Sample ID:	**03G2404-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	14:07
Data File Name:	G2404K01	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	6.7	
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	104
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	103
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	105
4	TOLUENE-D8	2037-26-5	73-129	108
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	87
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	99
3	FLUOROBENZENE	462-06-6	50-200	99
# of out-of-control				0

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

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-1	Received Date:	05/06/2003
Sample ID:	**EB-10-5/6/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	14:36
Data File Name:	3082-01	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	7	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	4.7	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	108
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	105
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	108
4	TOLUENE-D8	2037-26-5	73-129	110
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	87
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	94
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:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-2	Received Date:	05/06/2003
Sample ID:	**MW-11-1**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	15:05
Data File Name:	3082-02	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	6	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	4.4	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	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	100
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	102
4	TOLUENE-D8	2037-26-5	73-129	105
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	98
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	111
3	FLUOROBENZENE	462-06-6	50-200	106
# of out-of-control				0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-3	Received Date:	05/06/2003
Sample ID:	**MW-11-2**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	15:34
Data File Name:	3082-03	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	6	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	4.0	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	102
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	103
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	107
4	TOLUENE-D8	2037-26-5	73-129	109
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	98
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	107
3	FLUOROBENZENE	462-06-6	50-200	105
# of out-of-control				0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-4	Received Date:	05/06/2003
Sample ID:	**MW-11-3**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	16:03
Data File Name:	3082-04	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]	5.2	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	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	91
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	95
4	TOLUENE-D8	2037-26-5	73-129	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	105
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	113
3	FLUOROBENZENE	462-06-6	50-200	116
# 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:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-5	Received Date:	05/06/2003
Sample ID:	**MW-11-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	16:32
Data File Name:	3082-05	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	7	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	3.4	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	93
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	88
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	94
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	104
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	114
3	FLUOROBENZENE	462-06-6	50-200	112
# 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:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-6	Received Date:	05/06/2003
Sample ID:	**MW-11-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	17:00
Data File Name:	3082-06	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	7	J
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	12	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	105
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	100
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	104
4	TOLUENE-D8	2037-26-5	73-129	108
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	96
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	105
3	FLUOROBENZENE	462-06-6	50-200	105
# of out-of-control				0

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

[a] MDL reported.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method 524.2

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	05/06/2003
Project ID:	JPL	Service ID:	33082	Collected by:	
		Lab Sample ID:	03-3082-7	Received Date:	05/06/2003
Sample ID:	**TB-10-5/6/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: G
Anal. Method:	524.2	Prep. Date:	05/16/03	Anal. Date:	05/16/03
Batch No:	03G2404	Prep. No:	–	Anal. Time:	17:30
Data File Name:	3082-07	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	<10	U
42	METHYLENE CHLORIDE	75-09-2	µg/L	1.8 [a]	4.5	B
43	METHYL-T-BUTYL ETHER (MTBE)	1634-04-4	µg/L	1	<1	U
44	NAPHTHALENE	91-20-3	µg/L	0.5	1.4	
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	0.4	J

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	70-129	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	70-129	100
3	DIBROMOFLUOROMETHANE	1868-53-7	70-122	101
4	TOLUENE-D8	2037-26-5	73-129	106
# 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	104
3	FLUOROBENZENE	462-06-6	50-200	106
# of out-of-control				0

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

[a] MDL reported.

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

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:	033082
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2404		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	S3 %	#	S4 %	#	TOT OUT
1	03G2404-LCS-01	03G2404-LCS-01	92		109		105		98		0
2	MW-11-3MS	03-3082-4MS	90		107		102		94		0
3	MW-11-3MSD	03-3082-4MSD	94		108		103		94		0
4	03G2404-MB-01	03G2404-MB-01	104		103		105		108		0
5	EB-10-5/6/03	03-3082-1	108		105		108		110		0
6	MW-11-1	03-3082-2	97		100		102		105		0
7	MW-11-2	03-3082-3	102		103		107		109		0
8	MW-11-3	03-3082-4	97		91		95		99		0
9	MW-11-4	03-3082-5	93		88		94		98		0
10	MW-11-5	03-3082-6	105		100		104		108		0
11	TB-10-5/6/03	03-3082-7	97		100		101		106		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:	33082
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2404		
LCS Filename:	G2404L01	Date Analyzed:	051603	Time Analyzed:	12:11
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	19.0	95	65-120
CHLOROBENZENE	µg/L	20	0	18.8	94	65-134
1,1-DICHLOROETHENE	µg/L	20	0	19.4	97	65-127
TOLUENE	µg/L	20	0	19.2	96	65-134
TRICHLOROETHENE	µg/L	20	0	20.1	101	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:	33082
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03G2404		
MS Filename:	G2404M01	Date Analyzed:	051603	Time Analyzed:	12:40
MSD Filename:	G2404N01	Date Analyzed:	051603	Time Analyzed:	13:08
MS Sample No:	**MW-11-3**	Sample Lab ID:	03-3082-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	µg/L	20	0	19.2	96	65-121
CHLOROBENZENE	µg/L	20	0	19.5	98	65-134
1,1-DICHLOROETHENE	µg/L	20	0	19.0	95	65-127
TOLUENE	µg/L	20	0	18.3	92	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	18.7	94	2	28	65-121
CHLOROBENZENE	µg/L	20	18.9	95	3	35	65-134
1,1-DICHLOROETHENE	µg/L	20	18.6	93	2	31	65-127
TOLUENE	µg/L	20	17.9	90	2	35	65-134
TRICHLOROETHENE	µg/L	20	18.9	95	1	30	65-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

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:	33082
Project ID:	JPL	Project No:	04-4428.10	Analysis Date:	05/16/03
		Sample Matrix:	Water	Analysis Time:	14:07
Sample ID:	**03G2404-MB-01**	Batch No:	03G2404	Instrument ID:	GC/MS: G
Lab Sample ID:	03G2404-MB-01	Data File Name:	G2404K01	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	03G2404-LCS-01	03G2404-LCS-01	Lab Control Spike	G2404L01	05/16/03	12:11
2	MW-11-3MS	03-3082-4MS	Matrix Spike	G2404M01	05/16/03	12:40
3	MW-11-3MSD	03-3082-4MSD	Matrix Spike Duplicate	G2404N01	05/16/03	13:08
4	EB-10-5/6/03	03-3082-1	Field Sample	3082-01	05/16/03	14:36
5	MW-11-1	03-3082-2	Field Sample	3082-02	05/16/03	15:05
6	MW-11-2	03-3082-3	Field Sample	3082-03	05/16/03	15:34
7	MW-11-3	03-3082-4	Field Sample	3082-04	05/16/03	16:03
8	MW-11-4	03-3082-5	Field Sample	3082-05	05/16/03	16:32
9	MW-11-5	03-3082-6	Field Sample	3082-06	05/16/03	17:00
10	TB-10-5/6/03	03-3082-7	Field Sample	3082-07	05/16/03	17:30
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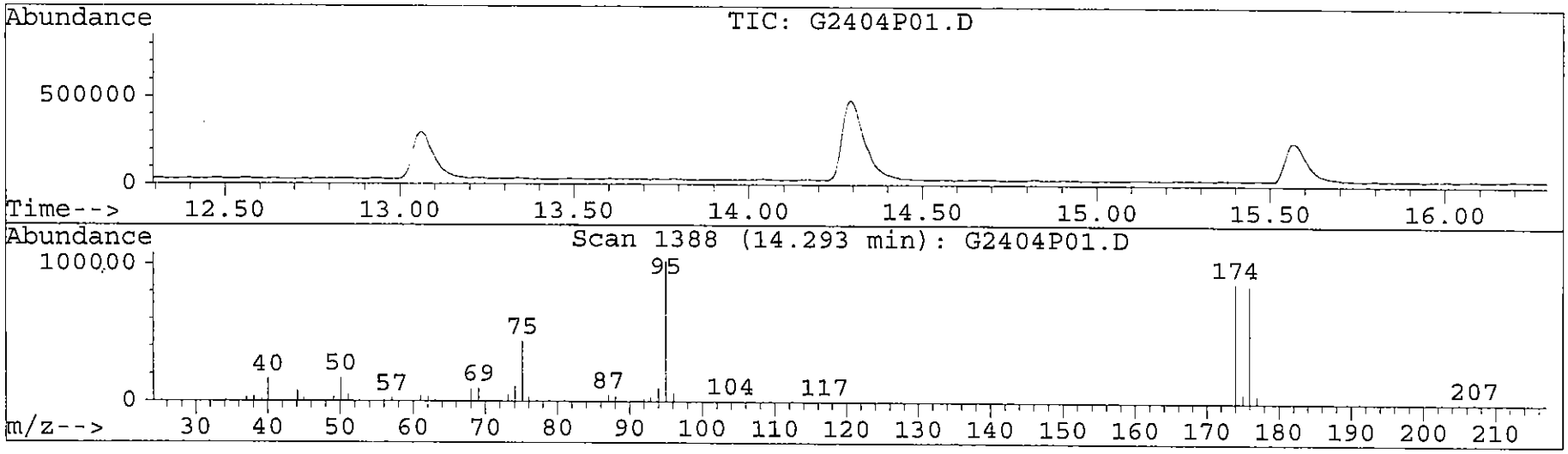
6326

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.: 03-3082

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					
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21					
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6328

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

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

6332

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	r²
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	~~0.9~~
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

6333

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
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

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
thylbenzene 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
ec-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

6339

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

6340

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

Evaluate Continuing Calibration Report

6341

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

6342

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

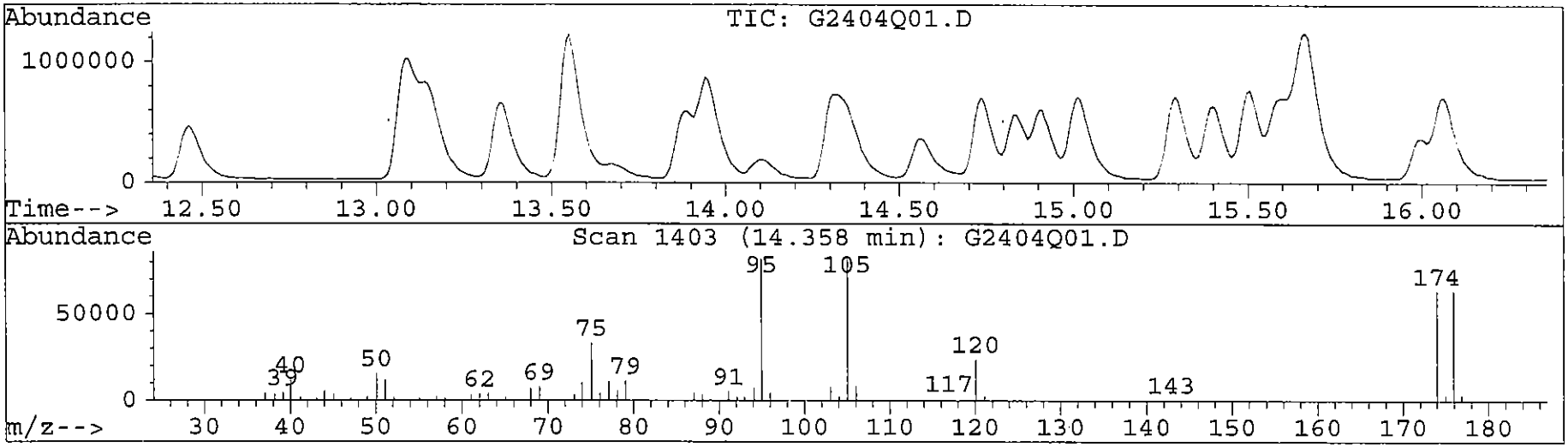
6343

BFB

Data File : C:\HPCHEM\1\DATA\03G2404\G2404Q01.D
Acq On : 16 May 03 11:08 am
Sample : f=1 ccv/icv/bfb
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: 1403

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.9	15428	PASS
75	95	30	60	40.7	33296	PASS
95	95	100	100	100.0	81840	PASS
96	95	5	9	5.9	4793	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	77.7	63584	PASS
175	174	5	9	6.6	4212	PASS
176	174	95	101	99.7	63408	PASS
177	176	5	9	6.0	3816	PASS

G2404Q01.D E524G004.M Fri May 16 13:08:03 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:	033082
Project ID:	JPL	BFB Inj. Date:	05/15/03	Batch No:	03G2404
		BFB Inj. Time:	11:08	Sequence No:	03G2404
Project No:	04-4428.10	Instrument ID:	G	GC Column:	DB-VEX
Data File Name:	G2404Q01	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	03G2404-CCV-01	03G2404-CCV-01	G2404Q01	05/16/03	11:08
2	03G2404-LCS-01	03G2404-LCS-01	G2404L01	05/16/03	12:11
3	MW-11-3MS	03-3082-4MS	G2404M01	05/16/03	12:40
4	MW-11-3MSD	03-3082-4MSD	G2404N01	05/16/03	13:08
5	03G2404-MB-01	03G2404-MB-01	G2404K01	05/16/03	14:07
6	EB-10-5/6/03	03-3082-1	3082-01	05/16/03	14:36
7	MW-11-1	03-3082-2	3082-02	05/16/03	15:05
8	MW-11-2	03-3082-3	3082-03	05/16/03	15:34
9	MW-11-3	03-3082-4	3082-04	05/16/03	16:03
10	MW-11-4	03-3082-5	3082-05	05/16/03	16:32
11	MW-11-5	03-3082-6	3082-06	05/16/03	17:00
12	TB-10-5/6/03	03-3082-7	3082-07	05/16/03	17:30
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

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
109 Iodomethane	20	13.22	ppb	33.89	351403
113 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
37 CCl4 117 119	20	21.01	ppb	5.06	490276

97 thiophene	20	20.54	ppb	2.72	566534
118 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
61 1112-tetra-Cl-Et 131 133	20	22.02	ppb	10.09	324606
64 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-TI 126 128	20	21.49	ppb	7.47	225624
75 4-Cl-TI 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
81 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
84 12-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

6348

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

6349

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

Evaluate Continuing Calibration Report

6350

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

Evaluate Continuing Calibration Report

6351

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

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:	033082
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G2404Q01	Instrument ID:	G

Batch No: 03G2404

#	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			05/16/03 11:08	649888	9.52	204425	13.12	177200	15.63
CCV Upper Limit				1299776	10.02	408850	13.62	354400	16.13
CCV Lower Limit				324944	9.02	102212	12.62	88600	15.13
1	03G2404-LCS-01	03G2404-LCS-01	05/16/03 12:11	674165	9.50	219138	13.11	187430	15.63
2	MW-11-3MS	03-3082-4MS	05/16/03 12:40	643959	9.50	197961	13.12	178966	15.63
3	MW-11-3MSD	03-3082-4MSD	05/16/03 13:08	643301	9.51	201395	13.11	171934	15.63
4	03G2404-MB-01	03G2404-MB-01	05/16/03 14:07	646001	9.51	178183	13.11	174849	15.62
5	EB-10-5/6/03	03-3082-1	05/16/03 14:36	637682	9.48	178533	13.09	166804	15.60
6	MW-11-1	03-3082-2	05/16/03 15:05	690431	9.48	200685	13.09	196686	15.60
7	MW-11-2	03-3082-3	05/16/03 15:34	681773	9.48	200276	13.09	189242	15.60
8	MW-11-3	03-3082-4	05/16/03 16:03	751616	9.47	214918	13.09	199354	15.60
9	MW-11-4	03-3082-5	05/16/03 16:32	729362	9.48	212758	13.08	201345	15.60
10	MW-11-5	03-3082-6	05/16/03 17:00	681697	9.48	196459	13.08	185436	15.60
11	TB-10-5/6/03	03-3082-7	05/16/03 17:30	689328	9.48	191713	13.08	185053	15.60
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

Applied P & Ch Laboratory
7360 Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Batch # 0305 2404 Batch # 0305 2404 Matrix: W Date: 5-15-03 Analyst: Eddie

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: _____

#	Type	Sample ID	Method	V/X=f1	Vf/Vi=f2	Vspg/Vinj=f3	F	A-#	Datafile	Note	pH
3817	SP	G2404P01	E5246	25/25 =1	1 =	1 =	1		G2404P01	5-15-03 10:18AM	GC15137
3818	calib	4-003	004	1 =	1 =	1 =			4-003	gc15137	
3819		4-002		1 =	1 =	1 =			4-002		
3820		4-010		1 =	1 =	1 =			4-010		
3821		4-020		1 =	1 =	1 =			4-020		
3822		4-040		1 =	1 =	1 =			4-040		
3823	↓	4-080		1 =	1 =	1 =			4-080	↓	
3824	CCV	G2404Q01		1 =	1 =	1 =			G2404Q01	CCV/ICV 5-16-03 11:08AM	
3825	LCS	L01		1 =	1 =	1 =			L01	GC15138	
3826	MS	M01		1 =	1 =	1 =			M01	≤ 3082-04	≤2
3827	MSD	N01		1 =	1 =	1 =			N01	≤ 3082-04	≤2
3828	MB	E01		1 =	1 =	1 =			E01		
3829	Sample	3082-01		1 =	1 =	1 =			3082-01		≤2
3830		02		1 =	1 =	1 =			02		
3831		03		1 =	1 =	1 =			03		
		04		1 =	1 =	1 =			04	MS	
		05		1 =	1 =	1 =			05		
3834		06		1 =	1 =	1 =			06		
3835		07		1 =	1 =	1 =			07		
3836		3102-01		1 =	1 =	1 =			3102-01		
3837		02		1 =	1 =	1 =			02		
3838		03		1 =	1 =	1 =			03		
3839		04		1 =	1 =	1 =			04		
3840		05		1 =	1 =	1 =			05		
3841		06		1 =	1 =	1 =			06		
3842		07		1 =	1 =	1 =			07		
3843		08		1 =	1 =	1 =			08		
3844		3115-01		1 =	1 =	1 =			3115-01		
3845		02		1 =	1 =	1 =			02		
3846		03		1 =	1 =	1 =			03		
3847	↓	04	↓	1 =	1 =	1 =	↓		04	push 12hrs	
3848				1 =	1 =	1 =					

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	3825	GC-	30 × 2.5 /X = 20 ppb		GC-	× /X = ppb
MS/MSD	3826/3827	GC-15138	× /X = ppb		GC-	× /X = ppb

Note/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