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

3566

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-0003.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 14:27 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:28 2003
Print Time : Mon Jan 13 10:41 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.04	9.04	0.000	96	70	765.834	10.00		0.00	
47	47 Cl-benzene-d5, I2	12.67	12.66	0.000	82	119	226.795	10.00		0.01	
62	62 1,4-DCB-d4 150 15	15.16	15.16	0.000	152	150	197.143	10.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.45	7.44	0.000	111	113	13.867	0.45	0.5	2.26%	
29	29 1,2-di-Cl-ethane-	8.03	8.03	0.000	65	102	10.557	0.64	0.6	3.22%	
55	55 toluene-d8(S2)	11.16	11.15	0.000	100	99	18.222	0.43	0.4	2.17%	
70	70 4-Br-1-F-Bz (S3)	13.91	13.90	0.000	174	95	9.453	0.47	0.5	2.37%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.60	2.60	0.000	85	87	9.202	0.39	0.4	63	#
4	4 Chloromethane	2.79	2.79	0.000	50	52	4.751	0.25	0.3	55	#?
9	9 F114 85 135	2.82	2.84	-0.003	85	135	8.035	0.33	0.3	69	?
5	5 vinyl chloride	2.97	2.97	0.000	62	64	4.990	0.28	0.3	54	#
6	6 bromomethane	3.39	3.38	0.000	94	96	5.861	0.34	0.3	97	
7	7 Chloroethane	3.52	3.54	-0.002	64	66	3.629	0.28	0.3	56	#
8	8 tri-Cl-F-methane	4.16	4.16	0.000	101	103	7.295	0.25	0.2	76	
111	111 isopropyl alcoho	4.31	4.28	0.003	45	43	1.236	3.99	4.0	60	#
100	100 ethyl ether x5	4.45	4.45	0.000	59	74	20.361	1.87	1.9	77	
102	102 Acrolein x10	4.19	4.17	0.002	56	55	3.234	3.71	3.7	70	
119	119 methyl acetate	5.08	5.07	0.000	43	74	4.062	0.81	0.8	56	#?
104	104 Carbon disulfide	5.20	5.19	0.000	76	78	21.121	0.33	0.3	78	#
103	103 Acrylonitrilex10	4.94	4.91	0.004	53	52	4.569	2.49	2.5	66	m
95	95 Acetone x10	4.24	4.33	-0.009	43	58	0.989	0.67	0.7	98	?
108	108 F-113	5.04	5.05	-0.001	151	101	5.327	0.26	0.3	67	#
13	13 11-dichloroethene	4.78	4.78	0.000	61	96	8.641	0.29	0.3	80	?
101	101 Acetonnitrilex10	4.23	4.22	0.001	41	40	2.063	5.25	5.2	1	#?
109	109 Iodomethane	4.79	4.82	-0.003	142	127	3.901	0.16	0.2	53	#?
113	113 Tert butyl alcoh	4.83	4.87	-0.004	59	57	2.556	3.73	3.7	1	#

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

1/13/03

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

3567

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-0003.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 14:27 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:28 2003
Print Time : Mon Jan 13 10:41 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	28.023	0.81	0.8	89	
	112 Allyl chloride	5.08	5.08	0.000	41	76	11.807	0.44	0.4	72	#?
200	200 Nitro methane x1	5.83	5.83	0.000	61	46	10.089	3.02	3.0	92	#?
10	10 t-Bu-Me-ether	6.02	6.01	0.001	73	57	19.344	0.51	0.5	98	
19	19 t-12-di-Cl-ethene	5.82	5.82	0.000	96	61	7.446	0.32	0.3	93	?
98	98 Vinyl acetate x5	6.41	6.41	0.000	43	86	35.861	1.71	1.7	93	#
21	21 11-dichloroethane	6.16	6.16	0.000	63	83	11.490	0.29	0.3	98	
91	91 2-butanone MEKx10	6.86	6.84	0.002	43	72	23.960	4.00	4.0	84	#
115	115 Di isoprop ether	6.65	6.85	-0.023	45	87	2.475	0.03	0.0	99	
22	22 c-12-di-Cl-ethene	6.98	6.97	0.000	96	61	6.875	0.30	0.3	96	
23	23 22-Dichloropropan	7.36	7.35	0.000	77	97	13.155	0.38	0.4	98	?
24	24 Br-Cl-methane	7.21	7.19	0.002	128	130	0.956	0.13	0.1	0	m
25	25 chloroform	7.28	7.27	0.000	83	85	14.881	0.46	0.5	96	
201	201 Ethyl acetate x2	7.34	7.31	0.003	43	61	5.585	0.53	0.5	43	#? 1/13/03
116	116 ETBE	7.41	7.40	0.000	59	87	20.917	0.34	0.3	99	
117	117 Iso-butyl alcoho	7.34	7.31	0.003	43	42	5.582	2.89	2.9	1	#?
26	26 tetrahydrofuranx5	7.73	7.71	0.002	72	42	1.945	2.48	2.5	22	#
34	34 111-tri-Cl-ethane	8.24	8.23	0.000	97	99	12.459	0.37	0.4	95	
30	30 12-dichloroethane	8.16	8.13	0.003	62	64	0.549	0.04	0.0	77	
35	35 11-Di-Cl-propene	8.48	8.48	0.000	75	110	9.488	0.32	0.3	88	
36	36 benzene	8.76	8.76	0.000	78	52	19.613	0.29	0.3	92	
37	37 CCl4	8.68	8.69	0.000	117	119	7.832	0.31	0.3	92	
97	97 thiophene	8.90	8.89	0.000	84	58	10.129	0.31	0.3	94	
118	118 TAME	8.93	9.01	-0.008	73	43	4.367	0.10	0.1	99	
39	39 12-di-Cl-propane	9.51	9.50	0.001	63	76	5.869	0.30	0.3	63	#
40	40 trichloroethene	9.56	9.55	0.001	130	132	5.805	0.28	0.3	94	
96	96 Me-methacrylate	9.85	9.85	0.000	69	100	1.472	0.20	0.2	33	#
42	42 Br-di-Cl-methane	9.60	9.62	-0.002	83	85	10.138	0.46	0.5	98	
41	41 dibromomethane	9.46	9.45	0.001	174	172	2.292	0.24	0.2	28	#
45	45 c-13-di-Cl-propen	10.37	10.37	0.000	75	110	7.832	0.33	0.3	60	#
92	92 2-ClEt-Vi-ether10	10.15	10.15	0.000	63	43	10.352	2.52	2.5	75	#
56	56 toluene	11.24	11.23	0.000	91	92	21.278	0.34	0.3	87	

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

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

3568

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-0003.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 14:27 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:28 2003
Print Time : Mon Jan 13 10:41 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.51	11.37	0.016	69	99	0.955	0.08	0.1	83	?
93	93 2-Hexanone x5	11.49	11.49	0.000	43	58	10.744	3.07	3.1	92	?
48	48 112-tri-Cl-Et	11.03	11.03	0.000	97	83	5.203	0.62	0.6	70	
58	58 1,2-di-br-ethane	11.84	11.83	0.001	107	109	1.144	0.13	0.1	16	#
51	51 di-Br-Cl-methane	11.59	11.57	0.002	129	127	2.693	0.22	0.2	97	
46	46 t-13-di-cl-propen	10.89	10.86	0.003	75	110	4.584	0.30	0.3	66	#
105	105 1-Chlorohexane	12.65	12.64	0.001	55	93	12.961	0.77	0.8	41	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.47	10.52	-0.004	43	58	1.407	0.28	0.3	94	
49	49 1,3-di-cl-propane	11.31	11.29	0.002	76	78	4.247	0.29	0.3	42	#
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	5.221	0.26	0.3	99	
60	60 chlorobenzene	12.70	12.70	0.000	112	77	9.971	0.36	0.4	48	#
61	61 1112-tetra-Cl-Et	12.63	12.63	0.000	131	133	3.219	0.24	0.2	98	?
64	64 ethylbenzene	12.91	12.91	0.000	91	106	21.430	0.25	0.2	84	
65	65 m/p-Xylenes x2	13.11	13.11	0.000	91	106	31.419	0.65	0.6	89	
99	99 1-4-di-Cl-butane	13.48	13.46	0.002	55	41	5.503	0.46	0.5	59	#?
52	52 bromoform	13.26	13.23	0.003	173	175	0.806	0.13	0.1	30	m
66	66 styrene	13.43	13.43	0.000	104	78	10.850	0.32	0.3	85	
67	67 o-xylene	13.51	13.50	0.000	91	106	16.715	0.35	0.3	76	?
68	68 1122-Tetra-Cl-Et	13.53	13.50	0.002	83	85	2.658	0.44	0.4	87	?
110	110 t-1,4-dichloro-2	13.69	13.68	0.000	89	53	1.095	1.21	1.2	1	#
106	106 Cl-benzyl	15.13	15.13	0.000	91	126	6.053	0.62	0.6	61	#?
<<< I3 : ISTD ID = 62 >>>											
71	71 isopropylbenzene	13.87	13.85	0.001	105	120	16.442	0.25	0.3	87	
72	72 bromobenzene	14.11	14.10	0.000	156	158	3.119	0.22	0.2	98	
73	73 n-propylbenzene	14.29	14.28	0.000	120	78	4.297	0.23	0.2	56	#
74	74 2-Cl-Tl 126 1	14.40	14.38	0.001	126	128	3.821	0.33	0.3	39	m
75	75 4-Cl-Tl 126 1	14.46	14.45	0.000	126	128	4.042	0.31	0.3	43	m
76	76 135-tri-Me-Bz	14.57	14.56	0.000	105	120	14.680	0.28	0.3	84	
79	79 tert-butylbenzene	14.85	14.84	0.000	119	91	13.115	0.24	0.2	81	
78	78 124-tri-Me-Bz	14.94	14.94	0.000	105	120	11.184	0.25	0.3	97	
80	80 13-di-Cl-Bz 146	15.12	15.12	0.000	146	148	5.522	0.20	0.2	80	?

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

2/13/03

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

3569

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-0003.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 14:27 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:28 2003
Print Time : Mon Jan 13 10:41 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
82	82	14-di-Cl-Bz 146	15.20	15.18	0.001	146	148	9.029	0.29	0.3	1	m?
81	81	sec-butylbenzene	15.06	15.05	0.000	105	134	19.695	0.28	0.3	70	#
77	77	4-iso-Pr-toluene	15.23	15.22	0.000	119	134	14.306	0.25	0.3	91	?
84	84	12-di-Cl-benzene	15.54	15.53	0.000	146	148	5.444	0.25	0.2	91	
85	85	n-butylbenzene	15.61	15.61	0.000	91	134	17.944	0.36	0.4	73	#
87	87	124-tri-Cl-Bz	17.25	17.26	0.000	180	182	3.158	0.20	0.2	85	#
88	88	naphthalene	17.52	17.50	0.002	128	129	4.753	0.59	0.6	81	~~#?~~
90	90	123-tri-Cl-Bz	17.67	17.69	-0.001	180	182	2.940	0.28	0.3	1	m
89	89	hx-Cl-butadiene	17.51	17.53	-0.001	225	260	2.553	0.22	0.2	44	m?

4/13/03

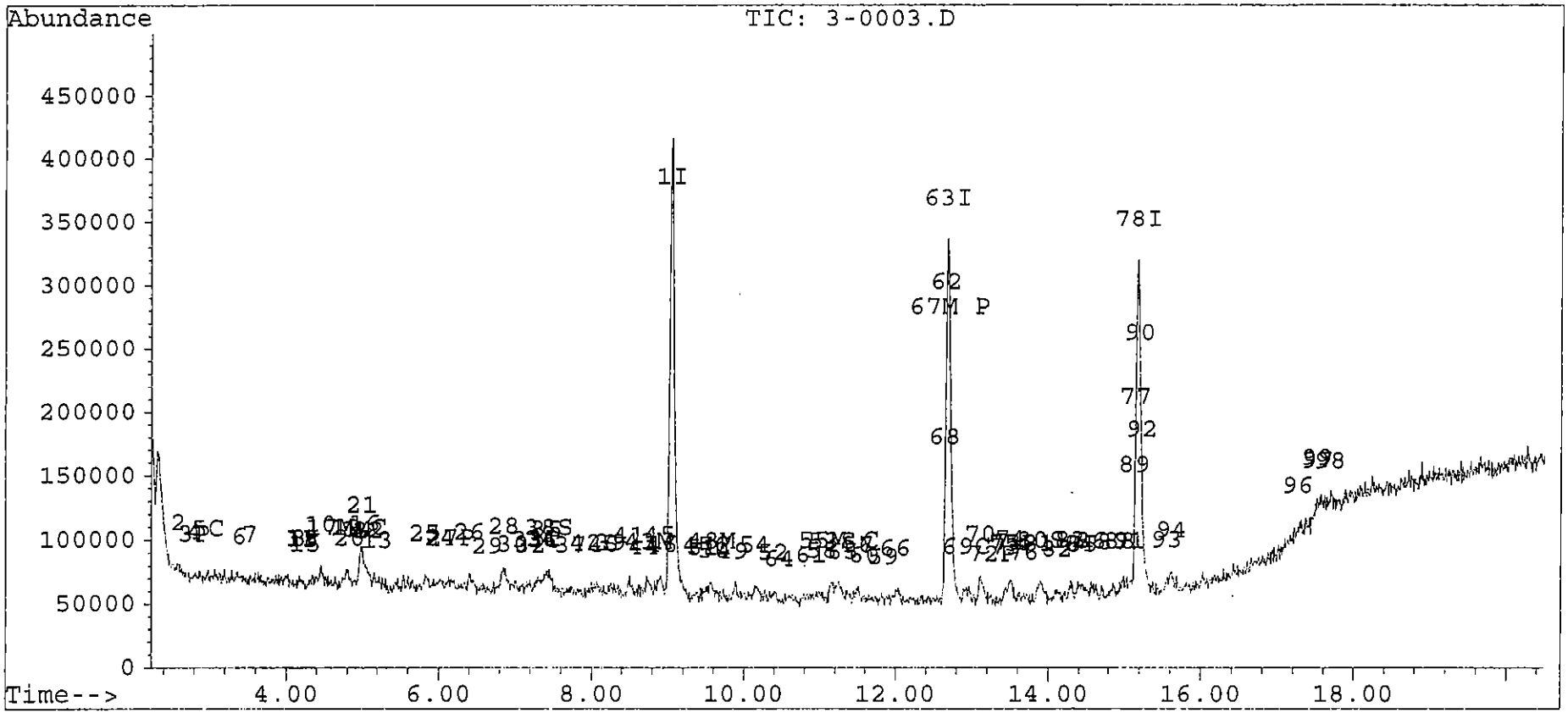
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

3570

Data File : C:\HPCHEM\1\DATA\03G1044\3-0003.D Vial: 16
Acq On : 10 Jan 03 2:27 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00
Quant Time: Jan 13 9:28 2003 Quant Results File: quant.res

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



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

3571

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-002.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:26 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:30 2003
Print Time : Mon Jan 13 10:42 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.04	9.04	0.000	96	70	768.596	10.00		0.00	
47	47	Cl-benzene-d5, I2	12.67	12.66	0.000	82	119	229.493	10.00		0.00	
62	62	1,4-DCB-d4 150 15	15.16	15.16	0.000	152	150	197.148	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.43	7.44	0.000	111	113	59.189	1.93	1.9	9.63%	
29	29	1,2-di-Cl-ethane-	8.04	8.03	0.000	65	102	26.643	1.62	1.6	8.09%	
55	55	toluene-d8(S2)	11.15	11.15	0.000	100	99	78.299	1.86	1.9	9.29%	
70	70	4-Br-1-F-Bz (S3)	13.90	13.90	0.000	174	95	36.886	1.85	1.9	9.25%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	2.60	2.60	0.000	85	87	44.272	1.87	1.9	95	
4	4	Chloromethane	2.79	2.79	0.000	50	52	30.836	1.65	1.6	91	
9	9	F114 85 135	2.83	2.84	-0.002	85	135	46.094	1.87	1.9	82	
5	5	vinyl chloride	2.97	2.97	0.000	62	64	35.625	2.01	2.0	100	
6	6	bromomethane	3.39	3.38	0.000	94	96	43.488	2.52	2.5	82	
7	7	Chloroethane	3.53	3.54	-0.001	64	66	27.223	2.07	2.1	99	
8	8	tri-Cl-F-methane	4.16	4.16	0.000	101	103	56.379	1.91	1.9	87	m
111	111	isopropyl alcoho	4.26	4.28	-0.002	45	43	8.181	26.30	26.3	1	# 1/13/03
100	100	ethyl ether x5	4.45	4.45	0.000	59	74	108.089	9.87	9.9	99	
102	102	Acrolein x10	4.17	4.17	0.000	56	55	15.074	17.25	17.2	78	?
119	119	methyl acetate	5.07	5.07	0.000	43	74	15.788	3.14	3.1	100	?
104	104	Carbon disulfide	5.20	5.19	0.000	76	78	133.095	2.06	2.1	100	
103	103	Acrylonitrilex10	4.91	4.91	0.000	53	52	37.044	20.10	20.1	100	
95	95	Acetone x10	4.31	4.33	-0.002	43	58	41.993	28.37	28.4	90	
108	108	F-113	5.04	5.05	-0.001	151	101	41.068	2.00	2.0	97	
13	13	11-dichloroethene	4.78	4.78	0.000	61	96	61.263	2.03	2.0	95	
101	101	Acetonnitrilex10	4.21	4.22	0.000	41	40	1.527	3.87	3.9	1	#
109	109	Iodomethane	4.81	4.82	-0.001	142	127	55.824	2.32	2.3	97	
113	113	Tert butyl alcoh	4.86	4.87	-0.001	59	57	18.436	26.84	26.8	87	#

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

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

3572

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-002.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:26 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:30 2003
Print Time : Mon Jan 13 10:42 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	111.315	3.20	3.2	97	
	112 Allyl chloride	5.08	5.08	0.000	41	76	73.643	2.71	2.7	92	?
200	200 Nitro methane x1	5.82	5.83	0.000	61	46	68.361	20.39	20.4	97	#?
10	10 t-Bu-Me-ether	6.01	6.01	0.000	73	57	73.627	1.95	1.9	94	
19	19 t-12-di-Cl-ethene	5.82	5.82	0.000	96	61	45.222	1.96	2.0	94	?
98	98 Vinyl acetate x5	6.40	6.41	0.000	43	86	233.914	11.10	11.1	100	
21	21 11-dichloroethane	6.16	6.16	0.000	63	83	83.925	2.08	2.1	97	
91	91 2-butanone MEKx10	6.84	6.84	0.000	43	72	146.366	24.33	24.3	95	?
115	115 Di isoprop ether	6.85	6.85	0.000	45	87	206.054	2.36	2.4	97	?
22	22 c-12-di-Cl-ethene	6.97	6.97	0.000	96	61	46.067	2.04	2.0	95	
23	23 22-Dichloropropan	7.35	7.35	0.000	77	97	71.811	2.06	2.1	93	
24	24 Br-Cl-methane	7.19	7.19	0.000	128	130	15.248	2.10	2.1	93	
25	25 chloroform	7.27	7.27	0.000	83	85	81.604	2.50	2.5	97	
201	201 Ethyl acetate x2	7.32	7.31	0.000	43	61	44.403	4.20	4.2	88	?
116	116 ETBE	7.41	7.40	0.000	59	87	124.488	2.01	2.0	100	
117	117 Iso-butyl alcoho	7.32	7.31	0.000	43	42	44.403	22.93	22.9	1	#?
26	26 tetrahydrofuranx5	7.71	7.71	0.000	72	42	8.407	10.67	10.7	92	
34	34 111-tri-Cl-ethane	8.23	8.23	0.000	97	99	65.859	1.96	2.0	100	
30	30 12-dichloroethane	8.12	8.13	-0.002	62	64	31.555	2.35	2.3	93	
35	35 11-Di-Cl-propene	8.49	8.48	0.000	75	110	58.117	1.98	2.0	99	
36	36 benzene	8.75	8.76	-0.001	78	52	138.554	2.07	2.1	100	
37	37 CCl4	8.70	8.69	0.002	117	119	47.773	1.86	1.9	96	
97	97 thiophene	8.90	8.89	0.000	84	58	70.133	2.11	2.1	98	
118	118 TAME	9.00	9.01	0.000	73	43	97.622	2.29	2.3	92	
39	39 12-di-Cl-propane	9.50	9.50	0.000	63	76	38.931	1.99	2.0	100	
40	40 trichloroethene	9.56	9.55	0.000	130	132	41.064	1.98	2.0	94	
96	96 Me-methacrylate	9.86	9.85	0.001	69	100	19.691	2.68	2.7	78	
42	42 Br-di-Cl-methane	9.62	9.62	0.000	83	85	55.994	2.55	2.6	94	
41	41 dibromomethane	9.46	9.45	0.000	174	172	17.911	1.90	1.9	95	
45	45 c-13-di-Cl-propen	10.38	10.37	0.000	75	110	48.533	2.02	2.0	93	
92	92 2-ClEt-Vi-ether10	10.15	10.15	0.000	63	43	80.060	19.39	19.4	93	
56	56 toluene	11.22	11.23	0.000	91	92	126.101	2.01	2.0	95	

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

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

3573

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-002.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:26 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:30 2003
Print Time : Mon Jan 13 10:42 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.36	11.37	0.000	69	99	35.707	3.06	3.1	93	
93	93 2-Hexanone x5	11.49	11.49	0.000	43	58	47.646	13.58	13.6	91	
48	48 112-tri-Cl-Et	11.04	11.03	0.001	97	83	21.908	2.62	2.6	95	
58	58 1,2-di-br-ethane	11.84	11.83	0.002	107	109	19.207	2.19	2.2	88	
51	51 di-Br-Cl-methane	11.58	11.57	0.001	129	127	27.173	2.20	2.2	96	
46	46 t-13-di-cl-propen	10.87	10.86	0.000	75	110	30.276	1.95	2.0	99	
105	105 1-Chlorohexane	12.65	12.64	0.002	55	93	43.864	2.59	2.6	88	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.53	10.52	0.000	43	58	13.676	2.73	2.7	96	
49	49 1,3-di-cl-propane	11.30	11.29	0.000	76	78	30.516	2.04	2.0	98	
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	40.927	2.03	2.0	96	
60	60 chlorobenzene	12.70	12.70	0.000	112	77	71.440	2.54	2.5	90	
61	61 1112-tetra-Cl-Et	12.63	12.63	0.000	131	133	28.400	2.11	2.1	100	?
64	64 ethylbenzene	12.91	12.91	0.000	91	106	140.640	1.61	1.6	97	
65	65 m/p-Xylenes x2	13.11	13.11	0.000	91	106	213.036	4.35	4.4	100	
99	99 1-4-di-Cl-butane	13.45	13.46	0.000	55	41	32.572	2.72	2.7	94	?
52	52 bromoform	13.20	13.23	-0.002	173	175	13.982	2.28	2.3	97	
66	66 styrene	13.43	13.43	0.000	104	78	75.317	2.17	2.2	97	?
67	67 o-xylene	13.49	13.50	0.000	91	106	110.603	2.29	2.3	94	?
68	68 1122-Tetra-Cl-Et	13.49	13.50	0.000	83	85	21.540	3.55	3.6	99	?
110	110 t-1,4-dichloro-2	13.66	13.68	-0.001	89	53	7.032	7.71	7.7	31	#?
106	106 Cl-benzyl	15.11	15.13	-0.001	91	126	24.517	2.48	2.5	96	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.64	13.64	0.000	110	97	4.401	1.83	1.8	93	?
71	71 isopropylbenzene	13.86	13.85	0.000	105	120	135.584	2.09	2.1	99	
72	72 bromobenzene	14.10	14.10	0.000	156	158	27.613	1.94	1.9	96	
73	73 n-propylbenzene	14.28	14.28	0.000	120	78	36.443	1.99	2.0	94	
74	74 2-Cl-Tl 126 1	14.38	14.38	0.000	126	128	23.738	2.05	2.0	88	
75	75 4-Cl-Tl 126 1	14.45	14.45	0.000	126	128	32.882	2.54	2.5	95	m
76	76 135-tri-Me-Bz	14.56	14.56	0.000	105	120	107.323	2.05	2.1	100	
79	79 tert-butylbenzene	14.84	14.84	0.000	119	91	113.211	2.10	2.1	96	
78	78 124-tri-Me-Bz	14.95	14.94	0.000	105	120	96.787	2.18	2.2	98	

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

1/13/03

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

3574

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-002.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:26 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:30 2003
Print Time : Mon Jan 13 10:42 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.12	15.12	0.000	146	148	45.648	1.67	1.7	96	?
82	82	14-di-Cl-Bz 146	15.19	15.18	0.000	146	148	69.544	2.26	2.3	95	?
81	81	sec-butylbenzene	15.04	15.05	0.000	105	134	163.551	2.35	2.4	95	
77	77	4-iso-Pr-toluene	15.22	15.22	0.000	119	134	119.820	2.11	2.1	99	?
84	84	12-di-Cl-benzene	15.53	15.53	0.000	146	148	45.355	2.07	2.1	100	
85	85	n-butylbenzene	15.61	15.61	0.000	91	134	117.913	2.33	2.3	95	
86	86	12-diBr-3-Cl-Pra	15.98	16.00	-0.001	157	155	2.498	1.56	1.6	29	#
87	87	124-tri-Cl-Bz	17.26	17.26	0.000	180	182	29.532	1.89	1.9	93	
88	88	naphthalene	17.50	17.50	0.000	128	129	21.798	2.70	2.7	82	#
90	90	123-tri-Cl-Bz	17.70	17.69	0.000	180	182	22.060	2.11	2.1	99	
89	89	hx-Cl-butadiene	17.54	17.53	0.000	225	260	24.644	2.11	2.1	84	#

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

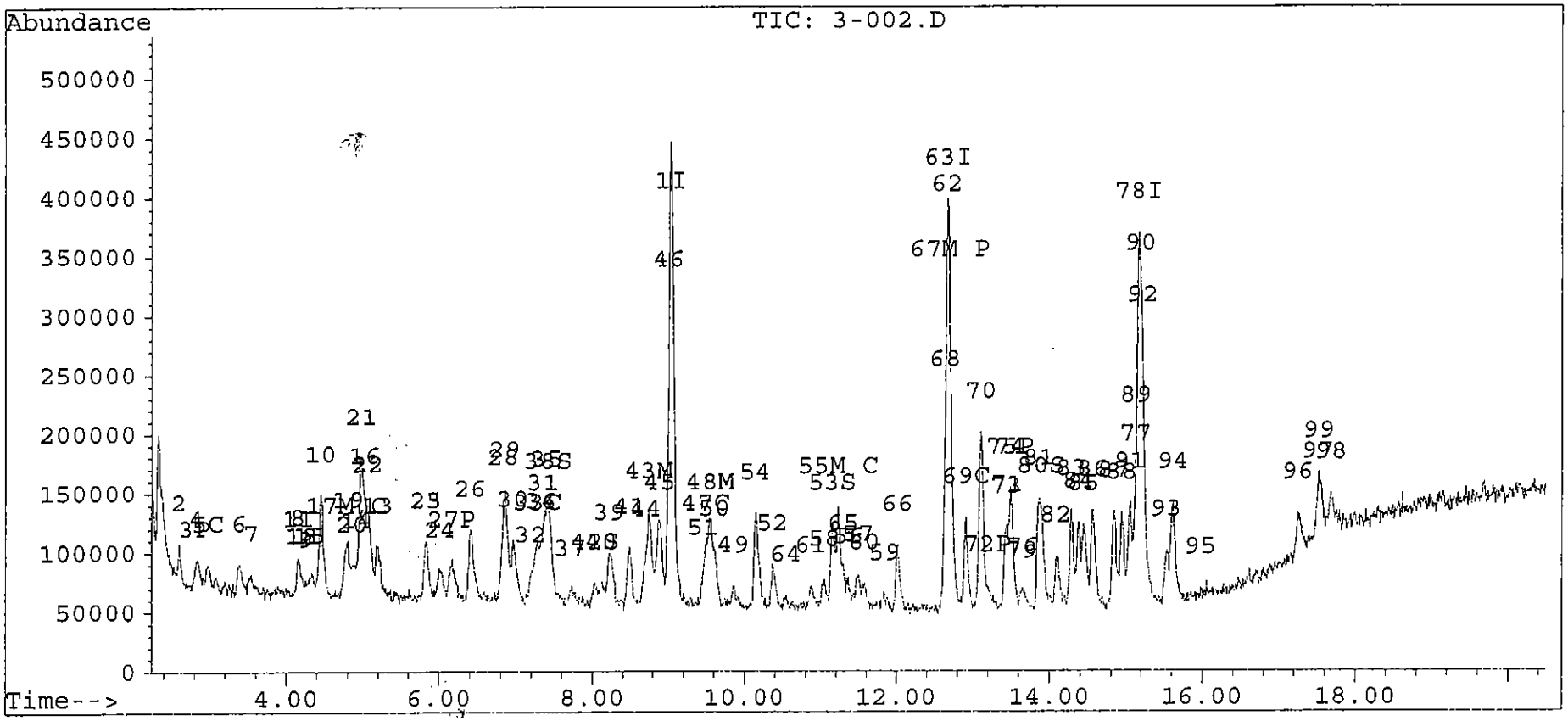
Quantitation Report

3575

Data File : C:\HPCHEM\1\DATA\03G1044\3-002.D
Acq On : 10 Jan 03 3:26 pm
Sample : f=1
Misc :
Quant Time: Jan 13 9:30 2003

Vial: 2
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

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



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

3576

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-010.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:55 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:33 2003
Print Time : Mon Jan 13 10:43 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.03	9.04	0.000	96	70	755.237	10.00		0.00	
47	47 Cl-benzene-d5, I2	12.67	12.66	0.000	82	119	225.971	10.00		0.01	
62	62 1,4-DCB-d4 150 15	15.16	15.16	0.000	152	150	188.831	10.00		0.00	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.44	7.44	0.000	111	113	265.788	8.80	8.8	43.99%	
29	29 1,2-di-Cl-ethane-	8.02	8.03	0.000	65	102	124.715	7.71	7.7	38.53%	
55	55 toluene-d8(S2)	11.15	11.15	0.000	100	99	377.922	9.13	9.1	45.65%	
70	70 4-Br-1-F-Bz (S3)	13.90	13.90	0.000	174	95	165.570	8.67	8.7	43.37%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.61	2.60	0.000	85	87	235.359	10.11	10.1	99	
4	4 Chloromethane	2.79	2.79	0.000	50	52	163.038	8.87	8.9	98	
9	9 F114 85 135	2.83	2.84	-0.001	85	135	252.154	10.44	10.4	98	
5	5 vinyl chloride	2.98	2.97	0.000	62	64	183.259	10.52	10.5	99	
6	6 bromomethane	3.38	3.38	0.000	94	96	181.174	10.70	10.7	98	m
7	7 Chloroethane	3.53	3.54	-0.001	64	66	133.510	10.35	10.3	99	
8	8 tri-Cl-F-methane	4.17	4.16	0.000	101	103	326.202	11.26	11.3	99	?
111	111 isopropyl alcoho	4.28	4.28	0.000	45	43	34.708	113.56	113.6	1	#
100	100 ethyl ether x5	4.45	4.45	0.000	59	74	509.174	47.30	47.3	99	
102	102 Acrolein x10	4.17	4.17	0.000	56	55	75.489	87.90	87.9	95	?
119	119 methyl acetate	5.06	5.07	-0.001	43	74	82.815	16.77	16.8	90	?
104	104 Carbon disulfide	5.19	5.19	0.000	76	78	626.926	9.87	9.9	100	
103	103 Acrylonitrilex10	4.90	4.91	0.000	53	52	178.667	98.65	98.7	100	
95	95 Acetone x10	4.33	4.33	0.000	43	58	128.289	88.19	88.2	92	
108	108 F-113	5.04	5.05	-0.001	151	101	259.145	12.84	12.8	99	?
13	13 11-dichloroethene	4.78	4.78	0.000	61	96	309.126	10.41	10.4	99	
101	101 Acetonnitrilex10	4.23	4.22	0.002	41	40	53.569	138.16	138.2	59	#
109	109 Iodomethane	4.82	4.82	0.000	142	127	290.992	12.33	12.3	99	
113	113 Tert butyl alcoh	4.87	4.87	0.000	59	57	60.720	89.96	90.0	91	#

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

4/13/03

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

3577

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-010.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:55 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:33 2003
Print Time : Mon Jan 13 10:43 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	375.753	10.99	11.0	100	
	112 Allyl chloride	5.09	5.08	0.000	41	76	318.868	11.96	12.0	95	?
200	200 Nitro methane x1	5.82	5.83	-0.001	61	46	334.791	101.61	101.6	95	#?
10	10 t-Bu-Me-ether	6.01	6.01	0.000	73	57	300.489	8.08	8.1	98	
19	19 t-12-di-Cl-ethene	5.83	5.82	0.000	96	61	225.516	9.93	9.9	97	?
98	98 Vinyl acetate x5	6.41	6.41	0.000	43	86	1080.092	52.17	52.2	99	
21	21 11-dichloroethane	6.17	6.16	0.000	63	83	403.704	10.17	10.2	99	
91	91 2-butanone MEKx10	6.83	6.84	-0.001	43	72	680.153	115.05	115.1	99	?
115	115 Di isoprop ether	6.85	6.85	0.000	45	87	993.426	11.60	11.6	99	?
22	22 c-12-di-Cl-ethene	6.98	6.97	0.000	96	61	219.592	9.88	9.9	99	
23	23 22-Dichloropropan	7.36	7.35	0.000	77	97	330.092	9.65	9.6	99	
24	24 Br-Cl-methane	7.20	7.19	0.000	128	130	78.733	11.05	11.0	100	
25	25 chloroform	7.27	7.27	0.000	83	85	372.529	11.61	11.6	100	
201	201 Ethyl acetate x2	7.32	7.31	0.000	43	61	206.670	19.88	19.9	91	?
116	116 ETBE	7.40	7.40	0.000	59	87	594.002	9.75	9.7	98	
117	117 Iso-butyl alcoho	7.32	7.31	0.000	43	42	221.032	116.16	116.2	62	#?
26	26 tetrahydrofuranx5	7.72	7.71	0.000	72	42	36.840	47.60	47.6	80	
34	34 111-tri-Cl-ethane	8.23	8.23	0.000	97	99	315.664	9.56	9.6	98	
30	30 12-dichloroethane	8.14	8.13	0.000	62	64	154.021	11.67	11.7	98	
35	35 11-Di-Cl-propene	8.49	8.48	0.000	75	110	286.388	9.92	9.9	100	
36	36 benzene	8.75	8.76	-0.001	78	52	661.631	10.08	10.1	98	
37	37 CCl4	8.69	8.69	0.000	117	119	267.339	10.57	10.6	100	
97	97 thiophene	8.90	8.89	0.000	84	58	323.713	9.89	9.9	98	
118	118 TAME	9.00	9.01	0.000	73	43	406.861	9.72	9.7	98	
39	39 12-di-Cl-propane	9.50	9.50	0.000	63	76	190.695	9.93	9.9	99	
40	40 trichloroethene	9.55	9.55	0.000	130	132	207.771	10.22	10.2	98	
96	96 Me-methacrylate	9.85	9.85	0.000	69	100	65.318	9.06	9.1	99	
42	42 Br-di-Cl-methane	9.61	9.62	0.000	83	85	256.691	11.91	11.9	100	
41	41 dibromomethane	9.45	9.45	0.000	174	172	96.884	10.46	10.5	100	
45	45 c-13-di-Cl-propen	10.38	10.37	0.000	75	110	229.072	9.69	9.7	99	
92	92 2-ClEt-Vi-ether10	10.15	10.15	0.000	63	43	410.701	101.25	101.3	99	
56	56 toluene	11.23	11.23	0.000	91	92	601.438	9.74	9.7	99	

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

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

3578

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-010.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:55 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:33 2003
Print Time : Mon Jan 13 10:43 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.36	11.37	0.000	69	99	132.945	11.60	11.6	99	
93	93 2-Hexanone x5	11.49	11.49	0.000	43	58	218.029	63.26	63.3	93	
48	48 112-tri-Cl-Et	11.04	11.03	0.001	97	83	90.597	11.03	11.0	98	
58	58 1,2-di-br-ethane	11.84	11.83	0.001	107	109	94.012	10.89	10.9	98	
51	51 di-Br-Cl-methane	11.57	11.57	0.000	129	127	125.300	10.31	10.3	99	
46	46 t-13-di-cl-propen	10.88	10.86	0.001	75	110	155.530	10.21	10.2	96	
105	105 1-Chlorohexane	12.64	12.64	0.000	55	93	205.359	12.34	12.3	99	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.53	10.52	0.000	43	58	74.160	15.03	15.0	95	
49	49 1,3-di-cl-propane	11.30	11.29	0.001	76	78	157.929	10.71	10.7	96	
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	216.892	10.91	10.9	98	
60	60 chlorobenzene	12.70	12.70	0.000	112	77	352.480	12.72	12.7	100	
61	61 1112-tetra-Cl-Et	12.63	12.63	0.000	131	133	138.607	10.48	10.5	98	?
64	64 ethylbenzene	12.90	12.91	0.000	91	106	637.777	7.42	7.4	99	
65	65 m/p-Xylenes x2	13.10	13.11	0.000	91	106	1000.145	20.75	20.8	98	
99	99 1-4-di-Cl-butane	13.46	13.46	0.000	55	41	146.606	12.42	12.4	99	?
52	52 bromoform	13.22	13.23	0.000	173	175	71.698	11.86	11.9	98	
66	66 styrene	13.43	13.43	0.000	104	78	352.645	10.32	10.3	99	?
67	67 o-xylene	13.50	13.50	0.000	91	106	485.194	10.18	10.2	99	?
68	68 1122-Tetra-Cl-Et	13.51	13.50	0.000	83	85	91.096	15.26	15.3	95	?
110	110 t-1,4-dichloro-2	13.68	13.68	0.000	89	53	17.679	19.68	19.7	81	#
106	106 Cl-benzyl	15.13	15.13	0.000	91	126	121.704	12.48	12.5	99	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.65	13.64	0.000	110	97	21.971	9.56	9.6	95	
71	71 isopropylbenzene	13.85	13.85	0.000	105	120	641.793	10.34	10.3	100	
72	72 bromobenzene	14.10	14.10	0.000	156	158	143.515	10.54	10.5	95	
73	73 n-propylbenzene	14.28	14.28	0.000	120	78	173.970	9.90	9.9	99	
74	74 2-Cl-Tl 126 1	14.38	14.38	0.000	126	128	106.793	9.61	9.6	93	
75	75 4-Cl-Tl 126 1	14.44	14.45	0.000	126	128	163.598	13.21	13.2	100	m
76	76 135-tri-Me-Bz	14.56	14.56	0.000	105	120	509.842	10.18	10.2	98	
79	79 tert-butylbenzene	14.83	14.84	0.000	119	91	533.176	10.35	10.3	99	
78	78 124-tri-Me-Bz	14.94	14.94	0.000	105	120	424.953	9.98	10.0	96	

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

4/13/03

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

3579

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-010.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 15:55 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:33 2003
Print Time : Mon Jan 13 10:43 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.12	15.12	0.000	146	148	238.597	9.11	9.1	94	?
82	82	14-di-Cl-Bz 146	15.18	15.18	0.000	146	148	305.231	10.34	10.3	92	
81	81	sec-butylbenzene	15.05	15.05	0.000	105	134	797.663	11.98	12.0	97	
77	77	4-iso-Pr-toluene	15.22	15.22	0.000	119	134	572.630	10.55	10.6	100	
84	84	12-di-Cl-benzene	15.53	15.53	0.000	146	148	219.614	10.49	10.5	99	
85	85	n-butylbenzene	15.61	15.61	0.000	91	134	579.573	11.97	12.0	100	
86	86	12-diBr-3-Cl-Pra	15.99	16.00	0.000	157	155	14.611	9.52	9.5	93	
87	87	124-tri-Cl-Bz	17.26	17.26	0.000	180	182	158.333	10.59	10.6	97	
88	88	naphthalene	17.50	17.50	0.000	128	129	116.373	15.07	15.1	99	
90	90	123-tri-Cl-Bz	17.70	17.69	0.000	180	182	121.207	12.12	12.1	97	
89	89	hx-Cl-butadiene	17.54	17.53	0.000	225	260	130.257	11.63	11.6	98	

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

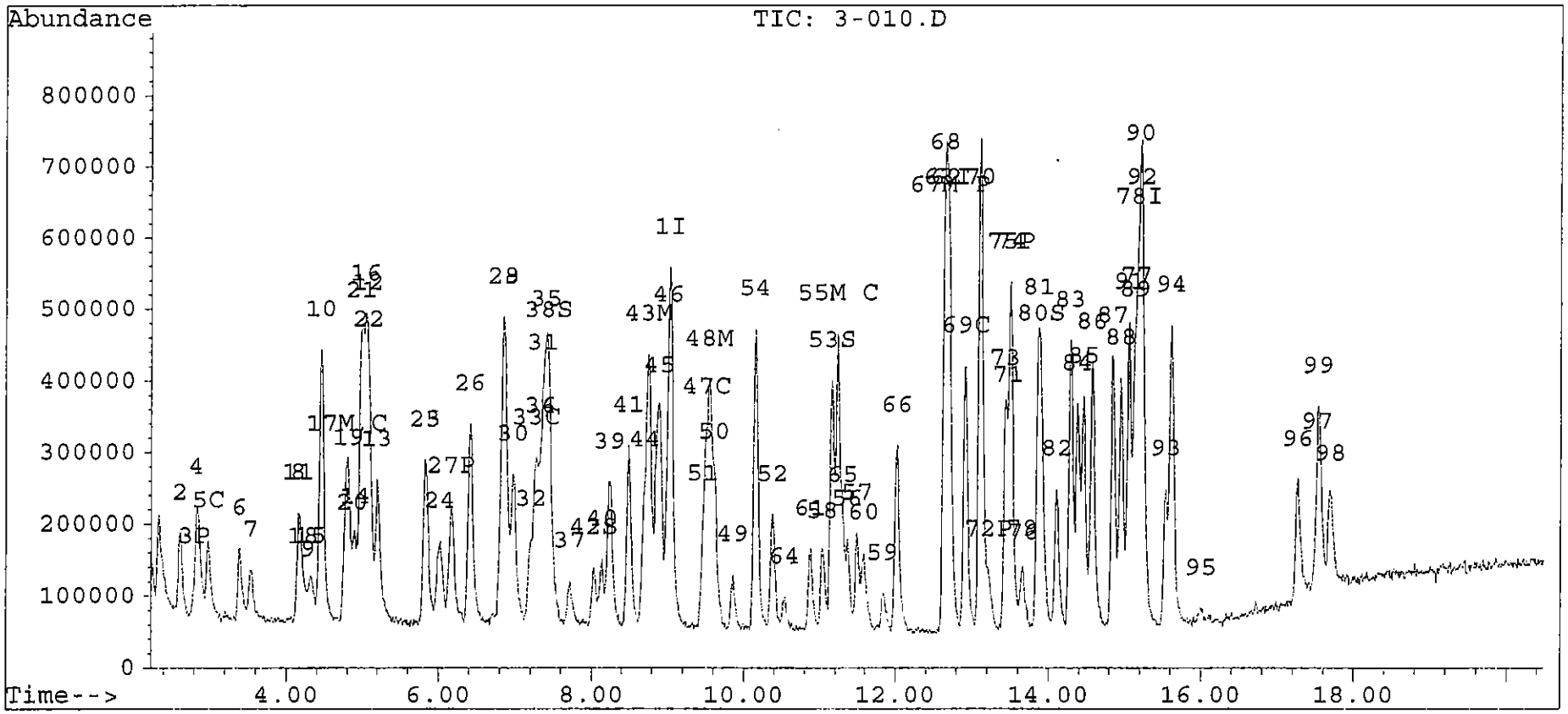
Quantitation Report

3580

Data File : C:\HPCHEM\1\DATA\03G1044\3-010.D
Acq On : 10 Jan 03 3:55 pm
Sample : f=1
Misc :
Quant Time: Jan 13 9:33 2003

Vial: 3
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

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



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

3581

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-020.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:24 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:35 2003
Print Time : Mon Jan 13 10:43 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.04	9.04	0.000	96	70	739.905	10.00		0.00	
47	47	Cl-benzene-d5, I2	12.66	12.66	0.000	82	119	224.981	10.00		0.00	
62	62	1,4-DCB-d4 150 15	15.16	15.16	0.000	152	150	184.633	10.00		0.00	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.44	7.44	0.000	111	113	517.816	17.49	17.5	87.47%	
29	29	1,2-di-Cl-ethane-	8.03	8.03	0.000	65	102	242.470	15.29	15.3	76.47%	
55	55	toluene-d8(S2)	11.15	11.15	0.000	100	99	725.871	17.90	17.9	89.50%	
70	70	4-Br-1-F-Bz (S3)	13.90	13.90	0.000	174	95	327.081	17.52	17.5	87.62%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	2.60	2.60	0.000	85	87	427.426	18.74	18.7	100	
4	4	Chloromethane	2.79	2.79	0.000	50	52	374.044	20.77	20.8	100	
9	9	F114 85 135	2.84	2.84	0.000	85	135	462.947	19.56	19.6	100	
5	5	vinyl chloride	2.97	2.97	0.000	62	64	344.227	20.16	20.2	100	
6	6	bromomethane	3.38	3.38	0.000	94	96	281.305	16.95	17.0	100	
7	7	Chloroethane	3.54	3.54	0.000	64	66	250.119	19.79	19.8	100	
8	8	tri-Cl-F-methane	4.16	4.16	0.000	101	103	612.174	21.57	21.6	100	?
111	111	isopropyl alcoho	4.28	4.28	0.000	45	43	55.395	185.00	185.0	98	
100	100	ethyl ether x5	4.45	4.45	0.000	59	74	980.952	93.02	93.0	100	
102	102	Acrolein x10	4.17	4.17	0.000	56	55	215.710	256.38	256.4	100	?
119	119	methyl acetate	5.07	5.07	0.000	43	74	187.169	38.69	38.7	100	?
104	104	Carbon disulfide	5.19	5.19	0.000	76	78	1173.322	18.86	18.9	99	
103	103	Acrylonitrilex10	4.91	4.91	0.000	53	52	348.877	196.63	196.6	100	
95	95	Acetone x10	4.33	4.33	0.000	43	58	268.909	188.68	188.7	100	
108	108	F-113	5.05	5.05	0.000	151	101	480.691	24.32	24.3	100	?
13	13	11-dichloroethene	4.78	4.78	0.000	61	96	575.822	19.79	19.8	99	
101	101	Acetonnitrilex10	4.22	4.22	0.000	41	40	97.490	256.65	256.7	100	
109	109	Iodomethane	4.82	4.82	0.000	142	127	473.953	20.50	20.5	100	
113	113	Tert butyl alcoh	4.87	4.87	0.000	59	57	133.851	202.41	202.4	99	

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

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

3582

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-020.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:24 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:35 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	602.942	18.01	18.0	100	
	112 Allyl chloride	5.08	5.08	0.000	41	76	616.004	23.57	23.6	100	?
200	200 Nitro methane x1	5.83	5.83	0.000	61	46	633.827	196.35	196.3	100	?
10	10 t-Bu-Me-ether	6.01	6.01	0.000	73	57	618.307	16.97	17.0	99	
19	19 t-12-di-Cl-ethene	5.82	5.82	0.000	96	61	438.020	19.68	19.7	100	?
98	98 Vinyl acetate x5	6.41	6.41	0.000	43	86	1161.950	57.29	57.3	100	
21	21 11-dichloroethane	6.16	6.16	0.000	63	83	780.313	20.06	20.1	100	
91	91 2-butanone MEKx10	6.84	6.84	0.000	43	72	1296.553	223.87	223.9	100	?
115	115 Di isoprop ether	6.85	6.85	0.000	45	87	1953.682	23.28	23.3	100	?
22	22 c-12-di-Cl-ethene	6.97	6.97	0.000	96	61	430.734	19.78	19.8	100	
23	23 22-Dichloropropan	7.35	7.35	0.000	77	97	619.878	18.49	18.5	100	
24	24 Br-Cl-methane	7.19	7.19	0.000	128	130	153.832	22.03	22.0	100	
25	25 chloroform	7.27	7.27	0.000	83	85	722.194	22.98	23.0	100	
201	201 Ethyl acetate x2	7.31	7.31	0.000	43	61	296.783	29.13	29.1	99	?
116	116 ETBE	7.40	7.40	0.000	59	87	1154.600	19.34	19.3	100	
117	117 Iso-butyl alcoho	7.31	7.31	0.000	43	42	297.076	159.36	159.4	100	?
26	26 tetrahydrofuranx5	7.71	7.71	0.000	72	42	75.144	99.10	99.1	100	
34	34 111-tri-Cl-ethane	8.23	8.23	0.000	97	99	604.949	18.69	18.7	100	
30	30 12-dichloroethane	8.13	8.13	0.000	62	64	298.086	23.05	23.1	100	
35	35 11-Di-Cl-propene	8.48	8.48	0.000	75	110	549.558	19.43	19.4	100	
36	36 benzene	8.76	8.76	0.000	78	52	1277.049	19.85	19.9	100	
37	37 CCl4	8.69	8.69	0.000	117	119	493.900	19.94	19.9	100	
97	97 thiophene	8.89	8.89	0.000	84	58	623.624	19.45	19.5	98	
118	118 TAME	9.01	9.01	0.000	73	43	792.558	19.33	19.3	99	
39	39 12-di-Cl-propane	9.50	9.50	0.000	63	76	376.101	19.98	20.0	100	
40	40 trichloroethene	9.55	9.55	0.000	130	132	403.682	20.26	20.3	100	
96	96 Me-methacrylate	9.85	9.85	0.000	69	100	123.371	17.47	17.5	100	
42	42 Br-di-Cl-methane	9.62	9.62	0.000	83	85	484.084	22.93	22.9	99	
41	41 dibromomethane	9.45	9.45	0.000	174	172	194.764	21.46	21.5	100	
45	45 c-13-di-Cl-propen	10.37	10.37	0.000	75	110	445.153	19.23	19.2	100	
92	92 2-ClEt-Vi-ether10	10.15	10.15	0.000	63	43	820.365	206.44	206.4	100	
56	56 toluene	11.23	11.23	0.000	91	92	1149.709	19.01	19.0	100	

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

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

3583

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-020.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:24 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:35 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.37	11.37	0.000	69	99	165.590	14.75	14.8	100	
93	93 2-Hexanone x5	11.49	11.49	0.000	43	58	368.204	109.05	109.1	99	
48	48 112-tri-Cl-Et	11.03	11.03	0.000	97	83	172.036	21.38	21.4	100	
58	58 1,2-di-br-ethane	11.83	11.83	0.000	107	109	191.133	22.61	22.6	100	
51	51 di-Br-Cl-methane	11.57	11.57	0.000	129	127	243.477	20.44	20.4	100	
46	46 t-13-di-cl-propen	10.86	10.86	0.000	75	110	301.394	20.19	20.2	100	
105	105 1-Chlorohexane	12.64	12.64	0.000	55	93	374.248	22.95	22.9	100	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.52	10.52	0.000	43	58	143.757	29.26	29.3	99	
49	49 1,3-di-cl-propane	11.29	11.29	0.000	76	78	310.529	21.15	21.1	100	
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	417.298	21.08	21.1	100	
60	60 chlorobenzene	12.70	12.70	0.000	112	77	668.143	24.21	24.2	100	
61	61 1112-tetra-Cl-Et	12.63	12.63	0.000	131	133	283.855	21.56	21.6	100	?
64	64 ethylbenzene	12.91	12.91	0.000	91	106	1239.073	14.48	14.5	98	
65	65 m/p-Xylenes x2	13.11	13.11	0.000	91	106	1911.139	39.83	39.8	100	
99	99 1-4-di-Cl-butane	13.46	13.46	0.000	55	41	276.558	23.53	23.5	99	?
52	52 bromoform	13.23	13.23	0.000	173	175	143.599	23.85	23.8	100	
66	66 styrene	13.43	13.43	0.000	104	78	677.932	19.93	19.9	100	?
67	67 o-xylene	13.50	13.50	0.000	91	106	915.641	19.30	19.3	100	?
68	68 1122-Tetra-Cl-Et	13.50	13.50	0.000	83	85	173.152	29.14	29.1	100	?
110	110 t-1,4-dichloro-2	13.68	13.68	0.000	89	53	27.009	30.20	30.2	94	
106	106 Cl-benzyl	15.13	15.13	0.000	91	126	238.713	24.59	24.6	99	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.64	13.64	0.000	110	97	45.443	20.21	20.2	100	
71	71 isopropylbenzene	13.85	13.85	0.000	105	120	1217.921	20.07	20.1	100	
72	72 bromobenzene	14.10	14.10	0.000	156	158	285.095	21.41	21.4	100	
73	73 n-propylbenzene	14.28	14.28	0.000	120	78	335.858	19.55	19.5	100	
74	74 2-Cl-Tl 126 1	14.38	14.38	0.000	126	128	201.349	18.53	18.5	100	
75	75 4-Cl-Tl 126 1	14.45	14.45	0.000	126	128	289.530	23.91	23.9	93	m
76	76 135-tri-Me-Bz	14.56	14.56	0.000	105	120	969.387	19.79	19.8	100	
79	79 tert-butylbenzene	14.84	14.84	0.000	119	91	1020.985	20.26	20.3	99	
78	78 124-tri-Me-Bz	14.94	14.94	0.000	105	120	847.796	20.36	20.4	100	

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

1/13/03

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

3584

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-020.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:24 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:35 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.12	15.12	0.000	146	148	400.250	15.63	15.6	84	?
82	82	14-di-Cl-Bz 146	15.18	15.18	0.000	146	148	644.124	22.31	22.3	100	
81	81	sec-butylbenzene	15.05	15.05	0.000	105	134	1465.228	22.51	22.5	97	
77	77	4-iso-Pr-toluene	15.22	15.22	0.000	119	134	1085.210	20.45	20.5	100	
84	84	12-di-Cl-benzene	15.53	15.53	0.000	146	148	410.082	20.03	20.0	100	
85	85	n-butylbenzene	15.61	15.61	0.000	91	134	1096.665	23.17	23.2	100	
86	86	12-diBr-3-Cl-Pra	16.00	16.00	0.000	157	155	31.395	20.93	20.9	100	
87	87	124-tri-Cl-Bz	17.26	17.26	0.000	180	182	322.231	22.03	22.0	100	
88	88	naphthalene	17.50	17.50	0.000	128	129	245.906	32.56	32.6	100	
90	90	123-tri-Cl-Bz	17.69	17.69	0.000	180	182	239.739	24.52	24.5	100	
89	89	hx-Cl-butadiene	17.53	17.53	0.000	225	260	244.690	22.34	22.3	100	

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

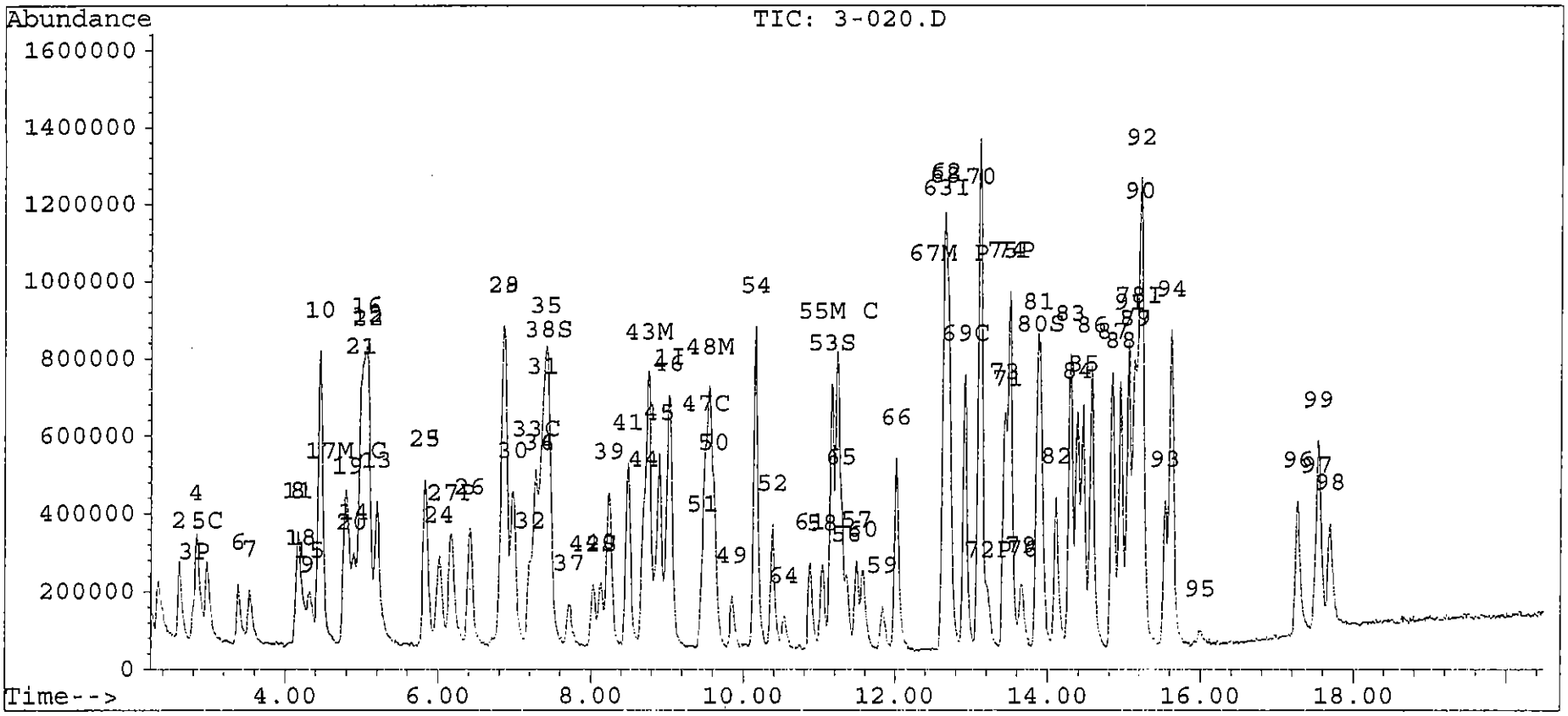
Quantitation Report

3585

Data File : C:\HPCHEM\1\DATA\03G1044\3-020.D
Acq On : 10 Jan 03 4:24 pm
Sample : f=1
Misc :
Quant Time: Jan 13 9:35 2003

Vial: 4
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

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



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

3586

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-040.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:54 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:38 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.04	9.04	0.000	96	70	721.219	10.00		0.00	
47	47 Cl-benzene-d5, I2	12.67	12.66	0.001	82	119	233.528	10.00		0.01	
62	62 1,4-DCB-d4 150 15	15.18	15.16	0.001	152	150	176.207	10.00		0.02	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.44	7.44	0.000	111	113	1038.870	36.01	36.0	180.04%	
29	29 1,2-di-Cl-ethane-	8.02	8.03	0.000	65	102	475.685	30.78	30.8	153.91%	
55	55 toluene-d8(S2)	11.15	11.15	0.000	100	99	1455.135	36.81	36.8	184.07%	
70	70 4-Br-1-F-Bz (S3)	13.90	13.90	0.000	174	95	627.145	35.21	35.2	176.03%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.60	2.60	0.000	85	87	820.884	36.93	36.9	99	
4	4 Chloromethane	2.79	2.79	0.000	50	52	803.175	45.76	45.8	100	
9	9 F114 85 135	2.83	2.84	-0.002	85	135	909.235	39.41	39.4	94	
5	5 vinyl chloride	2.97	2.97	0.000	62	64	682.967	41.04	41.0	99	
6	6 bromomethane	3.37	3.38	0.000	94	96	570.773	35.29	35.3	96	
7	7 Chloroethane	3.52	3.54	-0.002	64	66	505.034	40.99	41.0	99	
8	8 tri-Cl-F-methane	4.16	4.16	0.000	101	103	1192.828	43.11	43.1	100	?
111	111 isopropyl alcoho	4.26	4.28	-0.002	45	43	131.600	450.89	450.9	1	#
100	100 ethyl ether x5	4.45	4.45	0.000	59	74	1975.186	192.15	192.1	99	
102	102 Acrolein x10	4.17	4.17	0.000	56	55	340.415	415.08	415.1	92	?
119	119 methyl acetate	5.07	5.07	0.000	43	74	271.933	57.66	57.7	96	?
104	104 Carbon disulfide	5.19	5.19	0.000	76	78	2357.195	38.87	38.9	100	
103	103 Acrylonitrilex10	4.90	4.91	0.000	53	52	701.313	405.50	405.5	98	
95	95 Acetone x10	4.32	4.33	0.000	43	58	465.240	334.90	334.9	98	
108	108 F-113	5.03	5.05	-0.002	151	101	925.581	48.03	48.0	100	
13	13 11-dichloroethene	4.77	4.78	0.000	61	96	1147.783	40.46	40.5	99	
101	101 Acetonnitrilex10	4.22	4.22	0.000	41	40	189.257	511.14	511.1	80	#
109	109 Iodomethane	4.81	4.82	0.000	142	127	954.242	42.35	42.3	99	
113	113 Tert butyl alcoh	4.87	4.87	0.000	59	57	240.444	373.03	373.0	96	

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

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

3587

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-040.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:54 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:38 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	1052.979	32.26	32.3	100	
	112 Allyl chloride	5.08	5.08	0.000	41	76	1168.854	45.89	45.9	99	?
200	200 Nitro methane x1	5.82	5.83	0.000	61	46	1264.975	402.01	402.0	100	?
10	10 t-Bu-Me-ether	6.01	6.01	0.000	73	57	1211.982	34.13	34.1	98	
19	19 t-12-di-Cl-ethene	5.82	5.82	0.000	96	61	867.973	40.01	40.0	99	?
98	98 Vinyl acetate x5	6.41	6.41	0.000	43	86	4543.111	229.80	229.8	99	
21	21 11-dichloroethane	6.15	6.16	0.000	63	83	1539.657	40.61	40.6	98	
91	91 2-butanone MEKx10	6.84	6.84	0.000	43	72	2708.302	479.74	479.7	99	?
115	115 Di isoprop ether	6.85	6.85	0.000	45	87	3898.884	47.66	47.7	100	?
22	22 c-12-di-Cl-ethene	6.97	6.97	0.000	96	61	857.123	40.38	40.4	99	
23	23 22-Dichloropropan	7.36	7.35	0.001	77	97	1207.116	36.94	36.9	99	
24	24 Br-Cl-methane	7.19	7.19	0.000	128	130	312.235	45.88	45.9	99	
25	25 chloroform	7.27	7.27	0.000	83	85	1453.363	47.45	47.4	99	
201	201 Ethyl acetate x2	7.31	7.31	0.000	43	61	873.148	87.93	87.9	83	#?
116	116 ETBE	7.40	7.40	0.000	59	87	2264.664	38.92	38.9	99	
117	117 Iso-butyl alcoho	7.31	7.31	0.000	43	42	880.890	484.77	484.8	63	#?
26	26 tetrahydrofuranx5	7.71	7.71	0.000	72	42	146.600	198.35	198.3	94	
34	34 111-tri-Cl-ethane	8.24	8.23	0.000	97	99	1193.974	37.85	37.8	97	
30	30 12-dichloroethane	8.13	8.13	0.000	62	64	600.265	47.63	47.6	99	
35	35 11-Di-Cl-propene	8.48	8.48	0.000	75	110	1091.787	39.61	39.6	99	
36	36 benzene	8.75	8.76	0.000	78	52	2547.937	40.64	40.6	100	
37	37 CCl4	8.69	8.69	0.000	117	119	981.263	40.64	40.6	100	
97	97 thiophene	8.90	8.89	0.000	84	58	1239.916	39.68	39.7	99	
118	118 TAME	9.01	9.01	0.000	73	43	1521.011	38.05	38.1	100	
39	39 12-di-Cl-propane	9.50	9.50	0.000	63	76	741.594	40.42	40.4	100	
40	40 trichloroethene	9.55	9.55	0.000	130	132	804.090	41.41	41.4	100	
96	96 Me-methacrylate	9.85	9.85	0.000	69	100	250.724	36.43	36.4	97	
42	42 Br-di-Cl-methane	9.61	9.62	0.000	83	85	955.698	46.44	46.4	98	
41	41 dibromomethane	9.45	9.45	0.000	174	172	383.350	43.33	43.3	99	
45	45 c-13-di-Cl-propen	10.37	10.37	0.000	75	110	890.451	39.45	39.5	99	
92	92 2-ClEt-Vi-ether10	10.15	10.15	0.000	63	43	1655.105	427.28	427.3	98	
56	56 toluene	11.23	11.23	0.000	91	92	2291.459	38.88	38.9	99	

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

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

3588

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-040.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:54 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:38 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.37	11.37	0.000	69	99	512.644	46.85	46.8	99	
93	93 2-Hexanone x5	11.48	11.49	-0.001	43	58	831.419	252.62	252.6	99	
48	48 112-tri-Cl-Et	11.04	11.03	0.000	97	83	347.876	44.36	44.4	94	
58	58 1,2-di-br-ethane	11.84	11.83	0.001	107	109	371.448	45.07	45.1	100	
51	51 di-Br-Cl-methane	11.58	11.57	0.000	129	127	489.254	42.14	42.1	100	
46	46 t-13-di-cl-propen	10.87	10.86	0.000	75	110	594.704	40.88	40.9	96	
105	105 1-Chlorohexane	12.64	12.64	0.000	55	93	719.249	45.24	45.2	99	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.53	10.52	0.000	43	58	303.184	59.45	59.4	96	
49	49 1,3-di-cl-propane	11.30	11.29	0.000	76	78	604.220	39.64	39.6	100	
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	825.820	40.18	40.2	99	
60	60 chlorobenzene	12.71	12.70	0.000	112	77	1330.525	46.45	46.4	99	
61	61 1112-tetra-Cl-Et	12.63	12.63	0.000	131	133	562.377	41.15	41.1	100	?
64	64 ethylbenzene	12.90	12.91	0.000	91	106	2446.417	27.53	27.5	98	
65	65 m/p-Xylenes x2	13.10	13.11	0.000	91	106	3754.507	75.38	75.4	99	
99	99 1-4-di-Cl-butane	13.46	13.46	0.000	55	41	532.573	43.66	43.7	96	
52	52 bromoform	13.22	13.23	0.000	173	175	281.887	45.10	45.1	96	
66	66 styrene	13.43	13.43	0.000	104	78	1346.269	38.14	38.1	98	
67	67 o-xylene	13.50	13.50	0.000	91	106	1764.503	35.83	35.8	100	?
68	68 1122-Tetra-Cl-Et	13.51	13.50	0.000	83	85	326.262	52.90	52.9	100	?
110	110 t-1,4-dichloro-2	13.67	13.68	0.000	89	53	54.200	58.39	58.4	95	?
106	106 Cl-benzyl	15.13	15.13	0.000	91	126	457.227	45.37	45.4	99	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.65	13.64	0.000	110	97	89.331	41.64	41.6	94	?
71	71 isopropylbenzene	13.86	13.85	0.000	105	120	2372.165	40.96	41.0	99	
72	72 bromobenzene	14.11	14.10	0.000	156	158	554.412	43.62	43.6	98	
73	73 n-propylbenzene	14.29	14.28	0.000	120	78	643.879	39.27	39.3	98	
74	74 2-Cl-Tl 126 1	14.38	14.38	0.000	126	128	427.470	41.22	41.2	95	
75	75 4-Cl-Tl 126 1	14.45	14.45	0.000	126	128	594.245	51.42	51.4	98	m
76	76 135-tri-Me-Bz	14.57	14.56	0.000	105	120	1885.346	40.33	40.3	99	
79	79 tert-butylbenzene	14.84	14.84	0.000	119	91	1994.231	41.47	41.5	88	
78	78 124-tri-Me-Bz	14.94	14.94	0.000	105	120	1639.260	41.24	41.2	99	

4/13/03

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

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

3589

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-040.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 16:54 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:38 2003
Print Time : Mon Jan 13 10:44 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80 13-di-Cl-Bz 146	15.13	15.12	0.000	146	148	844.281	34.55	34.6	94	?
82	82 14-di-Cl-Bz 146	15.19	15.18	0.000	146	148	1193.857	43.33	43.3	92	
81	81 sec-butylbenzene	15.05	15.05	0.000	105	134	2859.247	46.03	46.0	96	
77	77 4-iso-Pr-toluene	15.22	15.22	0.000	119	134	2064.029	40.76	40.8	99	
84	84 12-di-Cl-benzene	15.54	15.53	0.000	146	148	812.246	41.57	41.6	97	
85	85 n-butylbenzene	15.61	15.61	0.000	91	134	2099.124	46.47	46.5	99	
86	86 12-diBr-3-Cl-Pra	15.99	16.00	0.000	157	155	62.914	43.94	43.9	93	
87	87 124-tri-Cl-Bz	17.27	17.26	0.000	180	182	604.462	43.31	43.3	100	
88	88 naphthalene	17.50	17.50	0.000	128	129	459.400	63.75	63.7	100	
90	90 123-tri-Cl-Bz	17.69	17.69	0.000	180	182	448.256	48.03	48.0	98	
89	89 hx-Cl-butadiene	17.55	17.53	0.001	225	260	466.707	44.65	44.6	99	

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

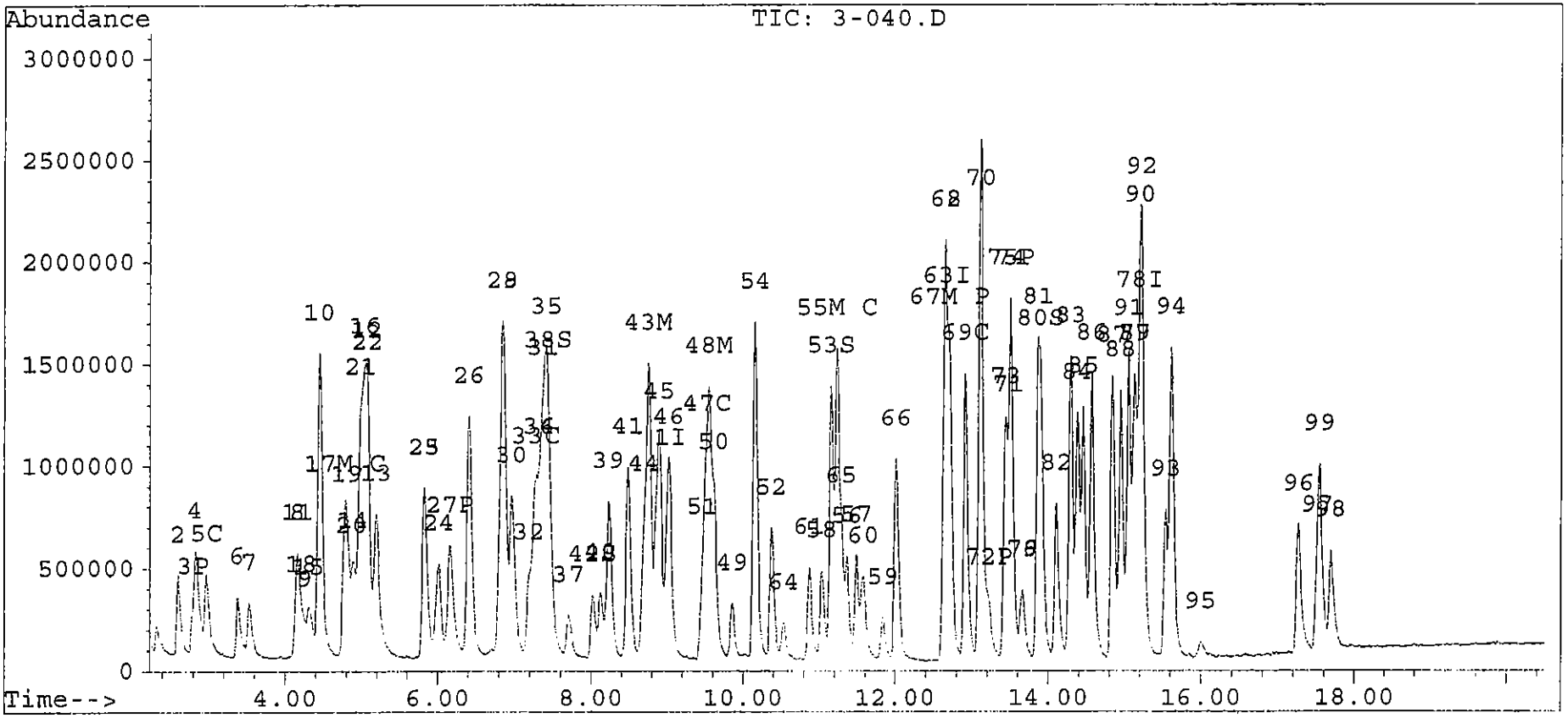
Quantitation Report

3590

Data File : C:\HPCHEM\1\DATA\03G1044\3-040.D
Acq On : 10 Jan 03 4:54 pm
Sample : f=1
Misc :
Quant Time: Jan 13 9:38 2003

Vial: 5
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

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



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

3591

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-080.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 17:23 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:39 2003
Print Time : Mon Jan 13 10:45 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards										Dev(Min)	
1	1 Fluorobenzene I1	9.04	9.04	0.000	96	70	703.721	10.00		0.00	
47	47 Cl-benzene-d5, I2	12.67	12.66	0.000	82	119	241.678	10.00		0.01	
62	62 1,4-DCB-d4 150 15	15.18	15.16	0.002	152	150	164.785	10.00		0.02	
System Monitoring Compounds (Surrogate)										%Recovery	
27	27 Di-Br-F-Methane (	7.44	7.44	0.000	111	113	1963.588	69.75	69.8	348.75%	
29	29 1,2-di-Cl-ethane-	8.02	8.03	0.000	65	102	894.560	59.33	59.3	296.64%	
55	55 toluene-d8(S2)	11.16	11.15	0.000	100	99	2774.904	71.95	71.9	359.74%	
70	70 4-Br-1-F-Bz (S3)	13.91	13.90	0.000	174	95	1159.540	69.60	69.6	348.02%	
Target Compounds										Qvalue	
<<< I1 : ISTD ID = 1 >>>											
3	3 di-Cl-di-F-methan	2.60	2.60	0.000	85	87	1551.879	71.55	71.6	99	
4	4 Chloromethane	2.78	2.79	-0.002	50	52	1514.667	88.45	88.5	97	
9	9 F114 85 135	2.83	2.84	-0.002	85	135	1714.061	76.15	76.2	97	
5	5 vinyl chloride	2.96	2.97	0.000	62	64	1258.237	77.49	77.5	99	
6	6 bromomethane	3.38	3.38	0.000	94	96	1116.110	70.72	70.7	96	
7	7 Chloroethane	3.52	3.54	-0.002	64	66	952.606	79.23	79.2	100	
8	8 tri-Cl-F-methane	4.15	4.16	0.000	101	103	2238.212	82.90	82.9	100	?
111	111 isopropyl alcoho	4.27	4.28	0.000	45	43	244.204	857.50	857.5	59	#
100	100 ethyl ether x5	4.44	4.45	-0.001	59	74	3742.221	373.10	373.1	100	
102	102 Acrolein x10	4.17	4.17	0.000	56	55	601.157	751.24	751.2	90	?
119	119 methyl acetate	5.07	5.07	0.000	43	74	696.519	151.37	151.4	95	?
104	104 Carbon disulfide	5.18	5.19	0.000	76	78	4372.134	73.88	73.9	100	
103	103 Acrylonitrilex10	4.90	4.91	0.000	53	52	1341.637	795.03	795.0	98	?
95	95 Acetone x10	4.32	4.33	0.000	43	58	912.905	673.49	673.5	97	
108	108 F-113	5.03	5.05	-0.002	151	101	1749.444	93.05	93.0	100	
13	13 11-dichloroethene	4.78	4.78	0.000	61	96	2146.767	77.56	77.6	99	
101	101 Acetonnitrilex10	4.21	4.22	0.000	41	40	353.648	978.88	978.9	83	#
109	109 Iodomethane	4.81	4.82	-0.001	142	127	1666.625	75.80	75.8	99	
113	113 Tert butyl alcoh	4.87	4.87	0.000	59	57	485.913	772.60	772.6	85	#?

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

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

3592

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-080.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 17:23 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:39 2003
Print Time : Mon Jan 13 10:45 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	4.98	4.98	0.000	84	49	1493.871	46.91	46.9	100	
	112 Allyl chloride	5.08	5.08	0.000	41	76	2056.270	82.74	82.7	98	?
200	200 Nitro methane x1	5.82	5.83	0.000	61	46	2385.881	777.09	777.1	99	?
10	10 t-Bu-Me-ether	6.01	6.01	0.000	73	57	2415.631	69.73	69.7	98	
19	19 t-12-di-Cl-ethene	5.82	5.82	0.000	96	61	1629.626	76.99	77.0	98	?
98	98 Vinyl acetate x5	6.40	6.41	0.000	43	86	6984.572	362.07	362.1	100	
21	21 11-dichloroethane	6.16	6.16	0.000	63	83	2853.804	77.14	77.1	98	
91	91 2-butanone MEKx10	6.84	6.84	0.000	43	72	5159.574	936.67	936.7	98	?
115	115 Di isoprop ether	6.85	6.85	0.000	45	87	7414.434	92.88	92.9	100	?
22	22 c-12-di-Cl-ethene	6.98	6.97	0.000	96	61	1613.152	77.88	77.9	99	
23	23 22-Dichloropropan	7.36	7.35	0.000	77	97	2269.373	71.18	71.2	100	
24	24 Br-Cl-methane	7.19	7.19	0.000	128	130	593.248	89.34	89.3	100	
25	25 chloroform	7.27	7.27	0.000	83	85	2739.754	91.67	91.7	100	
201	201 Ethyl acetate x2	7.32	7.31	0.000	43	61	1526.995	157.60	157.6	87	?
116	116 ETBE	7.41	7.40	0.000	59	87	4329.036	76.24	76.2	99	
117	117 Iso-butyl alcoho	7.32	7.31	0.000	43	42	1546.333	872.13	872.1	70	#?
26	26 tetrahydrofuranx5	7.71	7.71	0.000	72	42	287.877	399.18	399.2	97	
34	34 111-tri-Cl-ethane	8.24	8.23	0.000	97	99	2324.189	75.51	75.5	99	
30	30 12-dichloroethane	8.13	8.13	0.000	62	64	1155.412	93.96	94.0	99	
35	35 11-Di-Cl-propene	8.48	8.48	0.000	75	110	2099.663	78.07	78.1	99	
36	36 benzene	8.75	8.76	-0.001	78	52	4710.056	76.99	77.0	100	
37	37 CCl4	8.69	8.69	0.000	117	119	1852.391	78.63	78.6	100	
97	97 thiophene	8.89	8.89	0.000	84	58	2337.761	76.68	76.7	98	
118	118 TAME	9.01	9.01	0.000	73	43	3045.504	78.09	78.1	100	
39	39 12-di-Cl-propane	9.50	9.50	0.000	63	76	1426.638	79.70	79.7	100	
40	40 trichloroethene	9.55	9.55	0.000	130	132	1515.012	79.96	80.0	99	
96	96 Me-methacrylate	9.85	9.85	0.000	69	100	519.513	77.36	77.4	98	
42	42 Br-di-Cl-methane	9.61	9.62	0.000	83	85	1823.535	90.81	90.8	99	
41	41 dibromomethane	9.46	9.45	0.000	174	172	714.384	82.76	82.8	98	
45	45 c-13-di-Cl-propen	10.38	10.37	0.000	75	110	1727.952	78.47	78.5	100	
92	92 2-ClEt-Vi-ether10	10.16	10.15	0.000	63	43	3234.891	855.88	855.9	97	
56	56 toluene	11.23	11.23	0.000	91	92	4425.814	76.96	77.0	98	

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

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

3593

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-080.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 17:23 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:39 2003
Print Time : Mon Jan 13 10:45 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.37	11.37	0.000	69	99	828.103	77.56	77.6	98	
93	93 2-Hexanone x5	11.49	11.49	0.000	43	58	1601.350	498.66	498.7	98	
48	48 112-tri-Cl-Et	11.04	11.03	0.000	97	83	664.699	86.86	86.9	92	
58	58 1,2-di-br-ethane	11.83	11.83	0.000	107	109	723.238	89.94	89.9	100	
51	51 di-Br-Cl-methane	11.57	11.57	0.000	129	127	967.601	85.41	85.4	99	
46	46 t-13-di-cl-propen	10.88	10.86	0.001	75	110	1109.294	78.14	78.1	96	
105	105 1-Chlorohexane	12.65	12.64	0.001	55	93	1336.615	86.16	86.2	99	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.53	10.52	0.000	43	58	587.112	111.24	111.2	97	
49	49 1,3-di-cl-propane	11.30	11.29	0.001	76	78	1155.285	73.25	73.2	99	
59	59 tetra-Cl-ethene	12.01	12.01	0.000	166	168	1643.233	77.26	77.3	99	
60	60 chlorobenzene	12.70	12.70	0.000	112	77	2470.738	83.34	83.3	99	
61	61 1112-tetra-Cl-Et	12.64	12.63	0.000	131	133	1108.773	78.39	78.4	99	?
64	64 ethylbenzene	12.91	12.91	0.000	91	106	4804.958	52.25	52.3	97	
65	65 m/p-Xylenes x2	13.11	13.11	0.000	91	106	7222.435	140.12	140.1	99	
99	99 1-4-di-Cl-butane	13.47	13.46	0.001	55	41	1001.628	79.35	79.3	98	
52	52 bromoform	13.24	13.23	0.000	173	175	544.898	84.24	84.2	95	
66	66 styrene	13.44	13.43	0.000	104	78	2563.056	70.16	70.2	100	
67	67 o-xylene	13.51	13.50	0.001	91	106	3287.299	64.50	64.5	100	?
68	68 1122-Tetra-Cl-Et	13.51	13.50	0.000	83	85	625.224	97.95	98.0	98	?
110	110 t-1,4-dichloro-2	13.68	13.68	0.000	89	53	103.110	107.34	107.3	94	?
106	106 Cl-benzyl	15.14	15.13	0.001	91	126	866.531	83.08	83.1	99	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.65	13.64	0.000	110	97	172.722	86.09	86.1	95	?
71	71 isopropylbenzene	13.87	13.85	0.001	105	120	4528.346	83.61	83.6	99	
72	72 bromobenzene	14.11	14.10	0.000	156	158	1030.644	86.70	86.7	98	
73	73 n-propylbenzene	14.30	14.28	0.001	120	78	1212.584	79.08	79.1	97	
74	74 2-Cl-Tl 126 1	14.39	14.38	0.000	126	128	745.993	76.92	76.9	99	
75	75 4-Cl-Tl 126 1	14.46	14.45	0.000	126	128	1075.809	99.53	99.5	92	m
76	76 135-tri-Me-Bz	14.58	14.56	0.001	105	120	3580.223	81.88	81.9	99	1/13/03
79	79 tert-butylbenzene	14.85	14.84	0.000	119	91	3739.615	83.15	83.2	99	
78	78 124-tri-Me-Bz	14.96	14.94	0.001	105	120	3054.447	82.17	82.2	99	

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

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

3594

Data Filename: C:\HPCHEM\1\DATA\03G1044\3-080.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Jan 10 17:23 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Jan 13 09:39 2003
Print Time : Mon Jan 13 10:45 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.14	15.12	0.002	146	148	1658.291	72.57	72.6	95	?
82	82	14-di-Cl-Bz 146	15.20	15.18	0.001	146	148	2207.723	85.68	85.7	93	
81	81	sec-butylbenzene	15.06	15.05	0.000	105	134	5499.576	94.67	94.7	96	
77	77	4-iso-Pr-toluene	15.23	15.22	0.001	119	134	3804.782	80.34	80.3	100	
84	84	12-di-Cl-benzene	15.54	15.53	0.000	146	148	1524.040	83.41	83.4	99	
85	85	n-butylbenzene	15.61	15.61	0.000	91	134	3991.637	94.49	94.5	99	
86	86	12-diBr-3-Cl-Pra	15.99	16.00	0.000	157	155	120.318	89.86	89.9	91	
87	87	124-tri-Cl-Bz	17.26	17.26	0.000	180	182	1187.497	90.98	91.0	100	
88	88	naphthalene	17.50	17.50	0.000	128	129	922.945	136.94	136.9	100	
90	90	123-tri-Cl-Bz	17.69	17.69	0.000	180	182	845.940	96.93	96.9	100	
89	89	hx-Cl-butadiene	17.54	17.53	0.000	225	260	859.594	87.93	87.9	98	

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

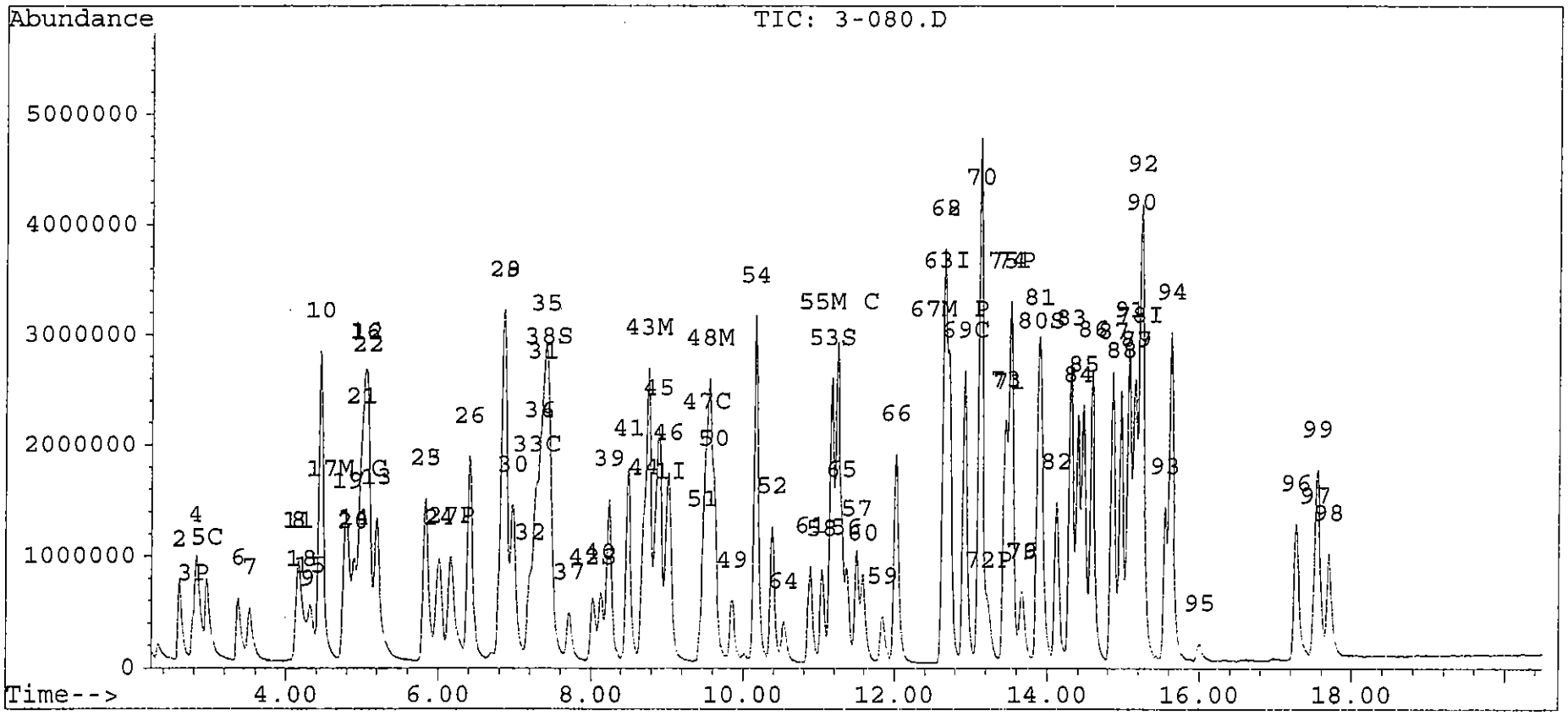
Quantitation Report

3595

Data File : C:\HPCHEM\1\DATA\03G1044\3-080.D
Acq On : 10 Jan 03 5:23 pm
Sample : f=1
Misc :
Quant Time: Jan 13 9:39 2003

Vial: 6
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00
Quant Results File: quant.res

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



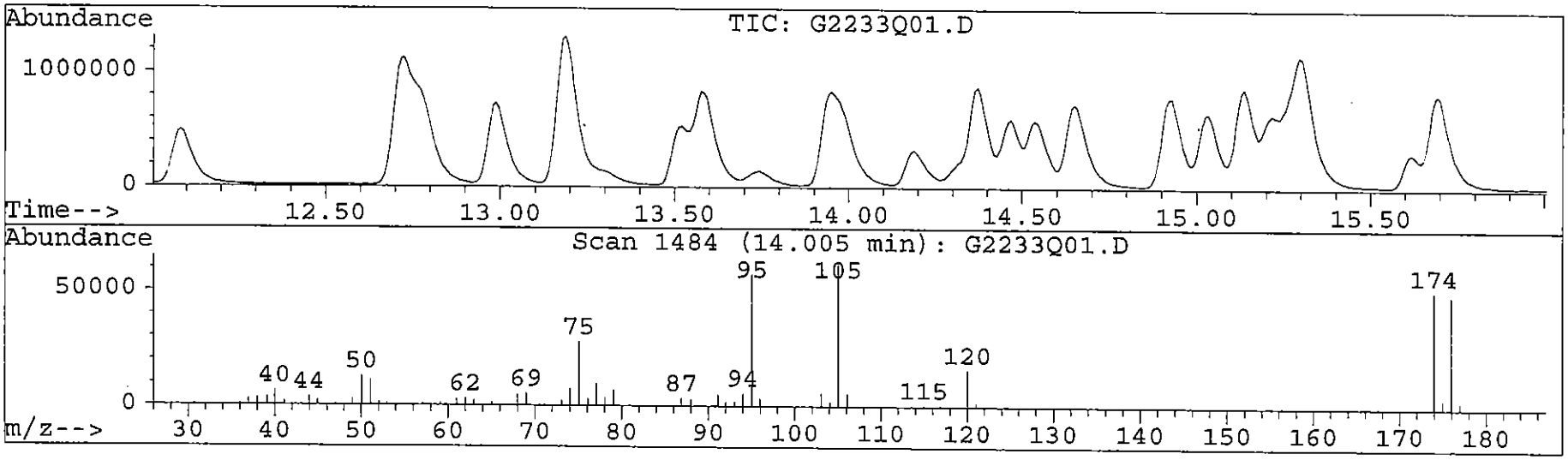
BFB

3596

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Acq On : 28 Apr 03 2:51 pm
Sample : f=1
Misc :

Vial: 11
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2



Peak Apex is scan: 1484

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.2	12735	PASS
75	95	30	60	48.5	27824	PASS
95	95	100	100	100.0	57352	PASS
96	95	5	9	6.3	3585	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	88.7	50888	PASS
175	174	5	9	7.8	3981	PASS
176	174	95	101	96.0	48856	PASS
177	176	5	9	6.6	3237	PASS

G2233Q01.D E524G003.M Tue Apr 29 11:08:41 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:	032866
Project ID:	JPL	BFB Inj. Date:	04/28/03	Batch No:	03G2233
		BFB Inj. Time:	14:51	Sequence No:	03G2233
Project No:	04-4428.10	Instrument ID:	G	GC Column:	DB-VEX
Data File Name:	G2233Q01	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	03G2233-CCV-01	03G2233-CCV-01	G2233Q01	04/28/03	14:51
2	03G2233-LCS-01	03G2233-LCS-01	G2233L01	04/28/03	15:19
3	MW-20-3MS	03-2866-5MS	G2233M01	04/28/03	15:48
4	MW-20-3MSD	03-2866-5MSD	G2233N01	04/28/03	16:17
5	03G2233-MB-01	03G2233-MB-01	G2233K02	04/28/03	17:37
6	EB-5-4/24/03	03-2866-2	2866-02	04/28/03	18:35
7	MW-20-1	03-2866-3	2866-03	04/28/03	19:03
8	MW-20-2	03-2866-4	2866-04	04/28/03	19:32
9	MW-20-3	03-2866-5	2866-05	04/28/03	20:01
10	MW-20-4	03-2866-6	2866-06	04/28/03	20:30
11	MW-20-5	03-2866-7	2866-07	04/28/03	20:59
12	TB-5-4/24/03	03-2866-8	2866-08	04/28/03	21:27
13	DUPE-3-2Q03	03-2866-1	2866-01	04/29/03	01:43
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

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

3598

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 14:51 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 29 11:02 2003
Print Time : Tue Apr 29 11:04 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
Internal Standards											Dev(Min)	
1	1	Fluorobenzene I1	9.10	9.03	0.007	96	70	732.018	10.00		0.06	
47	47	Cl-benzene-d5, I2	12.74	12.66	0.006	82	119	198.153	10.00		0.08	
62	62	1,4-DCB-d4 150 15	15.25	15.15	0.007	152	150	162.771	10.00		0.10	
System Monitoring Compounds (Surrogate)											%Recovery	
27	27	Di-Br-F-Methane (	7.50	7.44	0.004	111	113	450.283	17.33	17.3	86.67%	
29	29	1,2-di-Cl-ethane-	8.10	8.02	0.005	65	102	185.844	15.37	15.4	76.83%	
55	55	toluene-d8(S2)	11.23	11.15	0.005	100	99	701.746	19.19	19.2	95.96%	
70	70	4-Br-1-F-Bz (S3)	13.99	13.90	0.006	174	95	278.294	19.14	19.1	95.68%	
Target Compounds											Qvalue	
<<< I1 : ISTD ID = 1 >>>												
3	3	di-Cl-di-F-methan	2.60	2.60	0.000	85	87	399.472	19.15	19.2	99	
4	4	Chloromethane	2.79	2.78	0.001	50	52	296.825	16.66	16.7	98	
9	9	F114 85 135	2.84	2.83	0.001	85	135	465.752	19.93	19.9	94	
5	5	vinyl chloride	2.97	2.96	0.001	62	64	294.720	17.45	17.4	98	
6	6	bromomethane	3.40	3.37	0.003	94	96	225.742	15.09	15.1	96	m
7	7	Chloroethane	3.56	3.52	0.005	64	66	243.024	19.43	19.4	100	
8	8	tri-Cl-F-methane	4.19	4.14	0.006	101	103	603.817	21.14	21.1	99	?
111	111	isopropyl alcoho	4.30	4.27	0.004	45	43	48.814	147.79	147.8	1	#
100	100	ethyl ether x5	4.49	4.44	0.006	59	74	761.471	72.98	73.0	99	
102	102	Acrolein x10	4.19	4.15	0.005	56	55	126.743	152.26	152.3	93	?
119	119	methyl acetate	5.11	5.06	0.005	43	74	173.162	19.31	19.3	93	?
104	104	Carbon disulfide	5.25	5.18	0.007	76	78	1041.337	17.06	17.1	100	m
103	103	Acrylonitrilex10	4.95	4.89	0.006	53	52	253.157	144.73	144.7	98	
95	95	Acetone x10	4.36	4.31	0.006	43	58	190.384	149.29	149.3	83	#
108	108	F-113	5.08	5.02	0.006	151	101	502.551	22.90	22.9	99	?
13	13	11-dichloroethene	4.81	4.76	0.005	61	96	551.808	19.23	19.2	98	
101	101	Acetonnitrilex10	4.26	4.20	0.006	41	40	77.058	164.15	164.1	48	#
109	109	Iodomethane	4.86	4.80	0.006	142	127	508.826	21.87	21.9	100	
113	113	Tert butyl alcoh	4.91	4.86	0.005	59	57	95.183	150.05	150.0	98	

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

4/29/03

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

3599

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 14:51 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 29 11:02 2003
Print Time : Tue Apr 29 11:04 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
18	18 methylene chlorid	5.03	4.97	0.006	84	49	456.088	15.38	15.4	97	
	112 Allyl chloride	5.14	5.07	0.007	41	76	626.536	19.74	19.7	97	
200	200 Nitro methane x1	5.87	5.82	0.006	61	46	591.822	185.31	185.3	94	#?
10	10 t-Bu-Me-ether	6.05	6.00	0.005	73	57	518.239	16.74	16.7	97	
19	19 t-12-di-Cl-ethene	5.87	5.82	0.006	96	61	374.351	17.02	17.0	89	?
98	98 Vinyl acetate x5	6.46	6.41	0.006	43	86	1275.266	64.42	64.4	99	
21	21 11-dichloroethane	6.22	6.15	0.007	63	83	790.049	20.57	20.6	98	
91	91 2-butanone MEKx10	6.91	6.83	0.008	43	72	1048.265	152.69	152.7	99	?
115	115 Di isoprop ether	6.91	6.85	0.006	45	87	1678.127	17.30	17.3	98	?
22	22 c-12-di-Cl-ethene	7.03	6.97	0.007	96	61	371.096	17.24	17.2	93	
23	23 22-Dichloropropan	7.41	7.35	0.007	77	97	691.181	20.85	20.8	99	
24	24 Br-Cl-methane	7.26	7.18	0.009	128	130	114.978	14.90	14.9	97	
25	25 chloroform	7.33	7.27	0.007	83	85	683.016	17.77	17.8	100	
201	201 Ethyl acetate x2	7.37	7.31	0.007	43	61	279.905	28.60	28.6	92	?
116	116 ETBE	7.47	7.40	0.008	59	87	954.342	16.16	16.2	99	
117	117 Iso-butyl alcoho	7.37	7.31	0.007	43	42	301.253	153.82	153.8	91	#?
26	26 tetrahydrofuranx5	7.78	7.71	0.008	72	42	54.109	72.13	72.1	84	
34	34 111-tri-Cl-ethane	8.30	8.23	0.008	97	99	639.649	19.98	20.0	100	
30	30 12-dichloroethane	8.19	8.13	0.007	62	64	240.187	16.05	16.0	97	
35	35 11-Di-Cl-propene	8.55	8.48	0.008	75	110	558.188	19.95	20.0	98	
36	36 benzene	8.82	8.75	0.008	78	52	1231.060	19.35	19.4	100	
37	37 CCl4	8.76	8.68	0.009	117	119	531.526	21.69	21.7	99	
97	97 thiophene	8.96	8.89	0.007	84	58	525.115	16.60	16.6	100	
118	118 TAME	9.07	9.00	0.007	73	43	635.398	15.63	15.6	96	
39	39 12-di-Cl-propane	9.56	9.49	0.007	63	76	343.261	18.44	18.4	96	
40	40 trichloroethene	9.61	9.54	0.008	130	132	382.471	19.40	19.4	99	
96	96 Me-methacrylate	9.92	9.85	0.007	69	100	99.910	15.57	15.6	100	
42	42 Br-di-Cl-methane	9.68	9.61	0.007	83	85	419.666	16.17	16.2	100	
41	41 dibromomethane	9.51	9.45	0.006	174	172	143.767	16.01	16.0	96	
45	45 c-13-di-Cl-propen	10.44	10.37	0.008	75	110	372.632	16.28	16.3	97	
92	92 2-ClEt-Vi-ether10	10.21	10.15	0.007	63	43	292.345	74.47	74.5	98	
56	56 toluene	11.30	11.23	0.009	91	92	1114.665	18.64	18.6	100	

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

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

3600

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 14:51 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 29 11:02 2003
Print Time : Tue Apr 29 11:04 2003
Miscleneous :

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

ID	Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
107	107 Et methacrylate	11.43	11.36	0.008	69	99	172.095	13.91	13.9	100	
93	93 2-Hexanone x5	11.56	11.48	0.009	43	58	304.050	73.12	73.1	97	
48	48 112-tri-Cl-Et	11.11	11.03	0.009	97	83	135.027	15.38	15.4	98	
58	58 1,2-di-br-ethane	11.90	11.82	0.009	107	109	135.850	14.53	14.5	99	
51	51 di-Br-Cl-methane	11.65	11.57	0.010	129	127	187.532	15.91	15.9	100	
46	46 t-13-di-cl-propen	10.94	10.87	0.008	75	110	243.809	16.53	16.5	97	
105	105 1-Chlorohexane	12.72	12.64	0.009	55	93	416.982	23.05	23.1	98	?
<<< I2 : ISTD ID = 47 >>>											
54	54 MIBK	10.60	10.52	0.006	43	58	117.562	18.83	18.8	94	
49	49 1,3-di-cl-propane	11.37	11.29	0.006	76	78	248.028	19.15	19.1	90	m
59	59 tetra-Cl-ethene	12.08	12.00	0.006	166	168	404.885	23.22	23.2	99	
60	60 chlorobenzene	12.78	12.70	0.006	112	77	589.599	20.36	20.4	97	
61	61 1112-tetra-Cl-Et	12.71	12.62	0.007	131	133	234.827	20.25	20.2	99	?
64	64 ethylbenzene	12.99	12.90	0.007	91	106	1246.055	22.33	22.3	99	
65	65 m/p-Xylenes x2	13.19	13.10	0.007	91	106	1870.147	44.09	44.1	99	
99	99 1-4-di-Cl-butane	13.54	13.46	0.007	55	41	221.190	17.31	17.3	98	
52	52 bromoform	13.31	13.22	0.007	173	175	100.706	16.93	16.9	95	
66	66 styrene	13.51	13.43	0.007	104	78	606.469	20.25	20.2	99	
67	67 o-xylene	13.58	13.50	0.006	91	106	869.168	20.83	20.8	100	?
68	68 1122-Tetra-Cl-Et	13.59	13.51	0.007	83	85	127.254	16.60	16.6	96	?
110	110 t-1,4-dichloro-2	13.77	13.67	0.008	89	53	23.493	18.76	18.8	1	m
106	106 Cl-benzyl	15.21	15.12	0.007	91	126	191.399	19.86	19.9	96	?
<<< I3 : ISTD ID = 62 >>>											
69	69 123-tri-Cl-Pr	13.72	13.64	0.005	110	97	33.692	17.00	17.0	85	
71	71 isopropylbenzene	13.94	13.86	0.006	105	120	1316.523	24.61	24.6	100	
72	72 bromobenzene	14.19	14.10	0.006	156	158	224.925	19.16	19.2	96	
73	73 n-propylbenzene	14.37	14.29	0.006	120	78	349.090	24.21	24.2	97	
74	74 2-Cl-Tl 126 1	14.47	14.37	0.006	126	128	207.743	21.69	21.7	94	
75	75 4-Cl-Tl 126 1	14.54	14.45	0.006	126	128	263.885	20.15	20.2	99	m
76	76 135-tri-Me-Bz	14.65	14.57	0.006	105	120	961.772	22.27	22.3	100	
79	79 tert-butylbenzene	14.93	14.84	0.006	119	91	1049.329	23.67	23.7	98	
78	78 124-tri-Me-Bz	15.03	14.94	0.006	105	120	807.924	22.00	22.0	97	

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

4/29/03

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

3601

Data Filename: C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Method : C:\HPCHEM\1\METHODS\E524G003.M
Acq. Time : Apr 28 14:51 2003
Method Update: Mon Jan 13 10:38 2003
Quant. Time : Apr 29 11:02 2003
Print Time : Tue Apr 29 11:04 2003
Miscleneous :

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

ID		Component Name	R.T.	RT0	DRRT	QIon	Q1	RF/1000	C0,ppb	C,ppb	Quality	Note
80	80	13-di-Cl-Bz 146	15.21	15.11	0.007	146	148	367.136	19.63	19.6	92	
82	82	14-di-Cl-Bz 146	15.27	15.19	0.006	146	148	496.389	18.26	18.3	93	m
81	81	sec-butylbenzene	15.14	15.04	0.006	105	134	1534.178	23.66	23.7	99	
77	77	4-iso-Pr-toluene	15.30	15.22	0.006	119	134	1098.724	23.49	23.5	99	
84	84	12-di-Cl-benzene	15.61	15.52	0.006	146	148	320.116	17.74	17.7	97	
85	85	n-butylbenzene	15.69	15.60	0.006	91	134	1130.446	23.06	23.1	98	
86	86	12-diBr-3-Cl-Pra	16.07	15.97	0.007	157	155	21.311	16.11	16.1	94	
87	87	124-tri-Cl-Bz	17.33	17.24	0.006	180	182	256.572	18.11	18.1	99	
88	88	naphthalene	17.58	17.49	0.006	128	129	206.845	19.11	19.1	99	
90	90	123-tri-Cl-Bz	17.76	17.68	0.005	180	182	189.975	19.32	19.3	98	
89	89	hx-Cl-butadiene	17.61	17.52	0.006	225	260	283.361	26.47	26.5	96	

4/29/03

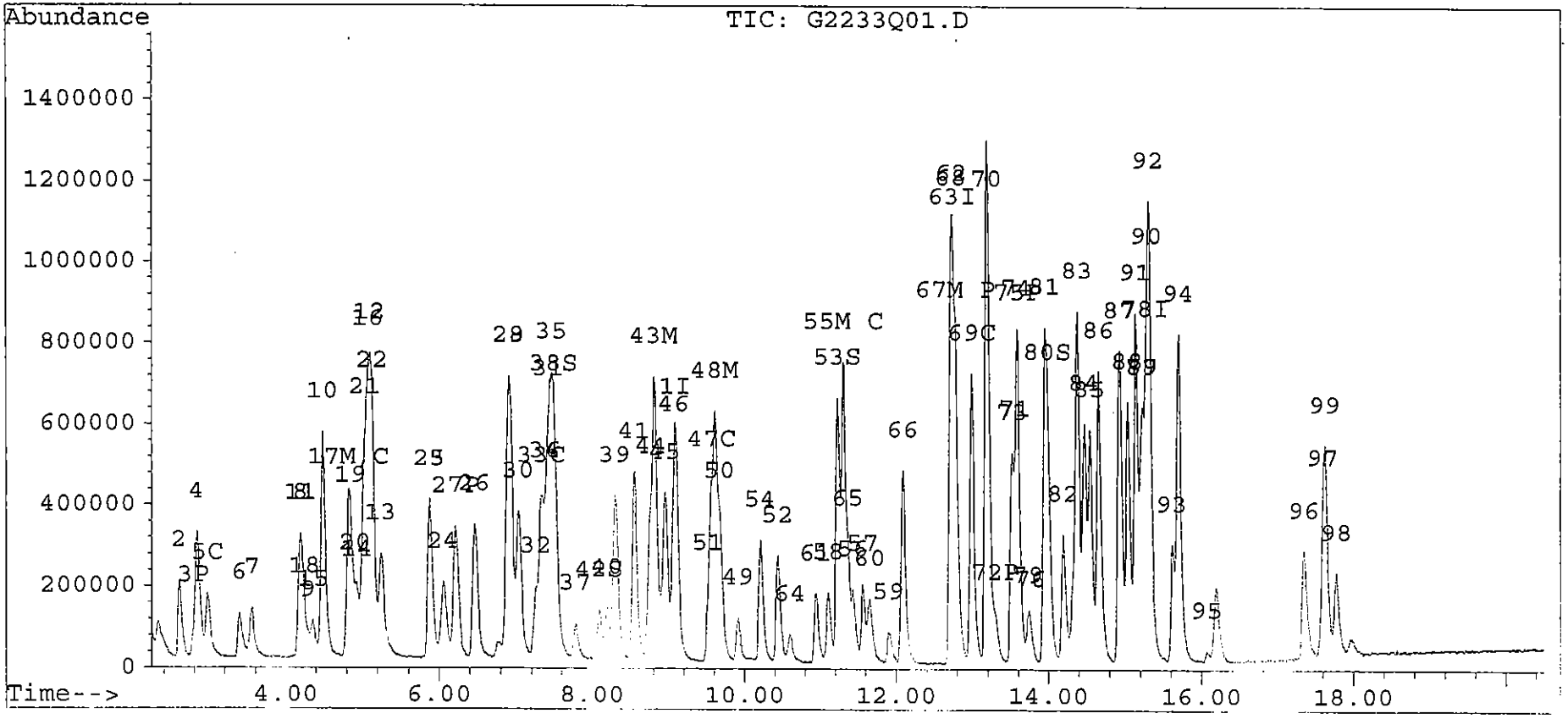
= qualifier out of range, m = manual integration, ? = RT coelution, * = DRRT > 0.06

Quantitation Report

3602

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D Vial: 11
Acq On : 28 Apr 03 2:51 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00
Quant Time: Apr 29 11:02 2003 Quant Results File: quant.res

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



Continuing Calibration Concentration Summary

Data File G2233Q01.D
Method File E524G003

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene I1 1	10	10.00	ppb	0.00	732018
3 di-Cl-di-F-methane 85 87	20	19.15	ppb	4.24	399472
4 Chloromethane 50 52	20	16.66	ppb	16.68	296825
9 F114 85 135	20	19.93	ppb	0.37	465752
5 vinyl chloride 62 64	20	17.45	ppb	12.76	294720
6 bromomethane 94 96	20	15.09	ppb	24.57	225742
7 Chloroethane 64 66	20	19.43	ppb	2.84	243024
8 tri-Cl-F-methane 101 103	20	21.14	ppb	5.71	603817
111 isopropyl alcohol x10	200	147.79	ppb	26.11	48814
100 ethyl ether x5	100	72.98	ppb	27.02	761471
102 Acrolein x10	200	152.26	ppb	23.87	126743
119 methyl acetate	20	19.31	ppb	3.44	173162
104 Carbon disulfide	20	17.06	ppb	14.68	1041337
103 Acrylonitrilex10	200	144.73	ppb	27.63	253157
95 Acetone x10	200	149.29	ppb	25.35	190384
108 F-113	20	22.90	ppb	14.51	502551
13 11-dichloroethene 61 96	20	19.23	ppb	3.86	551808
101 Acetonnitrilex10	200	164.15	ppb	17.93	77058
109 Iodomethane	20	21.87	ppb	9.36	508826
113 Tert butyl alcohol x10	200	150.05	ppb	24.98	95183
18 methylene chloride 49 84	20	15.38	ppb	23.11	456088
112 Allyl chloride	20	19.74	ppb	1.31	626536
200 Nitro methane x10	200	185.31	ppb	7.35	591822
10 t-Bu-Me-ether 73 57	20	16.74	ppb	16.30	518239
19 t-12-di-Cl-ethene 96 61	20	17.02	ppb	14.92	374351
98 Vinyl acetate x5	100	64.42	ppb	35.58	1275266
21 11-dichloroethane 63 83	20	20.57	ppb	2.84	790049
91 2-butanone MEKx10	200	152.69	ppb	23.65	1048265
115 Di isoprop ether	20	17.30	ppb	13.48	1678127
22 c-12-di-Cl-ethene 96 61	20	17.24	ppb	13.80	371096
23 22-Dichloropropane 77 97	20	20.85	ppb	4.25	691181
24 Br-Cl-methane 128 130	20	14.90	ppb	25.52	114978
25 chloroform 83 85	20	17.77	ppb	11.15	683016
201 Ethyl acetate x2	40	28.60	ppb	28.50	279905
116 ETBE	20	16.16	ppb	19.21	954342
117 Iso-butyl alcohol X10	200	153.82	ppb	23.09	301253
26 tetrahydrofuranx5	100	72.13	ppb	27.87	54109
27 Di-Br-F-Methane (S1) 111 1	20	17.33	ppb	13.33	450283
34 111-tri-Cl-ethane 97 99	20	19.98	ppb	0.10	639649
30 12-dichloroethane 64 62	20	16.05	ppb	19.76	240187
35 11-Di-Cl-propene 75 110	20	19.95	ppb	0.24	558188
29 1,2-di-Cl-ethane-d4 [Surr] 10	20	15.37	ppb	23.17	185844
36 benzene 78 52	20	19.35	ppb	3.24	1231060
37 CCl4 117 119	20	21.69	ppb	8.45	531526

97 thiophene	20	16.60	ppb	16.98	525115
118 TAME	20	15.63	ppb	21.87	635398
39 12-di-Cl-propane 63 76	20	18.44	ppb	7.80	343261
40 trichloroethene 130 132	20	19.40	ppb	2.98	382471
96 Me-methacrylate	20	15.57	ppb	22.16	99910
42 Br-di-Cl-methane 83 85	20	16.17	ppb	19.17	419666
41 dibromomethane 174 172	20	16.01	ppb	19.94	143767
45 c-13-di-Cl-propene 75 110	20	16.28	ppb	18.61	372632
55 toluene-d8(S2) 100 99	20	19.19	ppb	4.04	701746
92 2-ClEt-Vi-ether10	200	74.47	ppb	62.77	292345

Compound Name	Amount	Actual	Units	%Dev	Target Response
56 toluene 91 92	20	18.64	ppb	6.78	1114665
107 Et methacrylate	20	13.91	ppb	30.45	172095
93 2-Hexanone x5	100	73.12	ppb	26.88	304050
48 112-tri-Cl-Et 97 83	20	15.38	ppb	23.10	135027
58 1,2-di-br-ethane 107 109	20	14.53	ppb	27.34	135850
51 di-Br-Cl-methane 129 127	20	15.91	ppb	20.43	187532
46 t-13-di-cl-propene 75 110	20	16.53	ppb	17.37	243809
105 1-Chlorohexane	20	23.05	ppb	15.27	416982
47 Cl-benzene-d5, I2	10	10.00	ppb	0.00	198153
54 MIBK	20	18.83	ppb	5.86	117562
49 1,3-di-cl-propane 76 78	20	19.15	ppb	4.27	248028
59 tetra-Cl-ethene 166 168	20	23.22	ppb	16.09	404885
60 chlorobenzene 112 77	20	20.36	ppb	1.80	589599
61 1112-tetra-Cl-Et 131 133	20	20.25	ppb	1.24	234827
64 ethylbenzene 91 106	20	22.33	ppb	11.67	1246055

Compound Name	Amount	Actual	Units	%Dev	Target Response
65 m/p-Xylenes x2	40	44.09	ppb	10.22	1870147
99 1-4-di-Cl-butane	20	17.31	ppb	13.47	221190
52 bromoform 173 175	20	16.93	ppb	15.36	100706
66 styrene 104 78	20	20.25	ppb	1.24	606469
67 o-xylene 91 106	20	20.83	ppb	4.13	869168
68 1122-Tetra-Cl-Et 83 85	20	16.60	ppb	16.98	127254
110 t-1,4-dichloro-2-butene	20	18.76	ppb	6.20	23493
106 Cl-benzyl	20	19.86	ppb	0.70	191399
62 1,4-DCB-d4 150 152 I3	10	10.00	ppb	0.00	162771
69 123-tri-Cl-Pr 110 97	20	17.00	ppb	15.00	33692
70 4-Br-1-F-Bz (S3) 174 95	20	19.14	ppb	4.32	278294
71 isopropylbenzene 105 120	20	24.61	ppb	23.07	1316523
72 bromobenzene 156 158	20	19.16	ppb	4.22	224925
73 n-propylbenzene 120 78	20	24.21	ppb	21.05	349090
74 2-Cl-Tl 126 128	20	21.69	ppb	8.43	207743
75 4-Cl-Tl 126 128	20	20.15	ppb	0.76	263885
76 135-tri-Me-Bz 105 120	20	22.27	ppb	11.35	961772
79 tert-butylbenzene 119 91	20	23.67	ppb	18.34	1049329
78 124-tri-Me-Bz 105 120	20	22.00	ppb	10.02	807924
80 13-di-Cl-Bz 146 148	20	19.63	ppb	1.86	367136
82 14-di-Cl-Bz 146 148	20	18.26	ppb	8.69	496389
81 sec-butylbenzene 105 134	20	23.66	ppb	18.32	1534178

77	4-iso-Pr-toluene	119 134	20	23.49	ppb	17.44	1098724
84	12-di-Cl-benzene	146 148	20	17.74	ppb	11.32	320116
85	n-butylbenzene	91 134	20	23.06	ppb	15.30	1130446
86	12-diBr-3-Cl-Pra	157 155	20	16.11	ppb	19.44	21311
87	124-tri-Cl-Bz	180 182	20	18.11	ppb	9.45	256572
88	naphthalene	128 129	20	19.11	ppb	4.47	206845
90	123-tri-Cl-Bz	180 182	20	19.32	ppb	3.42	189975
					Ave.% Dev	12.74	

Evaluate Continuing Calibration Report

3606

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D Vial: 11
Acq On : 28 Apr 03 2:51 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00

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

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	99	0.00
2		3 di-Cl-di-F-methane 85 8	0.308	0.273	11.5	93	0.00
3	P	4 Chloromethane 50 5	0.243	0.203	16.7	79	0.00
4		9 F114 85 135	0.319	0.318	0.4	101	0.00
5	C	5 vinyl chloride 62 6	0.231	0.201	12.8	86	0.00
6		6 bromomethane 94 9	0.227	0.154	32.2#	80	0.00
7		7 Chloroethane 64 66	0.171	0.166	2.8	97	0.00
8		8 tri-Cl-F-methane 101 10	0.390	0.412	-5.7	99	0.00
9		111 isopropyl alcohol x10	0.005	0.003#	26.1#	88	0.00
10		100 ethyl ether x5	0.143	0.104	27.0#	78	0.00
11		102 Acrolein x10	0.011	0.009#	23.9#	59	0.00
12		119 methyl acetate	0.128	0.118	7.5	93	0.00
13		104 Carbon disulfide	0.834	0.711	14.7	89	0.00
14		103 Acrylonitrilex10	0.024	0.017#	27.6#	73	0.00
15		95 Acetone x10	0.019	0.013#	31.4#	71	0.00
16		108 F-113	0.300	0.343	-14.5	105	0.00
17	M,C	13 11-dichloroethene 61 9	0.392	0.377	3.9	96	0.00
18		101 Acetonnitrilex10	0.006	0.005#	13.5	79	0.00
19		109 Iodomethane	0.311	0.348	-11.8	107	0.00
20		113 Tert butyl alcohol x10	0.009	0.007#	29.4#	71	0.00
21		18 methylene chloride 49 8	0.643	0.312	51.5#	76	0.00
22		112 Allyl chloride	0.434	0.428	1.3	102	0.00
23		200 Nitro methane x10	0.044	0.040#	7.3	93	0.00
24		10 t-Bu-Me-ether 73 57	0.498	0.354	28.9#	84	0.00
25		19 t-12-di-Cl-ethene 96 6	0.301	0.256	14.9	85	0.00
26		98 Vinyl acetate x5	0.270	0.174	35.6#	110	0.00
27	P	21 11-dichloroethane 63 8	0.525	0.540	-2.8	101	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

3607

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D Vial: 11
Acq On : 28 Apr 03 2:51 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00

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

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	0.072	23.7#	81	0.00
29		115 Di isoprop ether			1.125	1.146	-1.9	86	0.00
30		22 c-12-di-Cl-ethene	96	6	0.294	0.253	13.8	86	0.00
31		23 22-Dichloropropane	77	9	0.453	0.472	-4.2	112	0.00
32		24 Br-Cl-methane	128	13	0.094	0.079	16.2	75	0.00
33	C	25 chloroform	83	8	0.525	0.467	11.1	95	0.00
34		201 Ethyl acetate x2			0.134	0.096	28.5#	94	0.00
35		116 ETBE			0.807	0.652	19.2	83	0.00
36		117 Iso-butyl alcohol X10			0.027	0.021#	23.1#	101	0.00
37		26 tetrahydrofuranx5			0.010	0.007#	27.9#	72	0.00
38	S	27 Di-Br-F-Methane (S1)		11	0.400	0.308	23.1#	87	0.00
39		34 111-tri-Cl-ethane	97	9	0.437	0.437	0.1	106	0.00
40		30 12-dichloroethane	64	6	0.175	0.164	6.1	81	0.00
41		35 11-Di-Cl-propene	75	11	0.382	0.381	0.2	102	0.00
42	S	29 1,2-di-Cl-ethane-d4 [Sur			0.165	0.127	23.2#	77	0.00
43	M	36 benzene	78	5	0.869	0.841	3.2	96	0.00
44		37 CCl4	117	11	0.335	0.363	-8.5	108	0.00
45		97 thiophene			0.432	0.359	17.0	84	0.00
46		118 TAME			0.556	0.434	21.9#	80	0.00
47	C	39 12-di-Cl-propane	63	7	0.254	0.234	7.8	91	0.00
48	M	40 trichloroethene	130	13	0.269	0.261	3.0	95	0.00
49		96 Me-methacrylate			0.095	0.068	28.5#	81	0.00
50		42 Br-di-Cl-methane	83	8	0.355	0.287	19.2	87	0.00
51		41 dibromomethane	174	17	0.123	0.098	19.9	74	0.00
52		45 c-13-di-Cl-propene	75	11	0.313	0.255	18.6	84	0.00
53	S	55 toluene-d8(S2)		100	0.500	0.479	4.0	97	0.00
54		92 2-ClEt-Vi-ether10			0.054	0.020#	62.8#	36	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

3608

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D Vial: 11
Acq On : 28 Apr 03 2:51 pm Operator: Eddie
Sample : f=1 Inst : GCMS-G
Misc : Multiplr: 1.00

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

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	0.761	6.8	97	0.00
56		107 Et methacrylate	0.169	0.118	30.4#	104	0.00
57		93 2-Hexanone x5	0.057	0.042#	26.9#	83	0.00
58		48 112-tri-Cl-Et 97 8	0.141	0.092	34.4#	78	0.00
59		58 1,2-di-br-ethane 107 109	0.114	0.093	18.8	71	0.00
60		51 di-Br-Cl-methane 129 12	0.161	0.128	20.4#	77	0.00
61		46 t-13-di-cl-propene 75 11	0.202	0.167	17.4	81	0.00
62		105 1-Chlorohexane	0.310	0.285	8.2	111	0.00
63	I	47 Cl-benzene-d5, I2	1.000	1.000	0.0	88	0.00
64		54 MIBK	0.297	0.297	0.0	82	0.00
65		49 1,3-di-cl-propane 76 78	0.654	0.626	4.3	80	0.00
66		59 tetra-Cl-ethene 166 16	0.880	1.022	-16.1	97	0.00
67	M P	60 chlorobenzene 112 7	1.461	1.488	-1.8	88	0.00
68		61 1112-tetra-Cl-Et 131 13	0.585	0.593	-1.2	83	0.00
69	C	64 ethylbenzene 91 10	2.816	3.144	-11.7	101	0.00
70		65 m/p-Xylenes x2	2.141	2.359	-10.2	98	0.00
71		99 1-4-di-Cl-butane	0.645	0.558	13.5	80	0.00
72	P	52 bromoform 173 17	0.274	0.254	7.2	70	0.00
73		66 styrene 104 7	1.512	1.530	-1.2	89	0.00
74		67 o-xylene 91 10	2.106	2.193	-4.1	95	0.00
75	P	68 1122-Tetra-Cl-Et 83 8	0.387	0.321	17.0	73	0.00
76		110 t-1,4-dichloro-2-butene	0.081	0.059	26.4#	87	0.00
77		106 Cl-benzyl	0.572	0.483	15.5	80	0.00
78	I	62 1,4-DCB-d4 150 152 I3	1.000	1.000	0.0	88	0.00
79		69 123-tri-Cl-Pr 110 9	0.122	0.103	15.0	74	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

3609

Data File : C:\HPCHEM\1\DATA\03G2233\G2233Q01.D
Acq On : 28 Apr 03 2:51 pm
Sample : f=1
Misc :

Vial: 11
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00

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

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	0.893	0.855	4.3	85	0.00
81		71 isopropylbenzene	105	12	3.286	4.044	-23.1#	108	0.00
82		72 bromobenzene	156	15	0.721	0.691	4.2	79	0.00
83		73 n-propylbenzene	120	7	0.886	1.072	-21.1#	104	0.00
84		74 2-Cl-Tl 126 128			0.589	0.638	-8.4	103	0.00
85		75 4-Cl-Tl 126 128			0.804	0.811	-0.8	91	0.00
86		76 135-tri-Me-Bz	105	12	2.653	2.954	-11.3	99	0.00
87		79 tert-butylbenzene	119	9	2.724	3.223	-18.3	103	0.00
88		78 124-tri-Me-Bz	105	12	2.256	2.482	-10.0	95	0.00
89		80 13-di-Cl-Bz 146 148			1.149	1.128	1.9	92	0.00
90		82 14-di-Cl-Bz 146 148			1.670	1.525	8.7	77	0.00
91		81 sec-butylbenzene	105	13	3.983	4.713	-18.3	105	0.00
92		77 4-iso-Pr-toluene	119	13	2.874	3.375	-17.4	101	0.00
93		84 12-di-Cl-benzene	146	14	1.109	0.983	11.3	78	0.00
94		85 n-butylbenzene	91	13	3.012	3.473	-15.3	103	0.00
95		86 12-diBr-3-Cl-Pra	157	15	0.081	0.065	19.4	68	0.00
96		87 124-tri-Cl-Bz	180	18	0.792	0.788	0.5	80	0.00
97		88 naphthalene	128	12	0.665	0.635	4.5	84	0.00
98		90 123-tri-Cl-Bz	180	18	0.604	0.584	3.4	79	0.00
99		89 hx-Cl-butadiene	225	26	0.621	0.870	-40.3#	116	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:	032866
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		CCV Data File:	G2233Q01	Instrument ID:	G

Batch No: 03G2233

#	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			04/28/03 14:51	732018	9.10	198153	12.74	162771	15.25
CCV Upper Limit				1464036	9.60	396306	13.24	325542	15.75
CCV Lower Limit				366009	8.60	99076	12.24	81385	14.75
1	03G2233-LCS-01	03G2233-LCS-01	04/28/03 15:19	690083	9.09	189127	12.75	154498	15.24
2	MW-20-3MS	03-2866-5MS	04/28/03 15:48	702271	9.11	198407	12.75	163321	15.25
3	MW-20-3MSD	03-2866-5MSD	04/28/03 16:17	711756	9.10	188117	12.74	156706	15.24
4	03G2233-MB-01	03G2233-MB-01	04/28/03 17:37	685618	9.10	180325	12.75	143101	15.24
5	EB-5-4/24/03	03-2866-2	04/28/03 18:35	713184	9.09	190736	12.73	151981	15.24
6	MW-20-1	03-2866-3	04/28/03 19:03	759321	9.09	215799	12.73	168581	15.23
7	MW-20-2	03-2866-4	04/28/03 19:32	761943	9.08	209090	12.72	166423	15.23
8	MW-20-3	03-2866-5	04/28/03 20:01	740598	9.09	214196	12.73	168157	15.23
9	MW-20-4	03-2866-6	04/28/03 20:30	795220	9.09	217855	12.73	171440	15.24
10	MW-20-5	03-2866-7	04/28/03 20:59	734700	9.09	201559	12.73	156646	15.24
11	TB-5-4/24/03	03-2866-8	04/28/03 21:27	751842	9.09	202112	12.74	152618	15.24
12	DUPE-3-2Q03	03-2866-1	04/29/03 01:43	762491	9.08	222237	12.72	176749	15.21
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
[illegible] Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC-044

VOC Analysis General Logbook

Service # 0361044 Batch # 0361044 Matrix: W Date: 1/10/03 Analyst: E. Lin

IS/Surrogate: GC14507/14508 Methanol(mark-M): _____ PEG (mark-PEG): _____ Defoaming(mark-DF): _____

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

#	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{epg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
2377	SP	G1044P01	E524G-003	25/25=1	/ =	/ =			G1044P01	1/10/03 1:5 lpm	
2378	Calib	3-0003		/ =	/ =	/ =			3-0003	GC14720	
2379		3-002		/ =	/ =	/ =			3-002		
2380		3-010		/ =	/ =	/ =			3-010		
2381		3-020		/ =	/ =	/ =			3-020		
2382		3-040		/ =	/ =	/ =			3-040		
2383		3-080		/ =	/ =	/ =			3-080		
2384	CCV	G1044Q01		/ =	/ =	/ =			G1044Q01	CCV/ICV/DFA GC14721	
2385	MS	M01		/ =	/ =	/ =			M01	S1011-03	<2
2386	LCS	L01		/ =	/ =	/ =			L01		
2387	MSD	N01		/ =	/ =	/ =			N01	S1011-03	<2
2388	MB	K01		/ =	/ =	/ =			K01		
2389	Sample	1084-03		/ =	/ =	/ =			1084-03		<2
2390		6844-02A		/ =	/ =	/ =			6844-02A		
2391		6844-01A		/ =	/ =	/ =			-01A		
2392		1017-1		/ =	/ =	/ =			1017-1		
2393		1011-02		/ =	/ =	/ =			1011-02		
2394		3		/ =	/ =	/ =			3		
2395		4		/ =	/ =	/ =			4		
2396		5		/ =	/ =	/ =			5		
2397		1047-01		/ =	/ =	/ =			1047-01		
2398		-02		/ =	/ =	/ =			-02		
2399		1051-2		/ =	/ =	/ =			1051-2		
2400		3		/ =	/ =	/ =			3		
2401		1084-1		/ =	/ =	/ =			1084-01		
2402		2		/ =	/ =	/ =			2		
2403		4		/ =	/ =	/ =			4		
2404				/ =	/ =	/ =					
2405				/ =	/ =	/ =					
2406				/ =	1/10/03	/ =					
2407				/ =	/ =	/ =					
2408				/ =	/ =	/ =					

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	2386	GC-14721	200 × 2.5 /X= 20 ppb		GC-	× /X= ppb
MS/MSD	2385/2387	GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

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

VOC Analysis General Logbook

Sequence # 03J 2233 Batch # 03J2233 Matrix: W Date: 04/28/03 Analyst: Eddie

Lot #: IS/Surrogate: GC-1457/1458 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

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

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{vpg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
3689	SP	G2233P01	E524G 003	25/25 = 1	/ =	/ =	1		G2233P01	04/28/03	
3690	CCV	Q01		/ =	/ =	/ =			Q01	gc1587	2:51pm
3691	LCS	L01		/ =	/ =	/ =			L01		
3692	MS	M01		/ =	/ =	/ =			M01	$2866-05	<2
3693	MSD	N01		/ =	/ =	/ =			N01	↓	↓
3694	MB	K01		/ =	/ =	/ =			K01		
3695	Sample	2866-02		/ =	/ =	/ =			2866-02		<2
3696		03		/ =	/ =	/ =			03		
3697		04		/ =	/ =	/ =			04		
3698		05		/ =	/ =	/ =			05		
3699		06		/ =	/ =	/ =			06		
3700		07		/ =	/ =	/ =			07		
3701		08		/ =	/ =	/ =			08		
3702		2843-01		/ =	/ =	/ =			2843-01		
3703		02		/ =	/ =	/ =			02		
3704		03		/ =	/ =	/ =			03		
3705		04		/ =	/ =	/ =			04		
3706		05		/ =	/ =	/ =			05		
3707		06		/ =	/ =	/ =			06		
3708		07		/ =	/ =	/ =			07		
3709		08		/ =	/ =	/ =			08		
3710		2866-01		/ =	/ =	/ =			2866-01		
3711				/ =	/ =	/ =					
3712				/ =	/ =	/ =					
3713				/ =	/ =	/ =					
3714				/ =	/ =	/ =					
3715				/ =	/ =	/ =					
3716				/ =	/ =	/ =					
3717				/ =							
3718				/ =	/ =						
3719				/ =	/ =	/ =					
3720				/ =	/ =	/ =					

05/01/03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$
LCS/LCSD	3691	GC-15088	200 × 2.5 /X= 20 ppb		GC-	× /X= ppb
MS/MSD	3692/3693	GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

Level C Data Package Deliverables

Metals

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/29/2003
Project ID:	JPL	Service ID:	32866	Collected by:	
		Lab Sample ID:	03M1402-MB-01	Received Date:	04/29/2003
Sample ID:	**03M1402-MB-01**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Method Blank				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	< 200	U	P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	< 50	U	P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	< 100	U	P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	66.4	B	P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	525	B	P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-1	Received Date:	04/24/2003
Sample ID:	**DUPE-3-2Q03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	51400		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	49.4	B	P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	15700		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	2310		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	15100		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-2	Received Date:	04/24/2003
Sample ID:	**EB-5-4/24/03**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	< 200	U	P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	26.0	B	P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	< 100	U	P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	106	B	P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	962	B	P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-3	Received Date:	04/24/2003
Sample ID:	**MW-20-1**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	52100		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	56.3		P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	16100		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	2380		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	15800		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-4	Received Date:	04/24/2003
Sample ID:	**MW-20-2**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	39400		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	65.8		P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	13100		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	1780		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	13000		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-5	Received Date:	04/24/2003
Sample ID:	**MW-20-3**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	36900		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	30.2	B	P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	12800		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	2340		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	54200		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-6	Received Date:	04/24/2003
Sample ID:	**MW-20-4**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	10300		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	673		P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	2700		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	1110		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	54300		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Collection Date:	04/24/2003
Project ID:	JPL	Service ID:	32866	Collected by:	Leo Williamson
		Lab Sample ID:	03-2866-7	Received Date:	04/24/2003
Sample ID:	**MW-20-5**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ARSENIC	7440-38-2	μg/L	5	< 5	U	F		03M1402E	04/29/03	04/29/03	1	200.9
CALCIUM	7440-70-2	μg/L	200	4840		P		03M1385L	04/28/03	04/28/03	1	200.7
IRON	7439-89-6	μg/L	50	50.6		P		03M1385L	04/28/03	04/28/03	1	200.7
MAGNESIUM	7439-95-4	μg/L	100	1020		P		03M1385L	04/28/03	04/28/03	1	200.7
POTASSIUM	7440-09-7	μg/L	400	1580		P		03M1385L	04/28/03	04/28/03	1	200.7
SODIUM	7440-23-5	μg/L	2000	64400		P		03M1385L	04/28/03	04/28/03	1	200.7

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

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

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

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

FORM-2A Metal

Applied P & Ch Laboratory

Initial and Continuing Calibration Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	ICV True	11:19 Result	%R	CCV True	11:37 Result	%R	CCV True	11:46 Result	%R	CCV True	12:18 Result	%R
1	Aluminum	10000.0	9970.96	99.7	5000.0	5419.45	108.4	5000.0	4928.17	98.6	5000.0	4808.99	96.2
2	Antimony	4000.0	4142.02	103.6	2000.0	1998.47	99.9	2000.0	1984.69	99.2	2000.0	1986.73	99.3
3	Arsenic	1000.0	1021.57	102.2	500.0	500.61	100.1	500.0	491.93	98.4	500.0	498.73	99.7
4	Barium	10000.0	9989.66	99.9	5000.0	4791.12	95.8	5000.0	4840.39	96.8	5000.0	4701.16	94.0
5	Beryllium	1000.0	1005.99	100.6	500.0	490.12	98.0	500.0	487.05	97.4	500.0	476.71	95.3
6	Cadmium	2000.0	2001.36	100.1	1000.0	969.97	97.0	1000.0	969.12	96.9	1000.0	960.49	96.0
7	Calcium	100000.0	102437.07	102.4	50000.0	50691.70	101.4	50000.0	49169.89	98.3	50000.0	48159.24	96.3
8	Chromium	1000.0	1005.41	100.5	500.0	487.13	97.4	500.0	483.42	96.7	500.0	475.55	95.1
9	Cobalt	4000.0	3994.64	99.9	2000.0	1947.98	97.4	2000.0	1945.50	97.3	2000.0	1913.31	95.7
10	Copper	4000.0	4022.95	100.6	2000.0	1919.65	96.0	2000.0	1912.14	95.6	2000.0	1880.81	94.0
11	Iron	10000.0	9966.51	99.7	5000.0	5058.32	101.2	5000.0	4875.39	97.5	5000.0	4750.73	95.0
12	Lead	1000.0	1023.07	102.3	500.0	502.84	100.6	500.0	499.60	99.9	500.0	499.79	100.0
13	Magnesium	50000.0	50117.52	100.2	25000.0	24891.65	99.6	25000.0	24488.01	98.0	25000.0	23798.43	95.2
14	Manganese	4000.0	3997.44	99.9	2000.0	1931.50	96.6	2000.0	1936.74	96.8	2000.0	1895.59	94.8
15	Nickel	4000.0	3994.44	99.9	2000.0	1966.27	98.3	2000.0	1961.68	98.1	2000.0	1926.47	96.3
16	Potassium	30000.0	29528.26	98.4	15000.0	14838.44	98.9	15000.0	14784.71	98.6	15000.0	14566.18	97.1
17	Selenium	1000.0	1014.62	101.5	500.0	506.93	101.4	500.0	503.36	100.7	500.0	507.84	101.6
18	Silver	2000.0	2018.59	100.9	1000.0	960.87	96.1	1000.0	961.45	96.1	1000.0	934.50	93.5
19	Sodium	200000.0	198825.31	99.4	100000.0	99514.82	99.5	100000.0	99909.27	99.9	100000.0	97769.95	97.8
20	Thallium	1000.0	1029.83	103.0	500.0	485.76	97.2	500.0	499.38	99.9	500.0	499.54	99.9
21	Vanadium	4000.0	3991.54	99.8	2000.0	1954.06	97.7	2000.0	1947.75	97.4	2000.0	1899.47	95.0
22	Zinc	4000.0	3997.95	99.9	2000.0	1979.85	99.0	2000.0	1969.95	98.5	2000.0	1951.83	97.6
23	Molybdenum	4000.0	4019.03	100.5	2000.0	1936.44	96.8	2000.0	1934.01	96.7	2000.0	1899.53	95.0

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

Initial and Continuing Calibration Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03**

Concentration Units: **UG/L**

#	Analyte	CCV True	12:55 Result	%R	CCV True	13:22 Result	%R	CCV True	13:53 Result	%R	CCV True	14:22 Result	%R
1	Aluminum	5000.0	4784.45	95.7	5000.0	4664.04	93.3	5000.0	4861.21	97.2	5000.0	4818.08	96.4
2	Antimony	2000.0	1948.18	97.4	2000.0	1945.80	97.3	2000.0	1962.47	98.1	2000.0	1950.69	97.5
3	Arsenic	500.0	487.19	97.4	500.0	489.34	97.9	500.0	498.15	99.6	500.0	472.18	94.4
4	Barium	5000.0	4662.52	93.3	5000.0	4541.12	90.8	5000.0	4804.30	96.1	5000.0	4737.44	94.7
5	Beryllium	500.0	475.02	95.0	500.0	463.37	92.7	500.0	484.71	96.9	500.0	478.23	95.6
6	Cadmium	1000.0	952.60	95.3	1000.0	950.37	95.0	1000.0	962.73	96.3	1000.0	954.10	95.4
7	Calcium	50000.0	47787.35	95.6	50000.0	47432.20	94.9	50000.0	49640.89	99.3	50000.0	49255.19	98.5
8	Chromium	500.0	467.51	93.5	500.0	462.15	92.4	500.0	475.44	95.1	500.0	471.28	94.3
9	Cobalt	2000.0	1911.50	95.6	2000.0	1870.40	93.5	2000.0	1952.07	97.6	2000.0	1924.60	96.2
10	Copper	2000.0	1886.38	94.3	2000.0	1847.48	92.4	2000.0	1917.70	95.9	2000.0	1895.80	94.8
11	Iron	5000.0	4716.24	94.3	5000.0	4618.15	92.4	5000.0	4836.20	96.7	5000.0	4771.29	95.4
12	Lead	500.0	497.00	99.4	500.0	486.72	97.3	500.0	490.06	98.0	500.0	487.90	97.6
13	Magnesium	25000.0	23570.81	94.3	25000.0	23014.02	92.1	25000.0	24063.34	96.3	25000.0	23845.42	95.4
14	Manganese	2000.0	1886.74	94.3	2000.0	1844.52	92.2	2000.0	1933.57	96.7	2000.0	1907.42	95.4
15	Nickel	2000.0	1923.21	96.2	2000.0	1892.20	94.6	2000.0	1960.80	98.0	2000.0	1936.35	96.8
16	Potassium	15000.0	14722.69	98.2	15000.0	14605.26	97.4	15000.0	14870.31	99.1	15000.0	14897.91	99.3
17	Selenium	500.0	487.93	97.6	500.0	493.91	98.8	500.0	502.97	100.6	500.0	492.96	98.6
18	Silver	1000.0	933.90	93.4	1000.0	911.42	91.1	1000.0	953.32	95.3	1000.0	944.92	94.5
19	Sodium	100000.0	98079.67	98.1	100000.0	96114.38	96.1	100000.0	100020.19	100.0	100000.0	99275.86	99.3
20	Thallium	500.0	478.28	95.7	500.0	484.64	96.9	500.0	489.05	97.8	500.0	481.43	96.3
21	Vanadium	2000.0	1892.95	94.6	2000.0	1848.58	92.4	2000.0	1931.14	96.6	2000.0	1907.50	95.4
22	Zinc	2000.0	1961.14	98.1	2000.0	1936.18	96.8	2000.0	1982.50	99.1	2000.0	1959.95	98.0
23	Molybdenum	2000.0	1866.77	93.3	2000.0	1855.22	92.8	2000.0	1908.16	95.4	2000.0	1889.57	94.5

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

Initial and Continuing Calibration Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	CCV 14:33 True	Result	%R	CCV 15:04 True	Result	%R	CCV 15:37 True	Result	%R	CCV 16:11 True	Result	%R
1	Aluminum	5000.0	4874.49	97.5	5000.0	4855.25	97.1	5000.0	4842.39	96.8	5000.0	4863.42	97.3
2	Antimony	2000.0	1972.57	98.6	2000.0	1979.70	99.0	2000.0	2010.34	100.5	2000.0	1983.70	99.2
3	Arsenic	500.0	491.19	98.2	500.0	490.66	98.1	500.0	506.62	101.3	500.0	500.63	100.1
4	Barium	5000.0	4785.17	95.7	5000.0	4760.38	95.2	5000.0	4719.38	94.4	5000.0	4720.65	94.4
5	Beryllium	500.0	482.32	96.5	500.0	479.79	96.0	500.0	479.27	95.9	500.0	478.13	95.6
6	Cadmium	1000.0	961.28	96.1	1000.0	957.17	95.7	1000.0	980.89	98.1	1000.0	969.04	96.9
7	Calcium	50000.0	49419.66	98.8	50000.0	48876.89	97.8	50000.0	50320.54	100.6	50000.0	50304.39	100.6
8	Chromium	500.0	474.50	94.9	500.0	470.96	94.2	500.0	484.65	96.9	500.0	482.88	96.6
9	Cobalt	2000.0	1934.57	96.7	2000.0	1933.81	96.7	2000.0	1928.81	96.4	2000.0	1928.53	96.4
10	Copper	2000.0	1910.39	95.5	2000.0	1902.97	95.1	2000.0	1906.12	95.3	2000.0	1905.92	95.3
11	Iron	5000.0	4813.90	96.3	5000.0	4799.49	96.0	5000.0	4778.46	95.6	5000.0	4792.23	95.8
12	Lead	500.0	498.07	99.6	500.0	494.22	98.8	500.0	506.11	101.2	500.0	501.88	100.4
13	Magnesium	25000.0	23952.95	95.8	25000.0	23849.25	95.4	25000.0	23708.60	94.8	25000.0	23811.80	95.2
14	Manganese	2000.0	1922.23	96.1	2000.0	1915.20	95.8	2000.0	1906.42	95.3	2000.0	1901.65	95.1
15	Nickel	2000.0	1949.88	97.5	2000.0	1943.98	97.2	2000.0	1946.20	97.3	2000.0	1948.32	97.4
16	Potassium	15000.0	14996.00	100.0	15000.0	14793.95	98.6	15000.0	15074.77	100.5	15000.0	14922.47	99.5
17	Selenium	500.0	498.27	99.7	500.0	488.72	97.7	500.0	496.44	99.3	500.0	496.35	99.3
18	Silver	1000.0	948.72	94.9	1000.0	945.82	94.6	1000.0	945.82	94.6	1000.0	947.84	94.8
19	Sodium	100000.0	100157.59	100.2	100000.0	99502.03	99.5	100000.0	99431.59	99.4	100000.0	99338.79	99.3
20	Thallium	500.0	498.07	99.6	500.0	495.97	99.2	500.0	495.29	99.1	500.0	491.45	98.3
21	Vanadium	2000.0	1923.92	96.2	2000.0	1918.19	95.9	2000.0	1915.69	95.8	2000.0	1919.45	96.0
22	Zinc	2000.0	1970.90	98.5	2000.0	1968.41	98.4	2000.0	1978.79	98.9	2000.0	1971.35	98.6
23	Molybdenum	2000.0	1907.62	95.4	2000.0	1890.90	94.5	2000.0	1936.76	96.8	2000.0	1933.14	96.7

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

Initial and Continuing Calibration Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Instrument:	GFAA-E	Method:	200.9
Batch No.(s):	03M1402				

Analysis Date: **04/29/03** Concentration Units: **UG/L**

		ICV	11:52		CCV	13:10		CCV	14:25		CCV	15:30	
#	Analyte	True	Result	%R	True	Result	%R	True	Result	%R	True	Result	%R
1	Arsenic	50.0	49.60	99.2	50.0	52.30	104.6	50.0	50.20	100.4	50.0	53.80	107.6

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2B Metal

Applied P & Ch Laboratory

CRDL Standard For AA and ICP

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	True	11:29 Found	R%	Time Found	R%
1	Aluminum	200.0	169.42	84.7		
2	Antimony	20.0	19.19	95.9		
3	Arsenic	20.0	21.84	109.2		
4	Barium	10.0	9.24	92.4		
5	Beryllium	4.0	3.88	97.1		
6	Cadmium	5.0	5.01	100.2		
7	Calcium	1000.0	841.44	84.1		
8	Chromium	10.0	8.86	88.6		
9	Cobalt	20.0	17.77	88.8		
10	Copper	10.0	8.77	87.7		
11	Iron	50.0	40.55	81.1		
12	Lead	10.0	9.73	97.3		
13	Magnesium		2.70			
14	Manganese	10.0	8.03	80.3		
15	Nickel	20.0	16.68	83.4		
16	Potassium		68.99			
17	Selenium	10.0	11.87	118.7		
18	Silver	10.0	7.37	73.7		
19	Sodium		806.85			
20	Thallium	10.0	7.18	71.8		
21	Vanadium	10.0	9.38	93.8		
22	Zinc	20.0	19.25	96.2		
23	Molybdenum	15.0	11.65	77.7		

FORM-3 Metal

Applied P & Ch Laboratory

Metal ICB/CCB Summary

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	ICB Result	11:26 C	CCB Result	11:40 C	CCB Result	11:49 C	CCB Result	12:22 C	CCB Result	12:59 C
1	Aluminum	11.30	B	14.00	B	6.15	B	7.13	B	5.60	U
2	Antimony	5.94	B	3.67	B	2.70	U	2.99	B	2.70	U
3	Arsenic	1.90	U	1.90	U	1.90	U	1.90	U	-2.58	B
4	Barium	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
5	Beryllium	0.06	U	0.15	B	0.08	B	0.08	B	0.06	U
6	Cadmium	0.42	B	0.49	B	0.27	B	0.13	U	0.16	B
7	Calcium	59.00	U	-70.79	B	-139.40	B	-115.72	B	59.00	U
8	Chromium	0.14	U	0.14	U	0.31	B	0.15	B	0.18	B
9	Cobalt	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U
10	Copper	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U
11	Iron	1.50	U	2.29	B	1.50	U	1.50	U	1.50	U
12	Lead	1.42	B	1.30	U	1.30	U	1.30	U	1.30	U
13	Magnesium	9.70	U	24.40	B	9.70	U	9.70	U	9.70	U
14	Manganese	-0.17	B	0.24	B	0.25	B	0.24	B	0.16	U
15	Nickel	-0.86	B	-1.08	B	-0.58	B	0.46	U	-0.71	B
16	Potassium	79.72	B	65.40	B	68.33	B	68.41	B	71.73	B
17	Selenium	2.30	U	2.30	U	-3.21	B	2.30	U	2.30	U
18	Silver	-0.70	B	0.61	U	0.95	B	1.23	B	0.61	U
19	Sodium	1295.55	B	1062.67	B	552.48	B	796.40	B	708.57	B
20	Thallium	-1.95	B	1.60	U	1.60	U	1.60	U	1.60	U
21	Vanadium	0.74	B	1.42	B	0.13	B	0.22	B	-0.39	B
22	Zinc	2.20	U	2.20	U	2.20	U	2.20	U	2.20	U
23	Molybdenum	-0.39	B	-0.41	B	0.32	U	0.32	U	0.47	B

FORM-3 Metal

Applied P & Ch Laboratory

Metal ICB/CCB Summary

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	CCB Result	13:25 C	CCB Result	13:56 C	CCB Result	14:25 C	CCB Result	14:36 C	CCB Result	15:08 C
1	Aluminum	5.60	U	5.98	B	5.60	U	5.60	U	5.60	U
2	Antimony	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U
3	Arsenic	1.90	U	-2.05	B	1.90	U	-2.79	B	-2.30	B
4	Barium	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
5	Beryllium	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U
6	Cadmium	0.13	U	0.13	U	-0.17	B	0.13	U	0.13	U
7	Calcium	59.00	U	59.00	U	59.00	U	59.00	U	59.00	U
8	Chromium	0.14	U	-0.14	B	-0.25	B	0.14	U	0.14	U
9	Cobalt	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U
10	Copper	1.70	U	1.70	U	1.70	U	1.70	U	1.70	U
11	Iron	1.50	U	1.50	U	1.50	U	1.50	U	1.50	U
12	Lead	1.30	U	-1.49	B	1.30	U	1.30	U	-1.64	B
13	Magnesium	9.70	U	9.70	U	9.70	U	9.70	U	9.70	U
14	Manganese	0.19	B	0.39	B	0.37	B	0.40	B	0.43	B
15	Nickel	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
16	Potassium	76.92	B	69.49	B	67.25	B	57.99	B	68.69	B
17	Selenium	2.30	U	2.30	U	2.30	U	2.30	U	2.30	U
18	Silver	0.61	U	0.88	B	0.61	U	1.02	B	0.94	B
19	Sodium	769.62	B	461.31	B	514.66	B	330.71	B	261.35	B
20	Thallium	3.17	B	1.60	U	1.60	U	1.60	U	2.28	B
21	Vanadium	-0.41	B	-1.03	B	0.20	B	-0.81	B	-0.42	B
22	Zinc	2.20	U	2.20	U	2.20	U	2.20	U	2.20	U
23	Molybdenum	0.40	B	0.93	B	0.73	B	0.58	B	1.15	B

FORM-3 Metal

Applied P & Ch Laboratory

Metal ICB/CCB Summary

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385				

Analysis Date: **04/28/03** Concentration Units: **UG/L**

#	Analyte	CCB Result	15:40 C	CCB Result	16:15 C	CCB Result	Time C	CCB Result	Time C	CCB Result	Time C
1	Aluminum	5.60	U	5.60	U						
2	Antimony	2.70	U	2.70	U						
3	Arsenic	1.90	U	1.90	U						
4	Barium	1.20	U	1.20	U						
5	Beryllium	0.06	U	0.06	U						
6	Cadmium	-0.29	B	-0.37	B						
7	Calcium	59.00	U	59.00	U						
8	Chromium	0.14	U	0.33	B						
9	Cobalt	0.49	U	0.49	U						
10	Copper	1.70	U	1.70	U						
11	Iron	1.50	U	1.87	B						
12	Lead	-1.83	B	-1.64	B						
13	Magnesium	9.70	U	9.70	U						
14	Manganese	0.46	B	0.45	B						
15	Nickel	0.46	U	0.46	U						
16	Potassium	62.86	B	59.98	B						
17	Selenium	2.30	U	2.30	U						
18	Silver	0.81	B	0.61	U						
19	Sodium	429.43	B	530.86	B						
20	Thallium	1.60	U	2.16	B						
21	Vanadium	-0.67	B	-0.81	B						
22	Zinc	2.20	U	2.20	U						
23	Molybdenum	1.02	B	0.95	B						

FORM-3 Metal

Applied P & Ch Laboratory

Metal ICB/CCB Summary

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Instrument:	GFAA-E	Method:	200.9
Batch No.(s):	03M1402				

Analysis Date: **04/29/03** Concentration Units: **UG/L**

#	Analyte	ICB Result	11:59 C	CCB Result	13:16 C	CCB Result	14:32 C	CCB Result	15:36 C	CCB Result	Time C
1	Arsenic	2.10	U	2.10	U	2.10	U	2.10	U		

FORM-4 Metal

Applied P & Ch Laboratory

ICP Interference Check Sample

Client Name: GEOFON, Inc.
Project Name: JPL
Batch No.(s): 03M1385

Project No: 04-4428.10
Service ID: 032866
ICP ID Number: ICP -L

Lab Code: APCL
Sequence No.: 03M1385L

Analysis Date: **04/28/03**

Concentration Units: **UG/L**

#	Analyte	Expected Sol. A	Expected Sol. AB	Initial 11:32 Sol. A	Found 11:34 Sol. AB	%R	Final 16:06 Sol. A	Found 16:09 Sol. AB	%R
1	Aluminum	500000	500000	426419	468121.5	93.6	425997	460344.4	92.1
2	Antimony	0	1000	2	985.5	98.6	-12	960.1	96.0
3	Arsenic	0	1000	7	960.2	96.0	-8	950.1	95.0
4	Barium	0	500	-2	493.5	98.7	-2	486.3	97.3
5	Beryllium	0	500	0	484.7	96.9	0	478.8	95.8
6	Cadmium	0	1000	0	969.3	96.9	-1	943.8	94.4
7	Calcium	500000	500000	434951	488444.3	97.7	447335	485307.9	97.1
8	Chromium	0	500	6	503.6	100.7	6	484.0	96.8
9	Cobalt	0	500	2	472.2	94.4	3	463.1	92.6
10	Copper	0	500	5	507.7	101.5	4	510.2	102.0
11	Iron	200000	200000	168391	179147.2	89.6	167482	177069.6	88.5
12	Lead	0	1000	-5	942.2	94.2	-10	938.0	93.8
13	Magnesium	500000	500000	439825	466093.8	93.2	433117	459405.2	91.9
14	Manganese	0	500	-2	482.8	96.6	-1	480.0	96.0
15	Nickel	0	1000	0	925.7	92.6	1	935.6	93.6
16	Potassium	0	0	54	70.4		78	90.3	
17	Selenium	0	1000	5	948.7	94.9	10	949.8	95.0
18	Silver	0	1000	4	1005.4	100.5	6	1003.1	100.3
19	Sodium	0	0	664	797.3		261	737.1	
20	Thallium	0	1000	-4	944.0	94.4	-5	919.9	92.0
21	Vanadium	0	500	-3	484.4	96.9	-3	481.2	96.2
22	Zinc	0	1000	3	965.4	96.5	2	987.0	98.7
23	Molybdenum	0	1000	3	960.3	96.0	2	926.8	92.7

FORM-5A Metal

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 200.9

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32866
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03M1402E		
MS Filename:	-	Date Analyzed:	042903	Time Analyzed:	12:44
MSD Filename:	-	Date Analyzed:	042903	Time Analyzed:	12:50
MS Sample No:	**MW-17-2**	Sample Lab ID:	03-2933-3		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
ARSENIC	μg/L	50	0	45.6	91	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
ARSENIC	μg/L	50	46.3	93	2	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-5A Metal

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 200.7

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32866
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03M1385L		
MS Filename:	-	Date Analyzed:	042803	Time Analyzed:	12:11
MSD Filename:	-	Date Analyzed:	042803	Time Analyzed:	12:13
MS Sample No:	**11GP-03-5-GW**	Sample Lab ID:	03-2864-6		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
CALCIUM	μg/L	20000	384	20500	101	75-125
IRON	μg/L	1000	94.5	1050	96	75-125
MAGNESIUM	μg/L	10000	51.7	9410	94	75-125
POTASSIUM	μg/L	5000	132	4880	95	75-125
SODIUM	μg/L	40000	1680	41100	99	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CALCIUM	μg/L	20000	19700	97	4	20	75-125
IRON	μg/L	1000	1030	94	2	20	75-125
MAGNESIUM	μg/L	10000	9160	91	3	20	75-125
POTASSIUM	μg/L	5000	4820	94	1	20	75-125
SODIUM	μg/L	40000	39400	94	5	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-5B Metal

Applied P & Ch Laboratory

Post Digest Spike Sample Recovery

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Batch No.:	03M1385	Method:	200.9
Spike Sample No. :	03-2864-06	Matrix:	WATER	Instrument:	ICP -L
Client Sample No.:	**11GP-03-5-GW**	Analysis Date:	04/28/03		

Concentration Units: **UG/L**

#	Analyte	Spiked Sample Result(SSR)	12:16 C	Sample Result(SR)	12:01 C	Spike Added(SA)	% Rec.	Control Limit	Q
1	Aluminum	2060.9180		54.9690	B	2000.00	100.3	75-125	
2	Antimony	498.9969		2.1644	U	500.00	99.8	75-125	
3	Arsenic	481.8591		-2.7495	U	500.00	96.4	75-125	
4	Barium	3910.6721		5.6050	B	4000.00	97.6	75-125	
5	Beryllium	183.4111		0.0019	U	200.00	91.7	75-125	
6	Cadmium	242.3332		0.1743	B	250.00	96.9	75-125	
7	Calcium	19376.4922		383.5246		20000.00	95.0	75-125	
8	Chromium	954.5433		1.5948	B	1000.00	95.3	75-125	
9	Cobalt	943.3931		0.0474	U	1000.00	94.3	75-125	
10	Copper	971.9611		44.9576		1000.00	92.7	75-125	
11	Iron	1023.0882		94.4792		1000.00	92.9	75-125	
12	Lead	2966.1077		0.1586	U	3000.00	98.9	75-125	
13	Magnesium	9052.4971		51.7407	B	10000.00	90.0	75-125	
14	Manganese	875.9810		1.1989	B	1000.00	87.5	75-125	
15	Nickel	944.3978		0.9739	B	1000.00	94.3	75-125	
16	Potassium	4853.7563		132.1361	B	5000.00	94.4	75-125	
17	Selenium	493.8669		0.0608	U	500.00	98.8	75-125	
18	Silver	902.0764		1.2048	B	1000.00	90.1	75-125	
19	Sodium	39383.1875		1682.7169	B	40000.00	94.3	75-125	
20	Thallium	503.2824		-0.6364	U	500.00	100.7	75-125	
21	Vanadium	1850.0856		0.0225	U	2000.00	92.5	75-125	
22	Zinc	492.7947		10.6573		500.00	96.4	75-125	
23	Molybdenum	2004.1594		0.5360	B	2000.00	100.2	75-125	

FORM-5B Metal

Applied P & Ch Laboratory

Post Digest Spike Sample Recovery

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Batch No.:	03M1402	Method:	200.9
Spike Sample No. :	03-2933-03	Matrix:	WATER	Instrument:	GFAA-E
Client Sample No.:	**MW-17-2**	Analysis Date:	04/29/03		

Concentration Units: **UG/L**

#	Analyte	Spiked Sample Result(SSR)	12:57 C	Sample Result(SR)	12:24 C	Spike Added(SA)	% Rec.	Control Limit	Q
1	Arsenic	48.6000		-0.5000	U	50.00	97.2	75-125	

FORM-6 Metal

Applied P & Ch Laboratory

Duplicates Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Batch No.:	03M1385	Method:	200.9
Spike Sample No.	03-2864-06	Matrix:	WATER	Instrument:	ICP -L
Client Sample No.	**11GP-03-5-GW**	% Solid:	0.00	Analysis Date:	04/28/03

Concentration Unit: **UG/L**

#	Analyte	12:01 Sample(s)	C	12:05 Duplicate	C	RPD(%)	Q
1	Aluminum	54.9690	B	36.9671	B	39.2	
2	Antimony	2.1644	U	2.9460	B	200.0	
3	Arsenic	-2.7495	U	-2.0863	U		
4	Barium	5.6050	B	3.8906	B	36.1	
5	Beryllium	0.0019	U	-0.0027	U		
6	Cadmium	0.1743	B	0.2445	B	33.5	
7	Calcium	383.5246		352.0126		8.6	
8	Chromium	1.5948	B	1.4292	B	11.0	
9	Cobalt	0.0474	U	-0.1001	U		
10	Copper	44.9576		44.6852		0.6	
11	Iron	94.4792		76.8714		20.6	
12	Lead	0.1586	U	0.3155	U		
13	Magnesium	51.7407	B	63.0730	B	19.7	
14	Manganese	1.1989	B	1.2955	B	7.7	
15	Nickel	0.9739	B	1.1288	B	14.7	
16	Potassium	132.1361	B	150.4523	B	13.0	
17	Selenium	0.0608	U	0.7264	U		
18	Silver	1.2048	B	0.5573	U	200.0	
19	Sodium	1682.7169	B	1769.6975	B	5.0	
20	Thallium	-0.6364	U	-0.9075	U		
21	Vanadium	0.0225	U	-0.1294	U		
22	Zinc	10.6573		7.6548	B	32.8	
23	Molybdenum	0.5360	B	-0.1393	U	200.0	

FORM-6 Metal

Applied P & Ch Laboratory

Duplicates Verification

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Batch No.:	03M1402	Method:	200.9
Spike Sample No.	03-2933-03	Matrix:	WATER	Instrument:	GFAA-E
Client Sample No.	**MW-17-2**	% Solid:	0.00	Analysis Date:	04/29/03

Concentration Unit: **UG/L**

#	Analyte	12:24 Sample(s)	C	12:30 Duplicate	C	RPD(%)	Q
1	Arsenic	-0.5000	U	0.7000	U		

FORM-7 Metal

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 200.9

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32866
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03M1402E		
LCS Filename:	-	Date Analyzed:	042903	Time Analyzed:	12:11
LCSD Filename:	-	Date Analyzed:	042903	Time Analyzed:	12:18

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
ARSENIC	μg/L	50	0	53.1	106	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
ARSENIC	μg/L	50	49.8	100	6	20	80-120
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-7 Metal

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 200.7

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	32866
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03M1385L		
LCS Filename:	-	Date Analyzed:	042803	Time Analyzed:	11:55
LCSD Filename:	-	Date Analyzed:	042803	Time Analyzed:	11:58

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CALCIUM	μg/L	20000	0	20400	102	80-120
IRON	μg/L	1000	0	1000	100	80-120
MAGNESIUM	μg/L	10000	0	9360	94	80-120
POTASSIUM	μg/L	5000	0	5200	104	80-120
SODIUM	μg/L	40000	0	40200	101	80-120
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CALCIUM	μg/L	20000	20100	101	1	20	80-120
IRON	μg/L	1000	992	99	1	20	80-120
MAGNESIUM	μg/L	10000	9480	95	1	20	80-120
POTASSIUM	μg/L	5000	5200	104	0	20	80-120
SODIUM	μg/L	40000	40300	101	0	20	80-120
# of Out-of-control				0.	0		

Column to be used to flag recovery and RPD values:

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

Comments: _____

FORM-9 Metal

Applied P & Ch Laboratory

Serial Dilution

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Batch No.:	03M1385	Method:	200.9
Dilution Sample No.:	03-2864-06	Matrix:	WATER	Instrument:	ICP -L
Client Sample No.:	**11GP-03-5-GW**	Analysis Date:	04/28/03		

Concentration Units: **UG/L**

#	Analyte	Initial Sample Results(I)	12:01 C	Serial Dilut Results(S)	12:08 C	% Diff.	Q
1	Aluminum	54.97	B	42.03	B	23.5	
2	Antimony	2.16	U	19.38	B		
3	Arsenic	-2.75	U	-8.81	U		
4	Barium	5.61	B	6.24	B	11.2	
5	Beryllium	0.00	U	0.03	U		
6	Cadmium	0.17	B	-1.29	U	100.0	
7	Calcium	383.52		348.56	B	9.1	
8	Chromium	1.59	B	0.88	B	44.9	
9	Cobalt	0.05	U	-0.07	U		
10	Copper	44.96		42.56	B	5.3	
11	Iron	94.48		88.63	B	6.2	
12	Lead	0.16	U	0.07	U		
13	Magnesium	51.74	B	50.75	B	1.9	
14	Manganese	1.20	B	2.13	B	77.3	
15	Nickel	0.97	B	-0.19	U	100.0	
16	Potassium	132.14	B	367.26	B	177.9	
17	Selenium	0.06	U	4.03	U		
18	Silver	1.20	B	4.72	B	291.6	
19	Sodium	1682.72	B	2853.07	B	69.6	
20	Thallium	-0.64	U	-10.08	U		
21	Vanadium	0.02	U	-1.52	U		
22	Zinc	10.66		12.89	B	21.0	
23	Molybdenum	0.54	B	1.31	U	100.0	

FORM-9 Metal

Applied P & Ch Laboratory

Serial Dilution

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Batch No.:	03M1402	Method:	200.9
Dilution Sample No.:	03-2933-03	Matrix:	WATER	Instrument:	GFAA-E
Client Sample No.:	**MW-17-2**	Analysis Date:	04/29/03		

Concentration Units: **UG/L**

#	Analyte	Initial Sample Results(I)	12:24 C	Serial Dilut Results(S)	12:37 C	% Diff.	Q
1	Arsenic	-0.50	U	-5.00	U		

FORM-13 Metal

Applied P & Ch Laboratory

Preparation Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Batch No.:	03M1385	Method:	200.9
Preparation Matrix:	WATER	Instrument:	ICP -L		

#	Client Sample No.	APCL Sample No.	Preparation Date	Weight (gram)	Volume (ml)
1	11GP-03-5-GW	03-2864-06	04/28/03		50.0
2	11GP-03-5-GW	03-2864-06MD	04/28/03		50.0
3	11GP-09-1-GW	03-2864-08	04/28/03		50.0
4	03GP-05-1-GW	03-2864-12	04/28/03		50.0
5	DUPE-3-2Q03	03-2866-01	04/28/03		50.0
6	EB-5-4/24/03	03-2866-02	04/28/03		50.0
7	MW-20-1	03-2866-03	04/28/03		50.0
8	MW-20-2	03-2866-04	04/28/03		50.0
9	MW-20-3	03-2866-05	04/28/03		50.0
10	MW-20-4	03-2866-06	04/28/03		50.0
11	MW-20-5	03-2866-07	04/28/03		50.0
12	EB-1	03-2867-01	04/28/03		50.0
13	STP-5	03-2867-02	04/28/03		50.0
14	STP-6	03-2867-03	04/28/03		50.0
15	STP-8	03-2867-04	04/28/03		50.0
16	STP-6FD	03-2867-05	04/28/03		50.0
17		03M1385MB	04/28/03		50.0
18		03M1385LCS	04/28/03		50.0
19		03M1385LCSD	04/28/03		50.0
20		03M1385LCS*	04/28/03		50.0
21		03M1385LCSD*	04/28/03		50.0
22	11GP-03-5-GW Dup.	03M1385MD	04/28/03		50.0
23	11GP-03-5-GW MS	03M1385MS	04/28/03		50.0
24	11GP-03-5-GW MSD	03M1385MSD	04/28/03		50.0
25	11GP-03-5-GW MS	03M1385MS*	04/28/03		50.0
26	11GP-03-5-GW MSD	03M1385MSD*	04/28/03		50.0

FORM-13 Metal

Applied P & Ch Laboratory

Preparation Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Batch No.:	03M1402	Method:	200.9
Preparation Matrix:	WATER	Instrument:	GFAA-E		

#	Client Sample No.	APCL Sample No.	Preparation Date	Weight (gram)	Volume (ml)
1	DUPE-2-2Q03	03-2843-01	04/29/03		50.0
2	EB-4-4/23/03	03-2843-02	04/29/03		50.0
3	MW-14-1	03-2843-03	04/29/03		50.0
4	MW-14-2	03-2843-04	04/29/03		50.0
5	MW-14-3	03-2843-05	04/29/03		50.0
6	MW-14-4	03-2843-06	04/29/03		50.0
7	MW-14-5	03-2843-07	04/29/03		50.0
8	DUPE-3-2Q03	03-2866-01	04/29/03		50.0
9	EB-5-4/24/03	03-2866-02	04/29/03		50.0
10	MW-20-1	03-2866-03	04/29/03		50.0
11	MW-20-2	03-2866-04	04/29/03		50.0
12	MW-20-3	03-2866-05	04/29/03		50.0
13	MW-20-4	03-2866-06	04/29/03		50.0
14	MW-20-5	03-2866-07	04/29/03		50.0
15	MW-17-2	03-2933-03DM	04/29/03		50.0
16	EB-6-4/28/03	03-2933-01	04/29/03		50.0
17	MW-17-1	03-2933-02	04/29/03		50.0
18	MW-17-3	03-2933-04	04/29/03		50.0
19	MW-17-4	03-2933-05	04/29/03		50.0
20	MW-17-5	03-2933-06	04/29/03		50.0
21		03M1402MB	04/29/03		50.0
22		03M1402LCS	04/29/03		50.0
23		03M1402LCSD	04/29/03		50.0
24	MW-17-2 Dup.	03M1402MD	04/29/03		50.0
25	MW-17-2 MS	03M1402MS	04/29/03		50.0
26	MW-17-2 MSD	03M1402MSD	04/29/03		50.0

FORM-14 Metal

Applied P & Ch Laboratory

Analysis Run Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385	Start Date:	04/28/03	End Date:	04/28/03

#	APCL Sample No.	D/F	Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	Mo	Sr	Ti	Sn	Li	B	Si
1	Calib Blank	1.00	11:07	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
2	STD1 1423A	1.00	11:10	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
3	STD2 1423B	1.00	11:13	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
4	STD3 1423C	1.00	11:16	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
5	ICV 1447A	1.00	11:19	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
6	ICB	1.00	11:26	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
7	CRI A1432	1.00	11:29	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
8	ICSA 1441	1.00	11:32	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
9	ICSAB 1443	1.00	11:34	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
10	CCV 1447B	1.00	11:37	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
11	CCB	1.00	11:40	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
12	Calib Blank	1.00	11:43	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
13	CCV 1447B	1.00	11:46	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
14	CCB	1.00	11:49	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
15	M-BL 03M1385 W	1.00	11:52	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
16	LCS-03M1385	1.00	11:55	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
17	LCSD-03M1385	1.00	11:58	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
18	2864-6 S F=1	1.00	12:01	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
19	2864-6 D F=1	1.00	12:05	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
20	2864-6 1/5 F=5	5.00	12:08	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
21	2864-6 MS F=1	1.00	12:11	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
22	2864-6 MSD F=1	1.00	12:13	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
23	2864-6 PS F=1	1.00	12:16	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
24	CCV 1447B	1.00	12:18	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
25	CCB	1.00	12:22	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
26	2864-8 F=1	1.00	12:25	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
27	2864-12 F=1	1.00	12:29	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
28	2866-1 F=1	1.00	12:32	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
29	2866-2 F=1	1.00	12:36	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
30	2866-3 F=1	1.00	12:39	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
31	2866-4 F=1	1.00	12:42	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
32	2866-5 F=1	1.00	12:46	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
33	2866-6 F=1	1.00	12:49	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
34	2866-7 F=1	1.00	12:53	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
35	CCV 1447B	1.00	12:55	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
36	CCB	1.00	12:59	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
37	2864-8 F=10	10.00	13:02	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
38	2867-1 F=1	1.00	13:05	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
39	2867-2 F=1	1.00	13:09	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
40	2867-3 F=1	1.00	13:12	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						

FORM-14 Metal

Applied P & Ch Laboratory

Analysis Run Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385	Start Date:	04/28/03	End Date:	04/28/03

#	APCL Sample No.	D/F	Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	Mo	Sr	Ti	Sn	Li	B	Si
41	2867-4 F=1	1.00	13:16	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
42	2867-5 F=1	1.00	13:19	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
43	CCV 1447B	1.00	13:22	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
44	CCB	1.00	13:25	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
45	M-BL 03M1386S	1.00	13:29	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
46	LCS-03M1386	1.00	13:31	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
47	LCSD-03M1386	1.00	13:34	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
48	2864-9 S F=200	4.00	13:36	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
49	2864-9 D F=200	4.00	13:39	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
50	2864-9 1/5 F=10	20.00	13:42	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
51	2864-9 MS F=200	4.00	13:45	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
52	2864-9 MSD F=20	4.00	13:48	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
53	2864-9 PS F=200	4.00	13:50	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
54	CCV 1447B	1.00	13:53	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
55	CCB	1.00	13:56	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
56	2864-10 F=200	4.00	13:59	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
57	2864-11 F=200	4.00	14:01	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
58	2864-17 F=200	4.00	14:04	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
59	2864-18 F=200	4.00	14:07	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
60	2864-19 F=200	4.00	14:09	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
61	2864-20 F=200	4.00	14:12	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
62	2864-25 F=200	4.00	14:14	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
63	2864-26 F=200	4.00	14:17	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
64	2864-28 F=200	4.00	14:19	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
65	CCV 1447B	1.00	14:22	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
66	CCB	1.00	14:25	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
67	2864-29 F=200	4.00	14:28	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
68	2864-30 F=200	4.00	14:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
69	CCV 1447B	1.00	14:33	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
70	CCB	1.00	14:36	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
71	M-BL 03M1387S	1.00	14:40	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
72	LCS-03M1387	1.00	14:42	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
73	LCSD-03M1387	1.00	14:45	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
74	2905-15 S F=50	1.00	14:47	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
75	2905-15 D F=50	1.00	14:50	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
76	2905-15 1/5 F=2	5.00	14:54	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
77	2905-15 MS F=50	1.00	14:56	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
78	2905-15 MSD F=5	1.00	14:59	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
79	2905-15 PS F=50	1.00	15:02	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
80	CCV 1447B	1.00	15:04	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						

FORM-14 Metal

Applied P & Ch Laboratory

Analysis Run Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1385L
		Instrument:	ICP -L	Method:	200.9
Batch No.(s):	03M1385	Start Date:	04/28/03	End Date:	04/28/03

#	APCL Sample No.	D/F	Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	Mo	Sr	Ti	Sn	Li	B	Si
81	CCB	1.00	15:08	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
82	2905-1 F=50	1.00	15:11	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
83	2905-2 F=50	1.00	15:13	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
84	2905-3 F=50	1.00	15:16	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
85	2905-4 F=50	1.00	15:18	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
86	2905-5 F=50	1.00	15:21	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
87	2905-6 F=50	1.00	15:23	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
88	2905-7 F=50	1.00	15:26	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
89	2905-8 F=50	1.00	15:29	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
90	2905-9 F=50	1.00	15:31	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
91	2905-10 F=50	1.00	15:34	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
92	CCV 1447B	1.00	15:37	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
93	CCB	1.00	15:40	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
94	2905-11 F=50	1.00	15:43	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
95	2905-12 F=50	1.00	15:45	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
96	2905-13 F=50	1.00	15:48	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
97	2905-14 F=50	1.00	15:50	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
98	2905-16 F=50	1.00	15:53	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
99	2905-17 F=50	1.00	15:56	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
100	2905-18 F=50	1.00	15:58	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
101	2905-19 F=50	1.00	16:01	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
102	2905-20 F=50	1.00	16:03	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
103	ICSA 1441	1.00	16:06	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
104	ICSAB 1443	1.00	16:09	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
105	CCV 1447B	1.00	16:11	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
106	CCB	1.00	16:15	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						
107	DLC A1427	1.00	16:20	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√						

FORM-14 Metal

Applied P & Ch Laboratory

Analysis Run Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Instrument:	GFAA-E	Method:	200.9
Batch No.(s):	03M1402	Start Date:	04/29/03	End Date:	04/29/03

#	APCL Sample No.	D/F	Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	Mo	Sr	Ti	Sn	Li	B	Si
1	AS Position 002	1.00	11:12			√																											
2	AS Position 001	1.00	11:15			√																											
3	Calib. Blank	1.00	11:18			√																											
4	1/2 STD1 1472A	1.00	11:24			√																											
5	STD1 1472A	1.00	11:31			√																											
6	STD2 1472B	1.00	11:37			√																											
7	STD3 1472C	1.00	11:44			√																											
8	ICV A1474	1.00	11:52			√																											
9	ICB	1.00	11:59			√																											
10	M-BL 03M1402	1.00	12:05			√																											
11	LCS-03M1402	1.00	12:11			√																											
12	LCSD-03M1402	1.00	12:18			√																											
13	2933-3 S F=1	1.00	12:24			√																											
14	2933-3 D F=1	1.00	12:30			√																											
15	2933-3 1/5 F=5	5.00	12:37			√																											
16	2933-3 MS F=1	1.00	12:44			√																											
17	2933-3 MSD F=1	1.00	12:50			√																											
18	2933-3 PS F=1	1.00	12:57			√																											
19	2933-1 F=1	1.00	13:03			√																											
20	CCV A1474	1.00	13:10			√																											
21	CCB	1.00	13:16			√																											
22	2933-2 F=1	1.00	13:22			√																											
23	2933-4 F=1	1.00	13:29			√																											
24	2933-5 F=1	1.00	13:35			√																											
25	2933-6 F=1	1.00	13:41			√																											
26	2866-1 F=1	1.00	13:47			√																											
27	2866-2 F=1	1.00	13:54			√																											
28	2866-3 F=1	1.00	14:00			√																											
29	2866-4 F=1	1.00	14:06			√																											
30	2866-5 F=1	1.00	14:12			√																											
31	2866-6 F=1	1.00	14:19			√																											
32	CCV A1474	1.00	14:25			√																											
33	CCB	1.00	14:32			√																											
34	2866-7 F=1	1.00	14:38			√																											
35	2843-1 F=1	1.00	14:44			√																											
36	2843-2 F=1	1.00	14:51			√																											
37	2843-3 F=1	1.00	14:58			√																											
38	2843-4 F=1	1.00	15:04			√																											
39	2843-5 F=1	1.00	15:11			√																											
40	2843-6 F=1	1.00	15:17			√																											

FORM-14 Metal

Applied P & Ch Laboratory

Analysis Run Log

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Lab Code:	APCL
Project Name:	JPL	Service ID:	032866	Sequence No.:	03M1402E
		Instrument:	GFAA-E	Method:	200.9
Batch No.(s):	03M1402	Start Date:	04/29/03	End Date:	04/29/03

#	APCL Sample No.	D/F	Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	Mo	Sr	Ti	Sn	Li	B	Si
41	2843-7 F=1	1.00	15:23			√																											
42	CCV A1474	1.00	15:30			√																											
43	CCB	1.00	15:36			√																											

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

Metal Digestion (3010/3050) Worksheet

Batch # 03M1385 Matrix: W Method used: 3010A Date: 4/28/03 Digested by: Xi Diluted by: [illegible]

Lot #: ASTM Type I water RW1409 HNO_3 1102120 H_2SO_4 _____ HCl 4102050 H_2O_2 _____

OP #	Type	Samp ID /Lot #	X (g or mL)	$V_{digest}/X = f_1$	$V_f/V_i = f_2$	$V_f'/V_i' = f_3$	$F = f_1 f_2 f_3$	Note
4381	Method Blank	Bl. Lot: RW1409	50	50 /X= 1	/ =	/ =		23ml
4382	LCS1	Bl. Lot: 4		/X=	/ =	/ =		T=95°C
4383	Sample-1	2864-6		/X=	/ =	/ =		
4384	MS1 on S-1	-6		/X=	/ =	/ =		
4385	MS2 on S-1	-6		/X=	/ =	/ =		
4386	Sample 2	-8		/X=	/ =	/ =	F=10 for K-Na	
4387	Sample 3	-12		/X=	/ =	/ =		
4388	Sample 4	2866-1		/X=	/ =	/ =		
4389	Sample 5	-2		/X=	/ =	/ =		
4390	Sample 6	-3		/X=	/ =	/ =		
4391	Sample 7	-4		/X=	/ =	/ =		
4392	Sample 8	-5		/X=	/ =	/ =		
4393	Sample 9	-6		/X=	/ =	/ =		
4394	Sample 10	-7		/X=	/ =	/ =		
4395	LCS2	Bl. Lot: RW1409		/X=	/ =	/ =		
4396	Sample 11	2867-1		/X=	/ =	/ =		
4397	Sample 12	-2		/X=	/ =	/ =		
4398	Sample 13	-3		/X=	/ =	/ =		
4399	Sample 14	-4		/X=	/ =	/ =		
4400	Sample 15	-5		/X=	/ =	/ =		
4401	Sample 16			/X=	/ =	/ =		
4402	Sample 17			/X=	/ =	/ =		
4403	Sample 18			/X=	/ =	/ =		
4404	Sample 19	Xi 4/28/03		/X=	/ =	/ =		
4405	Sample 20			/X=	/ =	/ =		
4406	Duplicate	2864-6	50	50 /X= 1	/ =	/ =		

Specification of matrix spike and lab control spike

QC Type	Spiked Element *	Spike Stock Solution Lot #	Spike Stock (Rep.) Conc. C_s, μg/mL	Spike Stock Volum Used V_s mL	Spike Level $T'=C_sV_s/V$ ppm or mg/L	Sample Spike T, ppm
MS1	/As/Se/Sb/M_{20}	AA- /AA- /AA- /AA 1083	/ / / 25	/ / / 2	/ / / 1	
MS2	/As/Se/Sb/M_{20}	AA- /AA- /AA- /AA- 11	/ / /	/ / /	/ / /	
LCS1	/As/Se/Sb/M_{20}	AA- /AA- /AA- /AA 1082	/ / /	/ / /	/ / /	
LCS2	/As/Se/Sb/M_{20}	AA- /AA- /AA- /AA- 11	/ / /	/ / /	/ / /	

* Notation: T – rep. sample spike level. T' – digest solution spike level. $T=f\,T'=C_sV_s/X$. M20 (or Mj) represents 20 (or j) metals, (see STD logbook).
If digest needs dilution for different metals, use dilution worksheet.

APCL form 6-116 April. 03, 1996. Ver. 4.0 No pencil. Use blue pen for record. Use red pen for correction.
Root-File:[CUST.DOC.AA]DIGEST_ROOT.TEX File:[CUST.DOC.AA]DIGEST .TEX

Supervisor Initial BG49

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

Metal Digestion (3010/3050) Worksheet

Batch # D3M1402 Matrix: W Method used: 3020A Date: 04/9/03 Digested by: XL Diluted by: _____

Lot #: ASTM Type I water RW1409 HNO_3 1102920 H_2SO_4 _____ HCl _____ H_2O_2 _____

OP #	Type	Samp ID /Lot #	X (g or mL)	$V_{digest}/X = f_1$	$V_f/V_i = f_2$	$V_f'/V_i' = f_3$	$F=f_1f_2f_3$	Note
4719	Method Blank	Bl. Lot RW1409	50	50 /X= 1	/ =	/ =		GFAA/As
4720	LCS1	Bl. Lot: "		/X=	/ =	/ =		T=95°C
4721	Sample-1	2933 -3		/X=	/ =	/ =		
4722	MS1 on S-1	-3		/X=	/ =	/ =		
4723	MS2 on S-1	-3		/X=	/ =	/ =		
4724	Sample 2	-1		/X=	/ =	/ =		
4725	Sample 3	-2		/X=	/ =	/ =		
4726	Sample 4	-4		/X=	/ =	/ =		
4727	Sample 5	-5		/X=	/ =	/ =		
4728	Sample 6	-6		/X=	/ =	/ =		
4729	Sample 7	2866-1		/X=	/ =	/ =		
4730	Sample 8	-2		/X=	/ =	/ =		
4731	Sample 9	-3		/X=	/ =	/ =		
4732	Sample 10	-4		/X=	/ =	/ =		
4733	LCS2	Bl. Lot RW1409		/X=	/ =	/ =		
4734	Sample 11	-5		/X=	/ =	/ =		
4735	Sample 12	-6		/X=	/ =	/ =		
4736	Sample 13	-7		/X=	/ =	/ =		
4737	Sample 14	2863-1		/X=	/ =	/ =		
4738	Sample 15	-2		/X=	/ =	/ =		
4739	Sample 16	-3		/X=	/ =	/ =		
4740	Sample 17	-4		/X=	/ =	/ =		
4741	Sample 18	-5		/X=	/ =	/ =		
4742	Sample 19	-6		/X=	/ =	/ =		
4743	Sample 20	-7		/X=	/ =	/ =		
4744	Duplicate	2933-3	↓	↓ /X= ↓	/ =	/ =		

Specification of matrix spike and lab control spike

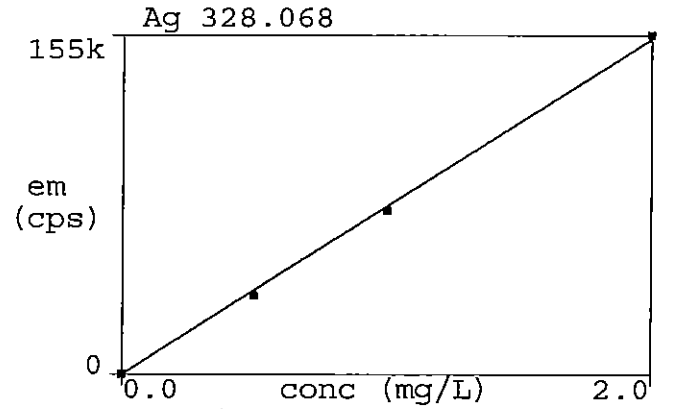
QC Type	Spiked Element *	Spike Stock Solution Lot #	Spike Stock (Rep.) Conc. C_s, µg/mL	Spike Stock Volum Used V_s mL	Spike Level $T'=C_sV_s/V$ ppm or mg/L	Sample Spike T, ppm
MS1	/As/Se/Sb/M_{20}	AA- /AA-1[illegible] /AA- /AA-	/ 5 / /	10.0 /	10.0 /	
MS2	/As/Se/Sb/M_{20}	AA- /AA-4 /AA- /AA-	/ / /	/ / /	/ / /	
LCS1	/As/Se/Sb/M_{20}	AA- /AA-[illegible] /AA- /AA-	/ / /	/ / /	/ / /	
LCS2	/As/Se/Sb/M_{20}	AA- /AA-1[illegible] /AA- /AA-	↓ / /	↓ / /	↓ / /	

* Notation: T – rep. sample spike level. T' – digest solution spike level. $T=f\ T'=C_sV_s/X$. M_{20} (or M_j) represents 20 (or j) metals, (see STD logbook).
If digest needs dilution for different metals, use dilution worksheet.

Supervisor Initial GS 50

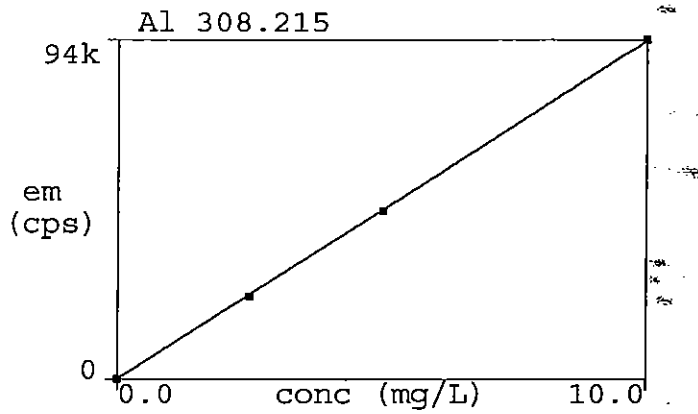
Calibration

Method: 23ME
Result: 03M1385L



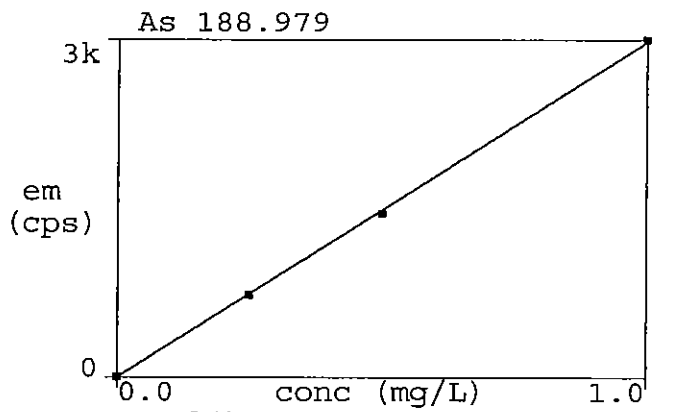
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9994

1



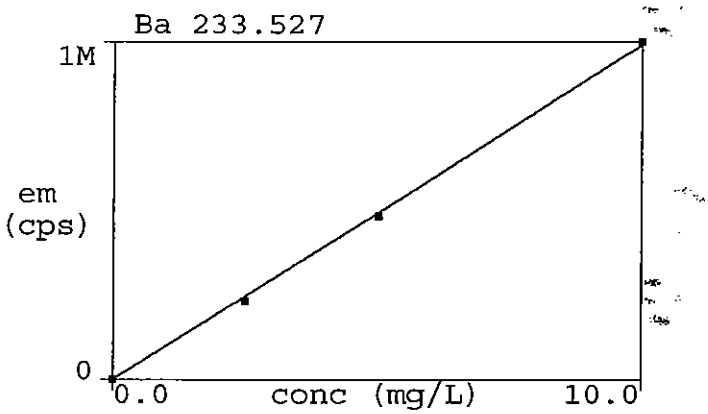
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

2



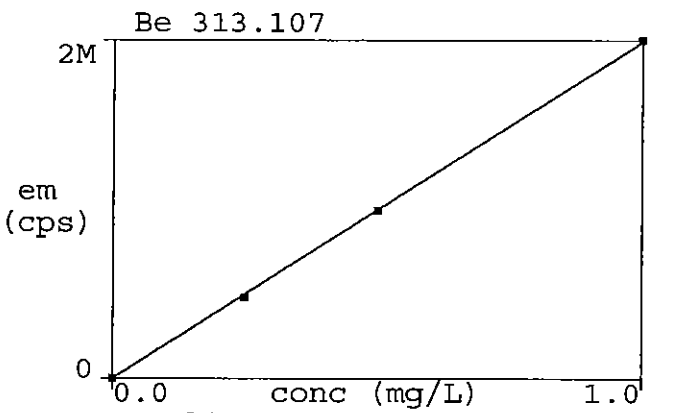
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

3



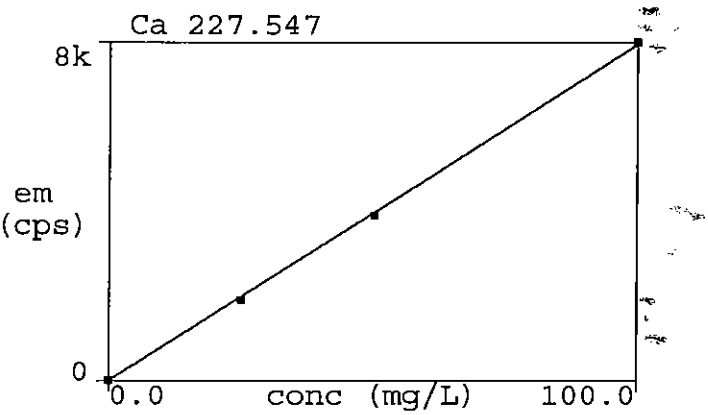
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9996

4



Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

5

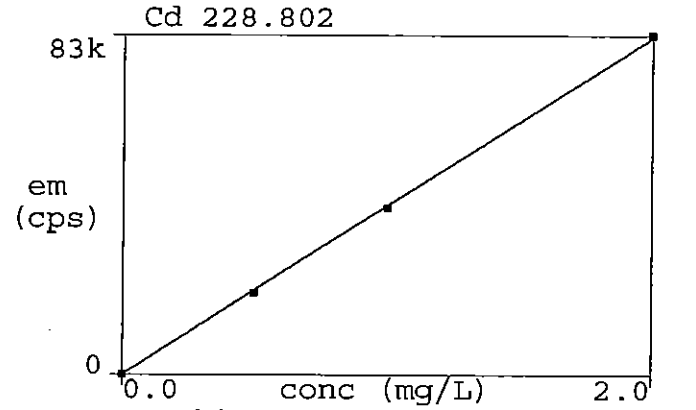


Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

6

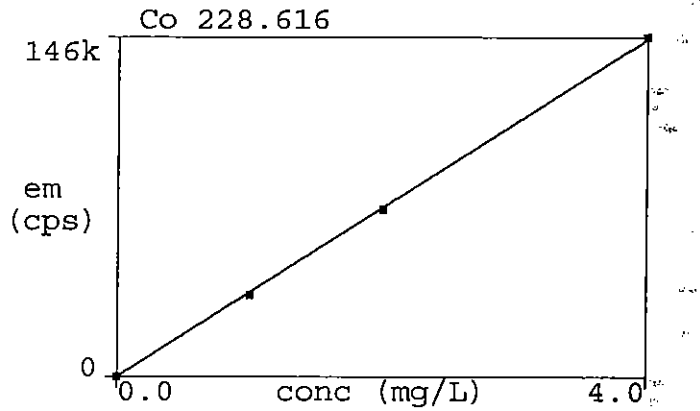
Calibration

Method: 23ME
Result: 03M1385L



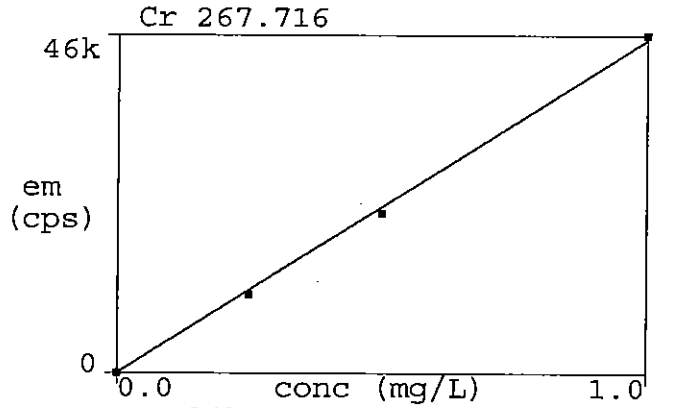
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

7



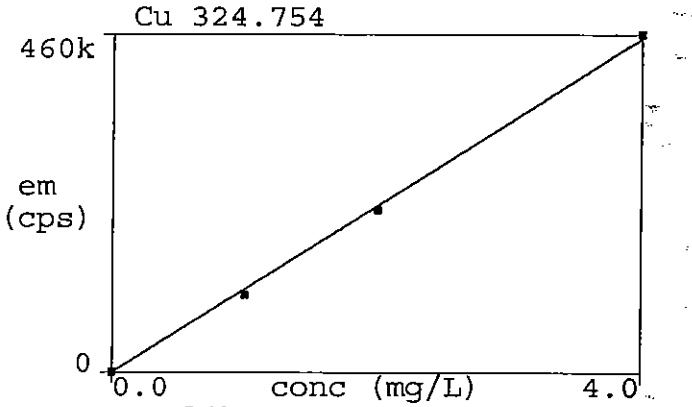
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

8



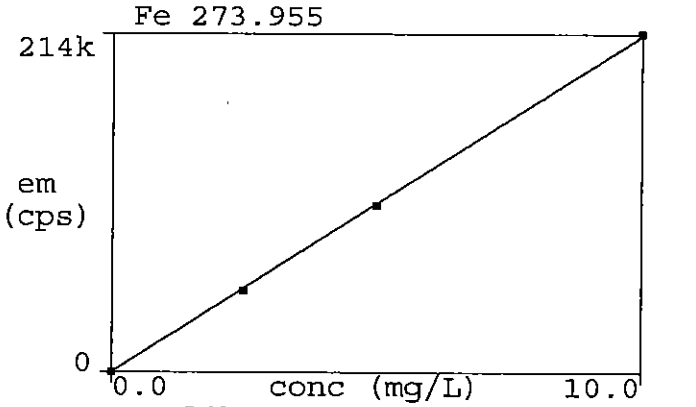
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9993

9



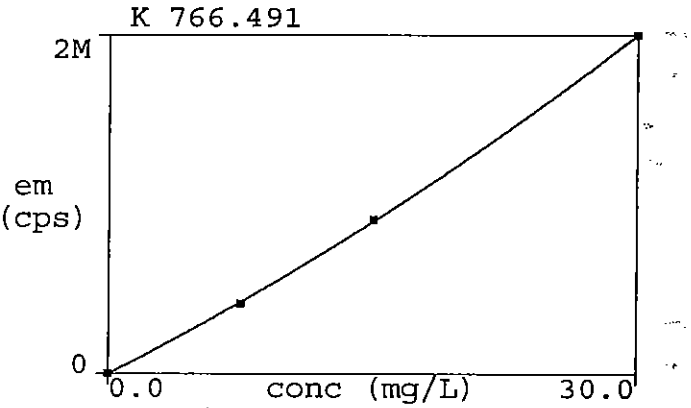
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9994

10



Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

11

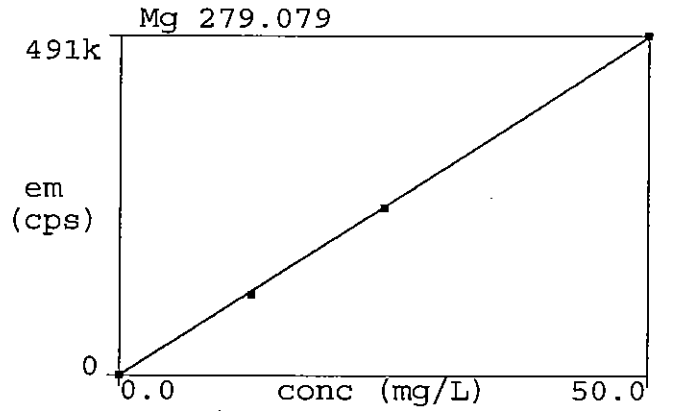


Calib.Eq'n: Non-Linear
Corr. Coeff.: 0.9982

12

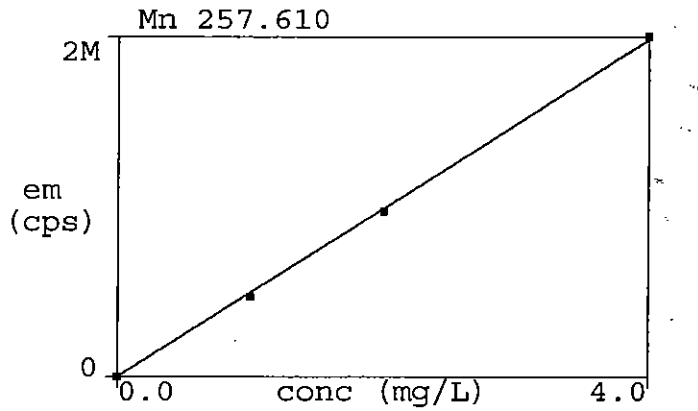
Calibration

Method: 23ME
Result: 03M1385L



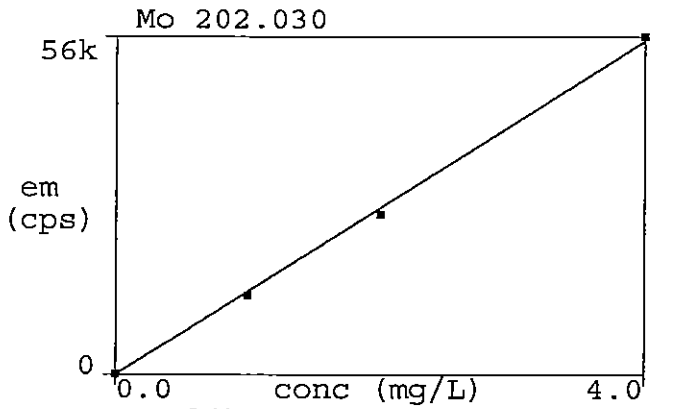
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

13



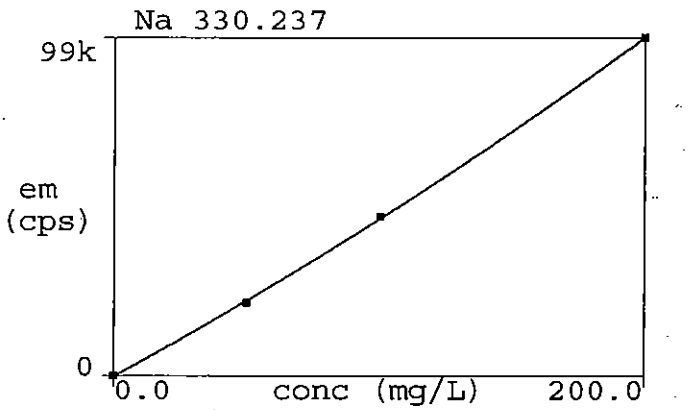
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9997

14



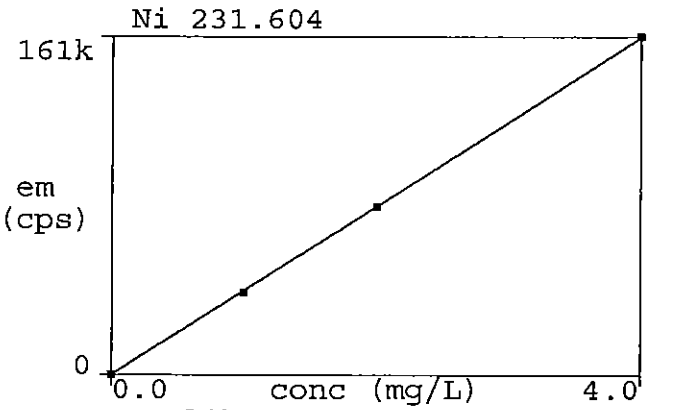
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9993

15



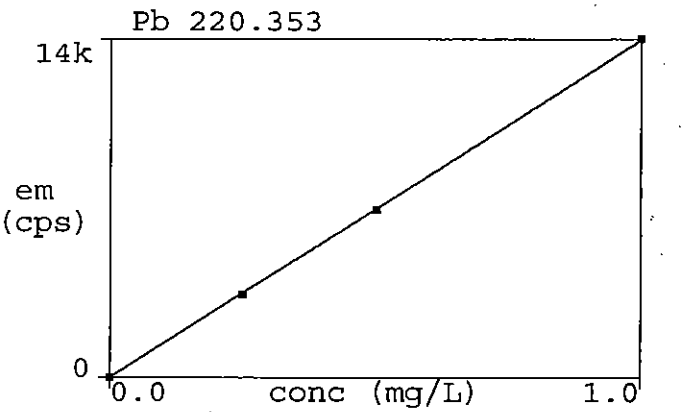
Calib.Eq'n: Non-Linear
Corr. Coeff.: 0.9991

16



Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

17

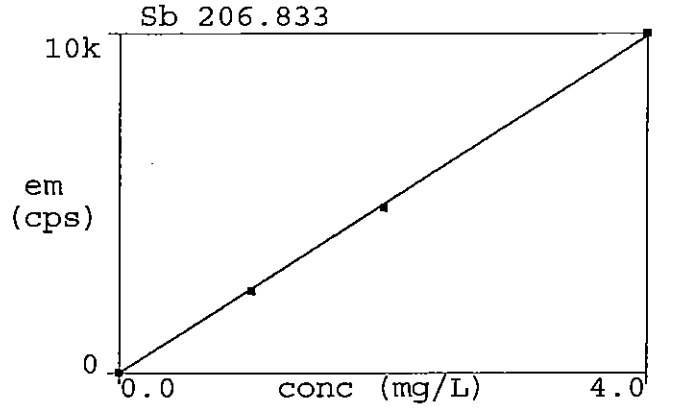


Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 1.0000

18

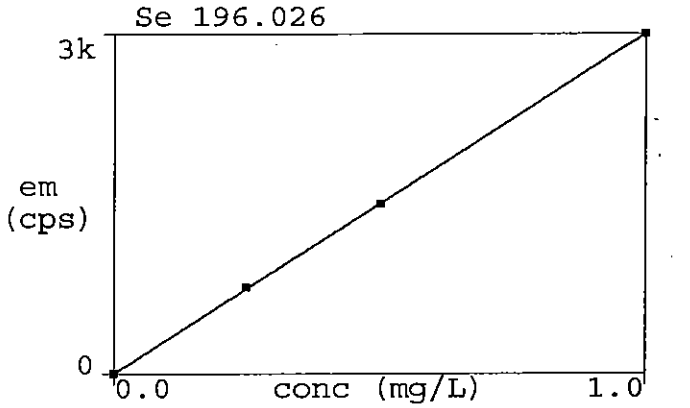
Calibration

Method: 23ME
Result: 03M1385L



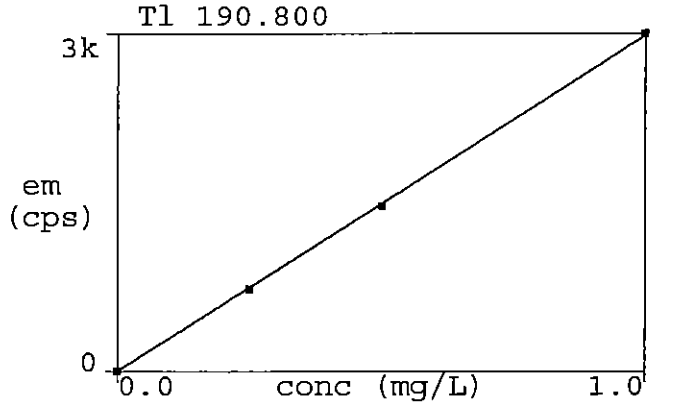
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9998

19



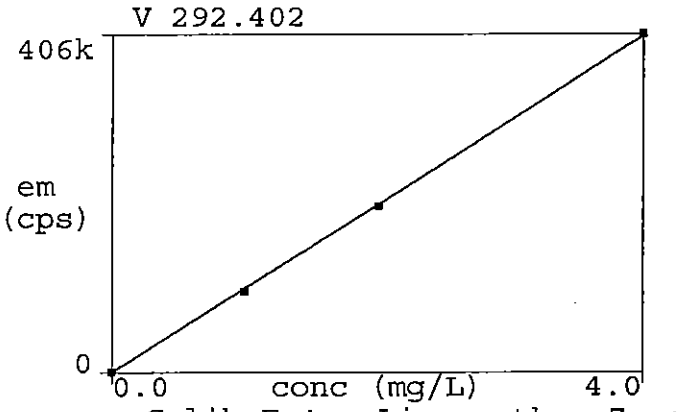
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 1.0000

20



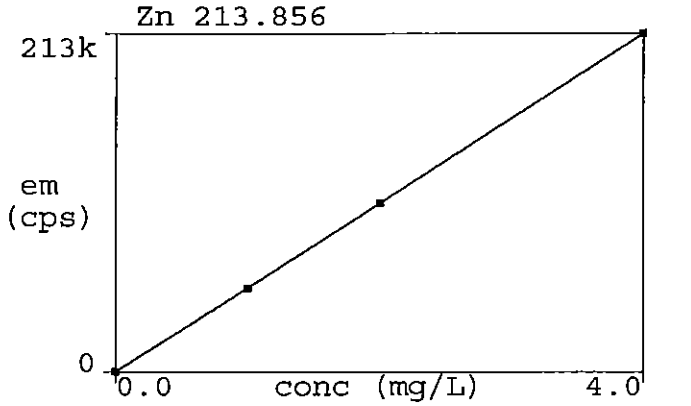
Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

21



Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 0.9999

22



Calib.Eq'n: Linear-thru-Zero
Corr. Coeff.: 1.0000

23