



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
01-Mar-10

QC Summary Report

Work Order:
10021802

Method Blank

File ID: 15	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 23631	Analysis Date: 02/22/2010 16:26						
Sample ID: MB-23631	Units : µg/L	Run ID: IC_3_100222A	Prep Date: 02/18/2010 13:37							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

File ID: 16	Type LFB	Test Code: EPA Method 314.0	Batch ID: 23631	Analysis Date: 02/22/2010 16:44						
Sample ID: LFB-23631	Units : µg/L	Run ID: IC_3_100222A	Prep Date: 02/18/2010 13:37							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.5	2	25		98	85	115			

Sample Matrix Spike

File ID: 21	Type LFM	Test Code: EPA Method 314.0	Batch ID: 23631	Analysis Date: 02/22/2010 18:16						
Sample ID: 10021705-01ALFM	Units : µg/L	Run ID: IC_3_100222A	Prep Date: 02/18/2010 13:37							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	27.2	2	25	2.677	98	80	120			

Sample Matrix Spike Duplicate

File ID: 22	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 23631	Analysis Date: 02/22/2010 18:35						
Sample ID: 10021705-01ALFMD	Units : µg/L	Run ID: IC_3_100222A	Prep Date: 02/18/2010 13:37							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	27.2	2	25	2.677	98	80	120	27.24	0.2(15)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:
01-Mar-10

QC Summary Report

Work Order:
10021802

Method Blank

File ID: 021910.B\032SMPL.D\

Sample ID: MB-23630

Analyte

Chromium (Cr)

Type **MBLK** Test Code: **EPA Method 200.8**

Batch ID: 23630K

Run ID: ICP/MS_100219A

Analysis Date: 02/19/2010 15:43

Prep Date: 02/18/2010 13:15

Units : mg/L

Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

ND 0.005

Laboratory Control Spike

File ID: 021910.B\033_LCS.D\

Sample ID: LCS-23630

Analyte

Chromium (Cr)

Type **LCS** Test Code: **EPA Method 200.8**

Batch ID: 23630K

Run ID: ICP/MS_100219A

Analysis Date: 02/19/2010 15:49

Prep Date: 02/18/2010 13:15

Units : mg/L

Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

0.0505 0.005 0.05 101 80 120

Sample Matrix Spike

File ID: 021910.B\037SMPL.D\

Sample ID: 10021705-01AMS

Analyte

Chromium (Cr)

Type **MS** Test Code: **EPA Method 200.8**

Batch ID: 23630K

Run ID: ICP/MS_100219A

Analysis Date: 02/19/2010 16:11

Prep Date: 02/18/2010 13:15

Units : mg/L

Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

0.0482 0.005 0.05 0 96 80 120

Sample Matrix Spike Duplicate

File ID: 021910.B\038SMPL.D\

Sample ID: 10021705-01AMSD

Analyte

Chromium (Cr)

Type **MSD** Test Code: **EPA Method 200.8**

Batch ID: 23630K

Run ID: ICP/MS_100219A

Analysis Date: 02/19/2010 16:17

Prep Date: 02/18/2010 13:15

Units : mg/L

Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

0.0467 0.005 0.05 0 93 80 120 0.04821 3.2(20)

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **10021907.D**

Batch ID: **MS15W0219M**

Analysis Date: **02/19/2010 10:50**

Sample ID: **MBLK MS15W0219M**

Units: **µg/L**

Run ID: **MSD_15_100219A**

Prep Date: **02/19/2010 10:50**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.64			10		96	70	130		
Surr: Toluene-d8	10			10		100	70	130		



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26-Feb-2010

QC Summary Report

Work Order:

10021802

Surr: 4-Bromofluorobenzene 10.1 10 101 70 130

Laboratory Control Spike

Type LCS

Test Code: EPA Method SW8260B

File ID: 10021905.D

Batch ID: MS15W0219M

Analysis Date: 02/19/2010 09:53

Sample ID: LCS MS15W0219M

Units: µg/L

Run ID: MSD_15_100219A

Prep Date: 02/19/2010 09:53

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	7.56	1	10		76	70	130			
Chloromethane	7.18	2	10		72	70	130			
Vinyl chloride	10.4	1	10		104	70	130			
Chloroethane	8.4	1	10		84	70	130			
Bromomethane	5.93	2	10		59	70(70)	130			L50
Trichlorofluoromethane	10	1	10		100	70	130			
1,1-Dichloroethene	10.2	1	10		102	70	130			
Dichloromethane	10.2	2	10		102	70	130			
trans-1,2-Dichloroethene	10.5	1	10		105	70	130			
Methyl tert-butyl ether (MTBE)	12.2	0.5	10		122	70	130			
1,1-Dichloroethane	9.82	1	10		98	70	130			
cis-1,2-Dichloroethene	11.2	1	10		112	70	130			
Bromochloromethane	11.9	1	10		119	70	130			
Chloroform	9.67	1	10		97	70	130			
2,2-Dichloropropane	11.1	1	10		111	70	130			
1,2-Dichloroethane	11.5	1	10		115	70	130			
1,1,1-Trichloroethane	10.9	1	10		109	70	130			
1,1-Dichloropropene	10.6	1	10		106	70	130			
Carbon tetrachloride	11.3	1	10		113	70	130			
Benzene	9.76	0.5	10		98	70	130			
Dibromomethane	12.3	1	10		123	70	130			
1,2-Dichloropropane	10.6	1	10		106	70	130			
Trichloroethene	10.9	1	10		109	70	130			
Bromodichloromethane	11.9	1	10		119	70	130			
cis-1,3-Dichloropropene	10.7	1	10		107	70	130			
trans-1,3-Dichloropropene	11.2	1	10		112	70	130			
1,1,2-Trichloroethane	11.8	1	10		118	70	130			
Toluene	9.94	0.5	10		99	70	130			
1,3-Dichloropropane	12.3	1	10		123	70	130			
Dibromochloromethane	12.3	1	10		123	70	130			
1,2-Dibromoethane (EDB)	25.6	2	20		128	70	130			
Tetrachloroethene	11	1	10		110	70	130			
1,1,1,2-Tetrachloroethane	11.6	1	10		116	70	130			
Chlorobenzene	10.2	1	10		102	70	130			
Ethylbenzene	9.81	0.5	10		98	70	130			
m,p-Xylene	10.5	0.5	10		105	70	130			
Bromoform	12.1	1	10		121	70	130			
Styrene	11.6	1	10		116	70	130			
o-Xylene	10.5	0.5	10		105	70	130			
1,1,2,2-Tetrachloroethane	10.9	1	10		109	70	130			
1,2,3-Trichloropropane	22.7	2	20		113	70	130			
Isopropylbenzene	9.76	1	10		98	70	130			
Bromobenzene	10.3	1	10		103	70	130			
n-Propylbenzene	9.54	1	10		95	70	130			
4-Chlorotoluene	9.94	1	10		99	70	130			
2-Chlorotoluene	9.72	1	10		97	70	130			
1,3,5-Trimethylbenzene	9.23	1	10		92	70	130			
tert-Butylbenzene	9.33	1	10		93	70	130			
1,2,4-Trimethylbenzene	9.45	1	10		95	70	130			
sec-Butylbenzene	9.61	1	10		96	70	130			
1,3-Dichlorobenzene	9.88	1	10		99	70	130			
1,4-Dichlorobenzene	9.23	1	10		92	70	130			
4-Isopropyltoluene	9.32	1	10		93	70	130			
1,2-Dichlorobenzene	9.38	1	10		94	70	130			
n-Butylbenzene	9.38	1	10		94	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.5	3	50		111	70	130			
1,2,4-Trichlorobenzene	10.8	2	10		108	70	130			
Naphthalene	12.3	2	10		123	70	130			
Hexachlorobutadiene	17.1	2	20		86	70	130			
1,2,3-Trichlorobenzene	10.9	2	10		109	70	130			
Surr: 1,2-Dichloroethane-d4	9.75		10		98	70	130			
Surr: Toluene-d8	9.45		10		95	70	130			
Surr: 4-Bromofluorobenzene	11.1		10		111	70	130			



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Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Sample Matrix Spike
File ID: 10021908.D

Type MS Test Code: EPA Method SW8260B

Batch ID: MS15W0219M

Analysis Date: 02/19/2010 11:12

Sample ID: 10021705-01AMS

Units: µg/L

Run ID: MSD_15_100219A

Prep Date: 02/19/2010 11:12

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.5	2.5	50	0	93	13	167			
Chloromethane	40.9	10	50	0	82	28	145			
Vinyl chloride	55.2	2.5	50	0	110	43	134			
Chloroethane	41.1	2.5	50	0	82	39	154			
Bromomethane	29.1	10	50	0	58	19	176			
Trichlorofluoromethane	50.2	2.5	50	0	100	34	160			
1,1-Dichloroethene	51.5	2.5	50	0	103	60	130			
Dichloromethane	50.6	10	50	0	101	68	130			
trans-1,2-Dichloroethene	53.4	2.5	50	0	107	63	130			
Methyl tert-butyl ether (MTBE)	60.2	1.3	50	0	120	56	141			
1,1-Dichloroethane	49.5	2.5	50	0	99	61	130			
cis-1,2-Dichloroethene	56.2	2.5	50	0	112	70	130			
Bromochloromethane	60.2	2.5	50	0	120	70	130			
Chloroform	49	2.5	50	0.54	97	67	130			
2,2-Dichloropropane	55.3	2.5	50	0	111	30	152			
1,2-Dichloroethane	57.2	2.5	50	0	114	60	135			
1,1,1-Trichloroethane	54.1	2.5	50	0	108	59	137			
1,1-Dichloropropene	53.6	2.5	50	0	107	63	130			
Carbon tetrachloride	55.9	2.5	50	0	112	50	147			
Benzene	49.1	1.3	50	0	98	67	130			
Dibromomethane	59.1	2.5	50	0	118	69	133			
1,2-Dichloropropane	52.6	2.5	50	0	105	69	130			
Trichloroethene	57	2.5	50	4.04	106	69	130			
Bromodichloromethane	58.6	2.5	50	0	117	66	134			
cis-1,3-Dichloropropene	51.5	2.5	50	0	103	63	130			
trans-1,3-Dichloropropene	54.4	2.5	50	0	109	66	131			
1,1,2-Trichloroethane	56.2	2.5	50	0	112	68	130			
Toluene	48.5	1.3	50	0	97	66	130			
1,3-Dichloropropane	59.9	2.5	50	0	120	70	130			
Dibromochloromethane	59	2.5	50	0	118	70	130			
1,2-Dibromoethane (EDB)	125	5	100	0	125	70	130			
Tetrachloroethene	55.3	2.5	50	1.07	108	61	134			
1,1,1,2-Tetrachloroethane	56.3	2.5	50	0	113	70	130			
Chlorobenzene	50.1	2.5	50	0	100	70	130			
Ethylbenzene	48.3	1.3	50	0	97	68	130			
m,p-Xylene	51.5	1.3	50	0	103	64	130			
Bromoform	57.9	2.5	50	0	116	64	138			
Styrene	56.2	2.5	50	0	112	69	130			
o-Xylene	52.3	1.3	50	0	105	70	130			
1,1,2,2-Tetrachloroethane	53.1	2.5	50	0	106	65	131			
1,2,3-Trichloropropane	110	10	100	0	110	70	130			
Isopropylbenzene	46.6	2.5	50	0	93	64	138			
Bromobenzene	47.7	2.5	50	0	95	70	130			
n-Propylbenzene	44.9	2.5	50	0	90	66	132			
4-Chlorotoluene	48.2	2.5	50	0	96	70	130			
2-Chlorotoluene	45.4	2.5	50	0	91	70	130			
1,3,5-Trimethylbenzene	43.9	2.5	50	0	88	66	136			
tert-Butylbenzene	44.3	2.5	50	0	89	65	137			
1,2,4-Trimethylbenzene	44.6	2.5	50	0	89	65	137			
sec-Butylbenzene	45.6	2.5	50	0	91	66	134			
1,3-Dichlorobenzene	46.2	2.5	50	0	92	70	130			
1,4-Dichlorobenzene	44.4	2.5	50	0	89	70	130			
4-Isopropyltoluene	44.7	2.5	50	0	89	66	137			
1,2-Dichlorobenzene	43.6	2.5	50	0	87	70	130			
n-Butylbenzene	45	2.5	50	0	90	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	252	15	250	0	101	67	130			
1,2,4-Trichlorobenzene	47.9	10	50	0	96	61	137			
Naphthalene	53.8	10	50	0	108	40	167			
Hexachlorobutadiene	79.9	10	100	0	80	61	130			
1,2,3-Trichlorobenzene	50.5	10	50	0	101	51	144			
Surr: 1,2-Dichloroethane-d4	48.2		50		96	70	130			
Surr: Toluene-d8	48		50		96	70	130			
Surr: 4-Bromofluorobenzene	53.1		50		106	70	130			



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Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Sample Matrix Spike

File ID: 10021910.D

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0219M

Analysis Date: 02/19/2010 11:57

Sample ID: 10021802-08AMS

Units: µg/L

Run ID: MSD_15_100219A

Prep Date: 02/19/2010 11:57

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.8	2.5	50	0	94	13	167			
Chloromethane	41.1	10	50	0	82	28	145			
Vinyl chloride	56.7	2.5	50	0	113	43	134			
Chloroethane	42.1	2.5	50	0	84	39	154			
Bromomethane	34.2	10	50	0	68	19	176			
Trichlorofluoromethane	51.4	2.5	50	0	103	34	160			
1,1-Dichloroethene	52.1	2.5	50	0	104	60	130			
Dichloromethane	51.1	10	50	0	102	68	130			
trans-1,2-Dichloroethene	52.9	2.5	50	0	106	63	130			
Methyl tert-butyl ether (MTBE)	61	1.3	50	0	122	56	141			
1,1-Dichloroethane	49.3	2.5	50	0	99	61	130			
cis-1,2-Dichloroethene	56.1	2.5	50	0	112	70	130			
Bromochloromethane	61.1	2.5	50	0	122	70	130			
Chloroform	48.3	2.5	50	0	97	67	130			
2,2-Dichloropropane	55.8	2.5	50	0	112	30	152			
1,2-Dichloroethane	56	2.5	50	0	112	60	135			
1,1,1-Trichloroethane	54.3	2.5	50	0	109	59	137			
1,1-Dichloropropene	54.2	2.5	50	0	108	63	130			
Carbon tetrachloride	56	2.5	50	0	112	50	147			
Benzene	49.1	1.3	50	0	98	67	130			
Dibromomethane	59.9	2.5	50	0	120	69	133			
1,2-Dichloropropane	52.6	2.5	50	0	105	69	130			
Trichloroethene	52.9	2.5	50	0	106	69	130			
Bromodichloromethane	58.1	2.5	50	0	116	66	134			
cis-1,3-Dichloropropene	52	2.5	50	0	104	63	130			
trans-1,3-Dichloropropene	55.1	2.5	50	0	110	66	131			
1,1,2-Trichloroethane	57.7	2.5	50	0	115	68	130			
Toluene	48	1.3	50	0	96	66	130			
1,3-Dichloropropane	58.6	2.5	50	0	117	70	130			
Dibromochloromethane	58.7	2.5	50	0	117	70	130			
1,2-Dibromoethane (EDB)	124	5	100	0	124	70	130			
Tetrachloroethene	53.1	2.5	50	0	106	61	134			
1,1,1,2-Tetrachloroethane	56.7	2.5	50	0	113	70	130			
Chlorobenzene	49.8	2.5	50	0	99.5	70	130			
Ethylbenzene	47.6	1.3	50	0	95	68	130			
m,p-Xylene	51.3	1.3	50	0	103	64	130			
Bromoform	57.1	2.5	50	0	114	64	138			
Styrene	55.6	2.5	50	0	111	69	130			
o-Xylene	51.3	1.3	50	0	103	70	130			
1,1,2,2-Tetrachloroethane	54.4	2.5	50	0	109	65	131			
1,2,3-Trichloropropane	108	10	100	0	108	70	130			
Isopropylbenzene	48.4	2.5	50	0	97	64	138			
Bromobenzene	49.1	2.5	50	0	98	70	130			
n-Propylbenzene	46.8	2.5	50	0	94	66	132			
4-Chlorotoluene	49.3	2.5	50	0	99	70	130			
2-Chlorotoluene	47.6	2.5	50	0	95	70	130			
1,3,5-Trimethylbenzene	45.8	2.5	50	0	92	66	136			
tert-Butylbenzene	46.2	2.5	50	0	92	65	137			
1,2,4-Trimethylbenzene	46.5	2.5	50	0	93	65	137			
sec-Butylbenzene	47.9	2.5	50	0	96	66	134			
1,3-Dichlorobenzene	48.3	2.5	50	0	97	70	130			
1,4-Dichlorobenzene	46.6	2.5	50	0	93	70	130			
4-Isopropyltoluene	46.9	2.5	50	0	94	66	137			
1,2-Dichlorobenzene	46	2.5	50	0	92	70	130			
n-Butylbenzene	47.3	2.5	50	0	95	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	276	15	250	0	110	67	130			
1,2,4-Trichlorobenzene	53.8	10	50	0	108	61	137			
Naphthalene	62.1	10	50	0	124	40	167			
Hexachlorobutadiene	88.4	10	100	0	88	61	130			
1,2,3-Trichlorobenzene	56.2	10	50	0	112	51	144			
Surr: 1,2-Dichloroethane-d4	47.6		50		95	70	130			
Surr: Toluene-d8	46.6		50		93	70	130			
Surr: 4-Bromofluorobenzene	55		50		110	70	130			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Sample Matrix Spike Duplicate
File ID: 10021909.D

Type MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0219M

Analysis Date: 02/19/2010 11:34

Sample ID: 10021705-01AMSD

Units: µg/L

Run ID: MSD_15_100219A

Prep Date: 02/19/2010 11:34

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45	2.5	50	0	90	13	167	46.45	3.2(20)	
Chloromethane	36.3	10	50	0	73	28	145	40.86	11.9(20)	
Vinyl chloride	53.4	2.5	50	0	107	43	134	55.17	3.2(20)	
Chloroethane	41.4	2.5	50	0	83	39	154	41.07	0.8(20)	
Bromomethane	32.4	10	50	0	65	19	176	29.14	10.7(20)	
Trichlorofluoromethane	49	2.5	50	0	98	34	160	50.17	2.3(20)	
1,1-Dichloroethene	49.5	2.5	50	0	99	60	130	51.52	3.9(20)	
Dichloromethane	50.6	10	50	0	101	68	130	50.62	0.1(20)	
trans-1,2-Dichloroethene	51.3	2.5	50	0	103	63	130	53.36	4.0(20)	
Methyl tert-butyl ether (MTBE)	58.9	1.3	50	0	118	56	141	60.15	2.1(20)	
1,1-Dichloroethane	47.8	2.5	50	0	96	61	130	49.48	3.6(20)	
cis-1,2-Dichloroethene	53.1	2.5	50	0	106	70	130	56.19	5.6(20)	
Bromochloromethane	58.3	2.5	50	0	117	70	130	60.22	3.2(20)	
Chloroform	48.2	2.5	50	0.54	95	67	130	48.95	1.5(20)	
2,2-Dichloropropane	54.1	2.5	50	0	108	30	152	55.27	2.1(20)	
1,2-Dichloroethane	55.4	2.5	50	0	111	60	135	57.18	3.3(20)	
1,1,1-Trichloroethane	53.3	2.5	50	0	107	59	137	54.07	1.5(20)	
1,1-Dichloropropene	52	2.5	50	0	104	63	130	53.6	3.1(20)	
Carbon tetrachloride	54.4	2.5	50	0	109	50	147	55.91	2.7(20)	
Benzene	47.7	1.3	50	0	95	67	130	49.09	2.8(20)	
Dibromomethane	57.7	2.5	50	0	115	69	133	59.06	2.4(20)	
1,2-Dichloropropane	51	2.5	50	0	102	69	130	52.56	3.0(20)	
Trichloroethene	56.3	2.5	50	4.04	105	69	130	57.03	1.3(20)	
Bromodichloromethane	57.5	2.5	50	0	115	66	134	58.64	2.0(20)	
cis-1,3-Dichloropropene	50.8	2.5	50	0	102	63	130	51.53	1.5(20)	
trans-1,3-Dichloropropene	53.8	2.5	50	0	108	66	131	54.42	1.2(20)	
1,1,2-Trichloroethane	55.1	2.5	50	0	110	68	130	56.2	2.0(20)	
Toluene	48.2	1.3	50	0	96	66	130	48.46	0.6(20)	
1,3-Dichloropropane	59.7	2.5	50	0	119	70	130	59.87	0.3(20)	
Dibromochloromethane	58.4	2.5	50	0	117	70	130	58.98	1.1(20)	
1,2-Dibromoethane (EDB)	124	5	100	0	124	70	130	124.8	0.5(20)	
Tetrachloroethene	54.4	2.5	50	1.07	107	61	134	55.25	1.6(20)	
1,1,1,2-Tetrachloroethane	56.4	2.5	50	0	113	70	130	56.28	0.1(20)	
Chlorobenzene	49.6	2.5	50	0	99	70	130	50.13	1.1(20)	
Ethylbenzene	47.6	1.3	50	0	95	68	130	48.25	1.4(20)	
m,p-Xylene	51.7	1.3	50	0	103	64	130	51.47	0.5(20)	
Bromoform	57.2	2.5	50	0	114	64	138	57.91	1.2(20)	
Styrene	55.6	2.5	50	0	111	69	130	56.23	1.1(20)	
o-Xylene	52	1.3	50	0	104	70	130	52.26	0.5(20)	
1,1,2,2-Tetrachloroethane	54.4	2.5	50	0	109	65	131	53.07	2.6(20)	
1,2,3-Trichloropropane	109	10	100	0	109	70	130	110.4	1.4(20)	
Isopropylbenzene	47.4	2.5	50	0	95	64	138	46.6	1.6(20)	
Bromobenzene	48.2	2.5	50	0	96	70	130	47.65	1.2(20)	
n-Propylbenzene	45.3	2.5	50	0	91	66	132	44.85	1.0(20)	
4-Chlorotoluene	48.6	2.5	50	0	97	70	130	48.16	1.0(20)	
2-Chlorotoluene	46.8	2.5	50	0	94	70	130	45.41	3.1(20)	
1,3,5-Trimethylbenzene	44.8	2.5	50	0	90	66	136	43.88	2.1(20)	
tert-Butylbenzene	45.4	2.5	50	0	91	65	137	44.31	2.3(20)	
1,2,4-Trimethylbenzene	45.7	2.5	50	0	91	65	137	44.57	2.4(20)	
sec-Butylbenzene	47	2.5	50	0	94	66	134	45.64	2.9(20)	
1,3-Dichlorobenzene	47.3	2.5	50	0	95	70	130	46.23	2.2(20)	
1,4-Dichlorobenzene	45.3	2.5	50	0	91	70	130	44.4	2.1(20)	
4-Isopropyltoluene	45.7	2.5	50	0	91	66	137	44.71	2.2(20)	
1,2-Dichlorobenzene	45.4	2.5	50	0	91	70	130	43.58	4.1(20)	
n-Butylbenzene	45.7	2.5	50	0	91	60	142	44.99	1.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	265	15	250	0	106	67	130	252.1	5.0(20)	
1,2,4-Trichlorobenzene	51.9	10	50	0	104	61	137	47.92	8.0(20)	
Naphthalene	59.8	10	50	0	120	40	167	53.75	10.6(20)	
Hexachlorobutadiene	85	10	100	0	85	61	130	79.89	6.2(20)	
1,2,3-Trichlorobenzene	54.8	10	50	0	110	51	144	50.49	8.2(20)	
Surr: 1,2-Dichloroethane-d4	46.6		50		93	70	130			
Surr: Toluene-d8	47.9		50		96	70	130			
Surr: 4-Bromofluorobenzene	53		50		106	70	130			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: 10021911.D

Batch ID: MS15W0219M

Analysis Date: 02/19/2010 12:19

Sample ID: 10021802-08AMSD

Units: µg/L

Run ID: MSD_15_100219A

Prep Date: 02/19/2010 12:19

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45.3	2.5	50	0	91	13	167	46.75	3.1(20)	
Chloromethane	41.1	10	50	0	82	28	145	41.09	0.0(20)	
Vinyl chloride	56.4	2.5	50	0	113	43	134	56.66	0.5(20)	
Chloroethane	42.7	2.5	50	0	85	39	154	42.13	1.3(20)	
Bromomethane	34.3	10	50	0	69	19	176	34.17	0.5(20)	
Trichlorofluoromethane	50	2.5	50	0	100	34	160	51.43	2.8(20)	
1,1-Dichloroethene	51.4	2.5	50	0	103	60	130	52.05	1.3(20)	
Dichloromethane	50.7	10	50	0	101	68	130	51.05	0.7(20)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	52.87	1.0(20)	
Methyl tert-butyl ether (MTBE)	61.8	1.3	50	0	124	56	141	61.01	1.3(20)	
1,1-Dichloroethane	48.6	2.5	50	0	97	61	130	49.25	1.3(20)	
cis-1,2-Dichloroethene	55.9	2.5	50	0	112	70	130	56.07	0.4(20)	
Bromochloromethane	57.9	2.5	50	0	116	70	130	61.06	5.4(20)	
Chloroform	47.9	2.5	50	0	96	67	130	48.34	1.0(20)	
2,2-Dichloropropane	54.2	2.5	50	0	108	30	152	55.79	3.0(20)	
1,2-Dichloroethane	56.5	2.5	50	0	113	60	135	55.96	1.0(20)	
1,1,1-Trichloroethane	53.2	2.5	50	0	106	59	137	54.31	2.0(20)	
1,1-Dichloropropene	52.8	2.5	50	0	106	63	130	54.16	2.6(20)	
Carbon tetrachloride	55.2	2.5	50	0	110	50	147	55.99	1.5(20)	
Benzene	48.5	1.3	50	0	97	67	130	49.12	1.2(20)	
Dibromomethane	59.8	2.5	50	0	120	69	133	59.93	0.2(20)	
1,2-Dichloropropane	52.7	2.5	50	0	105	69	130	52.56	0.3(20)	
Trichloroethene	52.5	2.5	50	0	105	69	130	52.91	0.8(20)	
Bromodichloromethane	58.2	2.5	50	0	116	66	134	58.14	0.1(20)	
cis-1,3-Dichloropropene	51.4	2.5	50	0	103	63	130	52.01	1.1(20)	
trans-1,3-Dichloropropene	54	2.5	50	0	108	66	131	55.13	2.1(20)	
1,1,2-Trichloroethane	56.9	2.5	50	0	114	68	130	57.71	1.4(20)	
Toluene	47.9	1.3	50	0	96	66	130	47.96	0.2(20)	
1,3-Dichloropropane	59.4	2.5	50	0	119	70	130	58.61	1.4(20)	
Dibromochloromethane	58.6	2.5	50	0	117	70	130	58.65	0.1(20)	
1,2-Dibromoethane (EDB)	124	5	100	0	124	70	130	124	0.1(20)	
Tetrachloroethene	53.3	2.5	50	0	107	61	134	53.11	0.3(20)	
1,1,1,2-Tetrachloroethane	55.7	2.5	50	0	111	70	130	56.66	1.6(20)	
Chlorobenzene	49.2	2.5	50	0	98	70	130	49.76	1.2(20)	
Ethylbenzene	47.3	1.3	50	0	95	68	130	47.58	0.5(20)	
m,p-Xylene	50.4	1.3	50	0	101	64	130	51.33	1.9(20)	
Bromoform	57.7	2.5	50	0	115	64	138	57.1	1.0(20)	
Styrene	56.1	2.5	50	0	112	69	130	55.55	1.0(20)	
o-Xylene	51.3	1.3	50	0	103	70	130	51.33	0.0(20)	
1,1,2,2-Tetrachloroethane	54.5	2.5	50	0	109	65	131	54.37	0.2(20)	
1,2,3-Trichloropropane	109	10	100	0	109	70	130	108.4	0.5(20)	
Isopropylbenzene	48.2	2.5	50	0	96	64	138	48.43	0.6(20)	
Bromobenzene	49.1	2.5	50	0	98	70	130	49.1	0.0(20)	
n-Propylbenzene	46.3	2.5	50	0	93	66	132	46.76	1.0(20)	
4-Chlorotoluene	49.1	2.5	50	0	98	70	130	49.25	0.3(20)	
2-Chlorotoluene	47.3	2.5	50	0	95	70	130	47.56	0.6(20)	
1,3,5-Trimethylbenzene	45.2	2.5	50	0	90	66	136	45.82	1.3(20)	
tert-Butylbenzene	46.2	2.5	50	0	92	65	137	46.21	0.1(20)	
1,2,4-Trimethylbenzene	46.2	2.5	50	0	92	65	137	46.51	0.6(20)	
sec-Butylbenzene	47.4	2.5	50	0	95	66	134	47.86	1.0(20)	
1,3-Dichlorobenzene	48.2	2.5	50	0	96	70	130	48.31	0.3(20)	
1,4-Dichlorobenzene	46	2.5	50	0	92	70	130	46.64	1.4(20)	
4-Isopropyltoluene	46.5	2.5	50	0	93	66	137	46.89	0.9(20)	
1,2-Dichlorobenzene	46.3	2.5	50	0	93	70	130	46.01	0.6(20)	
n-Butylbenzene	46.8	2.5	50	0	94	60	142	47.3	1.1(20)	
1,2-Dibromo-3-chloropropane (DBCP)	277	15	250	0	111	67	130	276.2	0.1(20)	
1,2,4-Trichlorobenzene	53.8	10	50	0	108	61	137	53.77	0.1(20)	
Naphthalene	61.7	10	50	0	123	40	167	62.05	0.5(20)	
Hexachlorobutadiene	86.9	10	100	0	87	61	130	88.43	1.8(20)	
1,2,3-Trichlorobenzene	56.3	10	50	0	113	51	144	56.15	0.3(20)	
Surr: 1,2-Dichloroethane-d4	46.7		50		93	70	130			
Surr: Toluene-d8	47.4		50		95	70	130			
Surr: 4-Bromofluorobenzene	55.3		50		111	70	130			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
26-Feb-2010

QC Summary Report

Work Order:
10021802

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Alpha uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag.

L50 = Analyte recovery was below acceptance limits for the LCS, but was acceptable in the MS/MSD.

CHAIN-OF-CUSTODY RECORD

CA

Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778

TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : BMIS10021802

Report Due By : 5:00 PM On : 04-Mar-2010

Client:

Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

Report Attention	Phone Number	E-Mail Address
David Conner	(818) 393-2808 x	connerd@battelle.org
Shane Walton	(614) 424-4117 x	waltons@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@batelle.org

EDD Required : Yes

Sampled by : DL

PO : 218013

Cooler Temp	Samples Received	Date Printed
4 °C	18-Feb-2010	18-Feb-2010

Client's COC # : 28976, 24125, 24127 Job : G005862/JPL Groundwater Monitoring

QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	No. of Bottles Date	Alpha	Sub	TAT	Requested Tests					Sample Remarks
							300_0_W	314_W	METALS_D W	VOC_TIC_W	VOC_W	
BMI10021802-01A	MW-8	AQ	02/17/10 12:08	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-02A	MW-10	AQ	02/17/10 14:20	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-03A	MW-26-2	AQ	02/17/10 11:37	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-04A	MW-26-1	AQ	02/17/10 12:03	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-05A	MW-25-5	AQ	02/17/10 08:38	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-06A	MW-25-4	AQ	02/17/10 09:05	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-07A	MW-25-3	AQ	02/17/10 09:30	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-08A	MW-25-2	AQ	02/17/10 10:05	10	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMI10021802-09A	MW-25-1	AQ	02/17/10 10:32	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI10021802-10A	EB-12-2/17/10	AQ	02/17/10 10:23	5	0	10		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	

Comments: Security seals intact. Frozen ice. Temp Blank #8648 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

Signature	Print Name	Company	Date/Time
	Elizabeth Adcox	Alpha Analytical, Inc.	2-18-10 1027

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : BMIS10021802
Report Due By : 5:00 PM On : 04-Mar-2010

Client: Battelle Memorial Institute
 3990 Old Town Ave
 Suite C-205
 San Diego, CA 92110

Report Attention **Phone Number** **Email Address**

David Corner	(818) 393-2808	x	cornerd@battelle.org
Shane Walton	(614) 424-4117	x	waltonsh@battelle.org
Betsy Curie	(614) 424-4899	x	curieb@battelle.org

EDD Required : Yes

Sampled by : DL

Cooler Temp Samples Received Date Printed

4 °C 18-Feb-2010 18-Feb-2010

Client's COC # : 28976, 24125, 24127 Job : G005862/JPL Groundwater Monitoring

QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests			Sample Remarks							
					300_0_W	314_W METALS_D W	VOC_TIC_W		VOC_W	VOC by 524 Criteria	VOC by 524 Criteria				
BM10021802-11A	TB-12-2/17/10	AQ	02/17/10 00:00	1	0	10									Reno Trip Blank 8/25/09

Comments: Security seals intact. Frozen ice. Temp Blank #8648 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD).

Logged in by: Elizabeth Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 2:18:10 1027

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
 The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
 Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Sercy Tompkins
 Address 505 King Ave
 City, State, Zip Columbus, OH 43201
 Phone Number 614-481-9819 Fax _____



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Samples Collected From Which State?
 AZ CA NV WA
 ID OR OTHER

28976

Page # 1 of 1

Analyses Required

Client Name Battelle P.O. # 218013 Job # JPL-GW-1810
 Address 505 King Ave. Email Address conner.de.battelle.org
 City, State, Zip Columbus, OH 43201 Phone # 619-796-7311 Fax # 614-481-6641
 Time Date Matrix* Sampled by Report Attention Sample Description TAT Field Filtered Total and Type of containers ** See below
 1208 4/1/10 AQ BMT10021802-01 MW-8 MW-8 5
 1420 3/1/10 AQ MW-10 MW-10 5

Time	Date	Matrix* See Key Below	Sampled by	Report Attention	Sample Description	TAT	Field Filtered	Total and Type of containers ** See below	524.8 VOC's	200.8 Total Cr.	314 C104	300 C1: 504- NO2- NO3- PO4-3	Required QC Level? I II III IV	REMARKS
1208	4/1/10	AQ	BMT10021802-01	MW-8	MW-8			5	X	X	X			
1420	3/1/10	AQ		MW-10	MW-10			5	X	X	X			

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>David Laera</i>	David Laera	Battelle	2/17/10	1435
<i>Karen Henderson</i>	Karen Henderson	Battelle	2/17/10	1435
<i>Anthony Stara</i>	Anthony Stara	Battelle	2/17/10	1504
<i>Elizabeth Alder</i>	Elizabeth Alder	Battelle	2/18/10	1650

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this code. The liability of the laboratory is limited to the amount paid for the report.

Billing Information:

Name GERALD TOMPKINS / BATTELLE
 Address 505 KING AVE
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Samples Collected From Which State? **24125**
 AZ CA NV WA
 ID OR OTHER Page # 1 of 1

Analyses Required

Client Name BATTELLE / DAVID COWNER P.O. # 215013 Job # G005862
 Address 3990 OLD TOWN AVE, C-205 Email Address _____
 City, State, Zip SAN DIEGO CA 92110 Phone # (619) 726-7311 Fax # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number	Office Use Only	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Vol (524.2)	Total G (200.8)	C104 (314.0)	Required QC Level? I II III IV	EDD / EDF? YES NO	REMARKS
1/37	2/17/10	AQ					MW-26-2	NMNH		VPS	X	X	X			
1/203							MW-26-1				X	X	X			
											X	X	X			

103

EDDIP BEAR

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARCO REVERDOZA	INSIGHT	2/17/10	1504
<i>[Signature]</i>	ANTHONY STARK	Alpha	2/17/10	1504
<i>[Signature]</i>	ANTHONY STARK	Alpha	2/17/10	1650
<i>[Signature]</i>	ELIZABETH FIDCOX	Alpha	2/18/10	1027

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.

Billing Information:

Name GEORGE TOMPKINS/BATTELLE
 Address 505 KING AVE
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Samples Collected From Which State? 24127
 AZ CA NV WA
 ID OR OTHER Page # 1 of 1

Analyses Required

Required QC Level?
 I II III IV

EDD / EDF? YES ___ NO ___
 Global ID # _____
 REMARKS

Client Name	Address	City, State, Zip	P.O. #	Job #	Phone #	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524.2)	Total Cr (200.8)	ClO ₄ (314.0)	REMARKS
BATTELLE / DAVID CONNER	3990 OLD TOWN AVE, C-205	SAV, CA 92110	218013	6005862	(619) 726-7311	MW-25-5	Normal		VIP-5	X	X	X	
						MW-25-4				X	X	X	
						MW-25-3				X	X	X	
						MW-25-2			VIP-10	X	X	X	MS LMSD
						MW-25-1			VIP-5	X	X	X	
						EB-12 - 2 117-10				X	X	X	EQUIP. BLANK
						TB-12 - 2/17/10			IV	X			TRIP BLANK

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARCO NEUBOZA	INSIGHT	2/17/10	1504
<i>[Signature]</i>	ARTHUR STAR	ALPHA	2/17/10	1524
<i>[Signature]</i>	ARTHUR STAR	ALPHA	2/17/10	1650
<i>[Signature]</i>	ELIZABETH FLORES	Alpha	2-18-10	1027

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** - L-liner V-Voa S-Soil Jar O-Orto T-Tedlar B-Brass P-Plastic OT-Other
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date 02-Mar-10

David Conner
Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
(818) 393-2808

Suite C-205

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI10021903

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
10021903-01A	MW-5	Aqueous
10021903-02A	DUPE-6-1Q10	Aqueous
10021903-03A	MW-15	Aqueous
10021903-04A	DUPE-7-1Q10	Aqueous
10021903-05A	TRIP BLANK	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

Enclosed please find the analytical results of the samples received by Alpha Analytical, Inc. under the above mentioned Work Order/Chain-of-Custody.

Alpha Analytical, Inc. has a formal Quality Assurance/Quality Control program, which is designed to meet or exceed the EPA requirements. All relevant QC met quality assurance objectives for this project unless otherwise stated in the footnotes.

If you have any questions with regards to this report, please contact Randy Gardner, Project Manager, at (800) 283-1183.

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (310) 803-7761 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 02/19/10

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-5				
Lab ID : BMI10021903-01A Perchlorate	ND	1.00 µg/L	02/24/10 12:49	02/24/10 15:54
Date Sampled 02/18/10 11:19				
Client ID: DUPE-6-1Q10				
Lab ID : BMI10021903-02A Perchlorate	ND	1.00 µg/L	02/24/10 12:49	02/24/10 16:12
Date Sampled 02/18/10 11:19				

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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3/4/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 02/19/10

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-5 Lab ID : BMI10021903-01A Chromium (Cr) Date Sampled 02/18/10 11:19	ND	0.0050 mg/L	02/24/10 10:01	02/24/10 19:08
Client ID: DUPE-6-1Q10 Lab ID : BMI10021903-02A Chromium (Cr) Date Sampled 02/18/10 11:19	ND	0.0050 mg/L	02/24/10 10:01	02/24/10 19:31
Client ID: MW-15 Lab ID : BMI10021903-03A Chromium (Cr) Date Sampled 02/18/10 14:16	ND	0.0050 mg/L	02/24/10 10:01	02/24/10 19:36
Client ID: DUPE-7-1Q10 Lab ID : BMI10021903-04A Chromium (Cr) Date Sampled 02/18/10 14:16	ND	0.0050 mg/L	02/24/10 10:01	02/24/10 19:42

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job: G005862/JPL Groundwater Monitoring

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-5 Lab ID: BMI10021903-01A Date Received: 02/19/10 Date Sampled: 02/18/10 11:19	*** None Found ***	ND	02/22/10 14:12	02/22/10 14:12
Client ID: DUPE-6-1Q10 Lab ID: BMI10021903-02A Date Received: 02/19/10 Date Sampled: 02/18/10 11:19	*** None Found ***	ND	02/22/10 14:34	02/22/10 14:34
Client ID: TRIP BLANK Lab ID: BMI10021903-05A Date Received: 02/19/10 Date Sampled: 02/18/10 00:00	*** None Found ***	ND	02/22/10 13:50	02/22/10 13:50

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (310) 803-7761 / info@alpha-analytical.com

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3/4/10

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job: G005862/JPL Groundwater Monitoring

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641

Alpha Analytical Number: BMI10021903-01A
Client I.D. Number: MW-5

Sampled: 02/18/10 11:19
Received: 02/19/10
Extracted: 02/22/10 14:12
Analyzed: 02/22/10 14:12

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	95	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	105	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	J 1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Data flags are DOD specified with criteria that may differ from EPA or inhouse statistical criteria.

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

J = Estimated: The analyte was positively identified; the quantitation is an estimation.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*
Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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3/4/10

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job: G005862/JPL Groundwater Monitoring

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641

Alpha Analytical Number: BMI10021903-02A
Client I.D. Number: DUPE-6-1Q10

Sampled: 02/18/10 11:19
Received: 02/19/10
Extracted: 02/22/10 14:34
Analyzed: 02/22/10 14:34

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	95	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Data flags are DOD specified with criteria that may differ from EPA or inhouse statistical criteria.

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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3/4/10

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job: G005862/JPL Groundwater Monitoring

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641

Alpha Analytical Number: BMI10021903-05A
Client I.D. Number: TRIP BLANK

Sampled: 02/18/10 00:00
Received: 02/19/10
Extracted: 02/22/10 13:50
Analyzed: 02/22/10 13:50

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Data flags are DOD specified with criteria that may differ from EPA or inhouse statistical criteria.

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (310) 803-7761 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

3/4/10

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC Sample Preservation Report

Work Order: BMI10021903

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
10021903-01A	MW-5	Aqueous	2
10021903-02A	DUPE-6-1Q10	Aqueous	2
10021903-05A	TRIP BLANK	Aqueous	2

3/4/10

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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Date:
01-Mar-10

QC Summary Report

Work Order:
10021903

Method Blank

File ID: 18	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 23661	Analysis Date: 02/24/2010 14:59
Sample ID: MB-23661	Units : µg/L	Run ID: IC_3_100224A	Prep Date: 02/24/2010 12:49	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	ND	1		

Laboratory Fortified Blank

File ID: 19	Type LFB	Test Code: EPA Method 314.0	Batch ID: 23661	Analysis Date: 02/24/2010 15:17
Sample ID: LFB-23661	Units : µg/L	Run ID: IC_3_100224A	Prep Date: 02/24/2010 12:49	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	25	2	25	99.9 85 115

Sample Matrix Spike

File ID: 23	Type LFM	Test Code: EPA Method 314.0	Batch ID: 23661	Analysis Date: 02/24/2010 16:31
Sample ID: 10021903-02ALFM	Units : µg/L	Run ID: IC_3_100224A	Prep Date: 02/24/2010 12:49	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	24.9	2	25	0 99.6 80 120

Sample Matrix Spike Duplicate

File ID: 24	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 23661	Analysis Date: 02/24/2010 16:49
Sample ID: 10021903-02ALFMD	Units : µg/L	Run ID: IC_3_100224A	Prep Date: 02/24/2010 12:49	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	24	2	25	0 96 80 120 24.9 3.7(15)

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Method Blank

File ID: 022410.B\021SMPL.D\

Sample ID: MB-23657

Analyte

Chromium (Cr)

Type **MBLK** Test Code: **EPA Method 200.8**

Batch ID: **23657K**

Run ID: **ICP/MS_100224B**

Units : mg/L SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

Result PQL 0.005

Analysis Date: **02/24/2010 18:46**

Prep Date: **02/24/2010 10:01**

Laboratory Control Spike

File ID: 022410.B\022_LCS.D\

Sample ID: LCS-23657

Analyte

Chromium (Cr)

Type **LCS** Test Code: **EPA Method 200.8**

Batch ID: **23657K**

Run ID: **ICP/MS_100224B**

Units : mg/L SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

Result PQL 0.005 0.05 101 80 120

Analysis Date: **02/24/2010 18:52**

Prep Date: **02/24/2010 10:01**

Sample Matrix Spike

File ID: 022410.B\026SMPL.D\

Sample ID: 10021903-01AMS

Analyte

Chromium (Cr)

Type **MS** Test Code: **EPA Method 200.8**

Batch ID: **23657K**

Run ID: **ICP/MS_100224B**

Units : mg/L SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

Result PQL 0.005 0.05 0 105 80 120

Analysis Date: **02/24/2010 19:14**

Prep Date: **02/24/2010 10:01**

Sample Matrix Spike Duplicate

File ID: 022410.B\027SMPL.D\

Sample ID: 10021903-01AMSD

Analyte

Chromium (Cr)

Type **MSD** Test Code: **EPA Method 200.8**

Batch ID: **23657K**

Run ID: **ICP/MS_100224B**

Units : mg/L SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual

Result PQL 0.005 0.05 0 101 80 120 0.05232 3.5(20)

Analysis Date: **02/24/2010 19:19**

Prep Date: **02/24/2010 10:01**

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **10022208.D**

Batch ID: **MS15W0222M**

Analysis Date: **02/22/2010 10:51**

Sample ID: **MBLK MS15W0222M**

Units : **µg/L**

Run ID: **MSD_15_100222C**

Prep Date: **02/22/2010 10:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.88		10		99	70	130			
Surr: Toluene-d8	9.98		10		99.8	70	130			



Alpha Analytical, Inc.

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Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Surr: 4-Bromofluorobenzene

10

10

100

70

130



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Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Laboratory Control Spike

File ID: 10022205.D

Sample ID: LCS MS15W0222M

Type LCS

Test Code: EPA Method SW8260B

Batch ID: MS15W0222M

Analysis Date: 02/22/2010 09:45

Run ID: MSD_15_100222C

Prep Date: 02/22/2010 09:45

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	7.58	1	10		76	70	130			
Chloromethane	6.24	2	10		62	70(70)	130			L50
Vinyl chloride	9.72	1	10		97	70	130			
Chloroethane	8.47	1	10		85	70	130			
Bromomethane	4.75	2	10		48	70(70)	130			L50
Trichlorofluoromethane	10.5	1	10		105	70	130			
1,1-Dichloroethene	10.5	1	10		105	70	130			
Dichloromethane	10.5	2	10		105	70	130			
trans-1,2-Dichloroethene	10.8	1	10		108	70	130			
Methyl tert-butyl ether (MTBE)	13	0.5	10		130	70	130			
1,1-Dichloroethane	10.1	1	10		101	70	130			
cis-1,2-Dichloroethene	11.7	1	10		117	70	130			
Bromochloromethane	12.6	1	10		126	70	130			
Chloroform	10.3	1	10		103	70	130			
2,2-Dichloropropane	11.4	1	10		114	70	130			
1,2-Dichloroethane	12.1	1	10		121	70	130			
1,1,1-Trichloroethane	11.4	1	10		114	70	130			
1,1-Dichloropropene	10.9	1	10		109	70	130			
Carbon tetrachloride	11.9	1	10		119	70	130			
Benzene	9.98	0.5	10		99.8	70	130			
Dibromomethane	13.2	1	10		132	70	130(130)			L51
1,2-Dichloropropane	10.8	1	10		108	70	130			
Trichloroethene	11.2	1	10		112	70	130			
Bromodichloromethane	12.8	1	10		128	70	130			
cis-1,3-Dichloropropene	11.4	1	10		114	70	130			
trans-1,3-Dichloropropene	12.3	1	10		123	70	130			
1,1,2-Trichloroethane	12.4	1	10		124	70	130			
Toluene	10	0.5	10		100	70	130			
1,3-Dichloropropane	12.8	1	10		128	70	130			
Dibromochloromethane	13	1	10		130	70	130			
1,2-Dibromoethane (EDB)	27.1	2	20		136	70	130(130)			L51
Tetrachloroethene	11.1	1	10		111	70	130			
1,1,1,2-Tetrachloroethane	12.1	1	10		121	70	130			
Chlorobenzene	10.4	1	10		104	70	130			
Ethylbenzene	10.1	0.5	10		101	70	130			
m,p-Xylene	10.8	0.5	10		108	70	130			
Bromoform	12.9	1	10		129	70	130			
Styrene	11.8	1	10		118	70	130			
o-Xylene	11	0.5	10		110	70	130			
1,1,2,2-Tetrachloroethane	11.7	1	10		117	70	130			
1,2,3-Trichloropropane	24.3	2	20		121	70	130			
Isopropylbenzene	9.81	1	10		98	70	130			
Bromobenzene	10.2	1	10		102	70	130			
n-Propylbenzene	9.55	1	10		96	70	130			
4-Chlorotoluene	10.2	1	10		102	70	130			
2-Chlorotoluene	9.69	1	10		97	70	130			
1,3,5-Trimethylbenzene	9.33	1	10		93	70	130			
tert-Butylbenzene	9.35	1	10		94	70	130			
1,2,4-Trimethylbenzene	9.48	1	10		95	70	130			
sec-Butylbenzene	9.59	1	10		96	70	130			
1,3-Dichlorobenzene	9.98	1	10		99.8	70	130			
1,4-Dichlorobenzene	9.53	1	10		95	70	130			
4-Isopropyltoluene	9.45	1	10		95	70	130			
1,2-Dichlorobenzene	9.53	1	10		95	70	130			
n-Butylbenzene	9.46	1	10		95	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	60.7	3	50		121	70	130			
1,2,4-Trichlorobenzene	11	2	10		110	70	130			
Naphthalene	13.4	2	10		134	70	130(130)			L51
Hexachlorobutadiene	17.6	2	20		88	70	130			
1,2,3-Trichlorobenzene	11.9	2	10		119	70	130			
Surr: 1,2-Dichloroethane-d4	10.1		10		101	70	130			
Surr: Toluene-d8	9.41		10		94	70	130			
Surr: 4-Bromofluorobenzene	10.7		10		107	70	130			



Alpha Analytical, Inc.

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Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B**

File ID: **10022209.D**

Batch ID: **MS15W0222M**

Analysis Date: **02/22/2010 11:14**

Sample ID: **10021903-01AMS**

Units : **µg/L**

Run ID: **MSD_15_100222C**

Prep Date: **02/22/2010 11:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.7	2.5	50	0	93	13	167			
Chloromethane	31.4	10	50	0	63	28	145			
Vinyl chloride	51.8	2.5	50	0	104	43	134			
Chloroethane	42.6	2.5	50	0	85	39	154			
Bromomethane	21.6	10	50	0	43	19	176			
Trichlorofluoromethane	54.2	2.5	50	0	108	34	160			
1,1-Dichloroethene	52.7	2.5	50	0	105	60	130			
Dichloromethane	50.5	10	50	0	101	68	130			
trans-1,2-Dichloroethene	53	2.5	50	0	106	63	130			
Methyl tert-butyl ether (MTBE)	59.2	1.3	50	0	118	56	141			
1,1-Dichloroethane	49.4	2.5	50	0	99	61	130			
cis-1,2-Dichloroethene	56.2	2.5	50	0	112	70	130			
Bromochloromethane	58.8	2.5	50	0	118	70	130			
Chloroform	49.5	2.5	50	0	99	67	130			
2,2-Dichloropropane	56.6	2.5	50	0	113	30	152			
1,2-Dichloroethane	57.9	2.5	50	0	116	60	135			
1,1,1-Trichloroethane	56.7	2.5	50	0	113	59	137			
1,1-Dichloropropene	54.4	2.5	50	0	109	63	130			
Carbon tetrachloride	58.2	2.5	50	0	116	50	147			
Benzene	49	1.3	50	0	98	67	130			
Dibromomethane	59.7	2.5	50	0	119	69	133			
1,2-Dichloropropane	52	2.5	50	0	104	69	130			
Trichloroethene	54.1	2.5	50	0	108	69	130			
Bromodichloromethane	59.9	2.5	50	0	120	66	134			
cis-1,3-Dichloropropene	51.5	2.5	50	0	103	63	130			
trans-1,3-Dichloropropene	55.6	2.5	50	0	111	66	131			
1,1,2-Trichloroethane	56.5	2.5	50	0	113	68	130			
Toluene	48.1	1.3	50	0	96	66	130			
1,3-Dichloropropane	59	2.5	50	0	118	70	130			
Dibromochloromethane	58.9	2.5	50	0	118	70	130			
1,2-Dibromoethane (EDB)	123	5	100	0	123	70	130			
Tetrachloroethene	53.9	2.5	50	0	108	61	134			
1,1,1,2-Tetrachloroethane	57.3	2.5	50	0	115	70	130			
Chlorobenzene	49.9	2.5	50	0	99.7	70	130			
Ethylbenzene	48.2	1.3	50	0	96	68	130			
m,p-Xylene	51.2	1.3	50	0	102	64	130			
Bromoform	57.6	2.5	50	0	115	64	138			
Styrene	55.6	2.5	50	0	111	69	130			
o-Xylene	52.3	1.3	50	0	105	70	130			
1,1,2,2-Tetrachloroethane	53.2	2.5	50	0	106	65	131			
1,2,3-Trichloropropane	107	10	100	0	107	70	130			
Isopropylbenzene	48.2	2.5	50	0	96	64	138			
Bromobenzene	48.6	2.5	50	0	97	70	130			
n-Propylbenzene	46.2	2.5	50	0	92	66	132			
4-Chlorotoluene	49	2.5	50	0	98	70	130			
2-Chlorotoluene	46.6	2.5	50	0	93	70	130			
1,3,5-Trimethylbenzene	45.4	2.5	50	0	91	66	136			
tert-Butylbenzene	45.9	2.5	50	0	92	65	137			
1,2,4-Trimethylbenzene	45.7	2.5	50	0	91	65	137			
sec-Butylbenzene	47.2	2.5	50	0	94	66	134			
1,3-Dichlorobenzene	47.7	2.5	50	0	95	70	130			
1,4-Dichlorobenzene	45.3	2.5	50	0	91	70	130			
4-Isopropyltoluene	46	2.5	50	0	92	66	137			
1,2-Dichlorobenzene	44.7	2.5	50	0	89	70	130			
n-Butylbenzene	46.3	2.5	50	0	93	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	258	15	250	0	103	67	130			
1,2,4-Trichlorobenzene	50.3	10	50	0	101	61	137			
Naphthalene	54.5	10	50	0	109	40	167			
Hexachlorobutadiene	85.9	10	100	0	86	61	130			
1,2,3-Trichlorobenzene	50.4	10	50	0	101	51	144			
Surr: 1,2-Dichloroethane-d4	48.3		50		97	70	130			
Surr: Toluene-d8	46.5		50		93	70	130			
Surr: 4-Bromofluorobenzene	53		50		106	70	130			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Sample Matrix Spike Duplicate

File ID: 10022210.D

Sample ID: 10021903-01AMSD

Type MSD

Test Code: EPA Method SW8260B

Batch ID: MS15W0222M

Analysis Date: 02/22/2010 11:36

Run ID: MSD_15_100222C

Prep Date: 02/22/2010 11:36

Analyte	Units : µg/L	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane		45	2.5	50	0	90	13	167	46.73	3.7(20)	
Chloromethane		28.3	10	50	0	57	28	145	31.37	10.5(20)	
Vinyl chloride		53.9	2.5	50	0	108	43	134	51.83	4.0(20)	
Chloroethane		42	2.5	50	0	84	39	154	42.63	1.6(20)	
Bromomethane		22.8	10	50	0	46	19	176	21.56	5.4(20)	
Trichlorofluoromethane		52	2.5	50	0	104	34	160	54.18	4.1(20)	
1,1-Dichloroethene		51.8	2.5	50	0	104	60	130	52.68	1.7(20)	
Dichloromethane		49.5	10	50	0	99	68	130	50.47	1.9(20)	
trans-1,2-Dichloroethene		51.5	2.5	50	0	103	63	130	52.97	2.8(20)	
Methyl tert-butyl ether (MTBE)		59.4	1.3	50	0	119	56	141	59.2	0.3(20)	
1,1-Dichloroethane		48.1	2.5	50	0	96	61	130	49.41	2.7(20)	
cis-1,2-Dichloroethene		55.1	2.5	50	0	110	70	130	56.23	2.1(20)	
Bromochloromethane		58.3	2.5	50	0	117	70	130	58.75	0.8(20)	
Chloroform		47.8	2.5	50	0	96	67	130	49.5	3.5(20)	
2,2-Dichloropropane		54.7	2.5	50	0	109	30	152	56.6	3.5(20)	
1,2-Dichloroethane		56.3	2.5	50	0	113	60	135	57.91	2.9(20)	
1,1,1-Trichloroethane		55	2.5	50	0	110	59	137	56.67	3.0(20)	
1,1-Dichloropropene		52.7	2.5	50	0	105	63	130	54.38	3.2(20)	
Carbon tetrachloride		56.8	2.5	50	0	114	50	147	58.23	2.4(20)	
Benzene		47.8	1.3	50	0	96	67	130	48.96	2.5(20)	
Dibromomethane		57.9	2.5	50	0	116	69	133	59.73	3.2(20)	
1,2-Dichloropropane		50.6	2.5	50	0	101	69	130	51.99	2.8(20)	
Trichloroethene		52.8	2.5	50	0	106	69	130	54.14	2.6(20)	
Bromodichloromethane		58.4	2.5	50	0	117	66	134	59.91	2.6(20)	
cis-1,3-Dichloropropene		50.6	2.5	50	0	101	63	130	51.47	1.8(20)	
trans-1,3-Dichloropropene		53.5	2.5	50	0	107	66	131	55.6	3.9(20)	
1,1,2-Trichloroethane		55	2.5	50	0	110	68	130	56.54	2.7(20)	
Toluene		48.7	1.3	50	0	97	66	130	48.12	1.3(20)	
1,3-Dichloropropane		59.3	2.5	50	0	119	70	130	59.02	0.5(20)	
Dibromochloromethane		59.7	2.5	50	0	119	70	130	58.89	1.4(20)	
1,2-Dibromoethane (EDB)		124	5	100	0	124	70	130	123.5	0.1(20)	
Tetrachloroethene		54.4	2.5	50	0	109	61	134	53.85	1.0(20)	
1,1,1,2-Tetrachloroethane		56.7	2.5	50	0	113	70	130	57.33	1.2(20)	
Chlorobenzene		49.5	2.5	50	0	99	70	130	49.86	0.8(20)	
Ethylbenzene		48.4	1.3	50	0	97	68	130	48.16	0.4(20)	
m,p-Xylene		52.5	1.3	50	0	105	64	130	51.2	2.6(20)	
Bromoform		57.4	2.5	50	0	115	64	138	57.6	0.4(20)	
Styrene		55.6	2.5	50	0	111	69	130	55.63	0.1(20)	
o-Xylene		52.4	1.3	50	0	105	70	130	52.27	0.2(20)	
1,1,2,2-Tetrachloroethane		54	2.5	50	0	108	65	131	53.19	1.5(20)	
1,2,3-Trichloropropane		108	10	100	0	108	70	130	106.8	0.9(20)	
Isopropylbenzene		47.5	2.5	50	0	95	64	138	48.19	1.5(20)	
Bromobenzene		48	2.5	50	0	96	70	130	48.63	1.2(20)	
n-Propylbenzene		46.1	2.5	50	0	92	66	132	46.15	0.1(20)	
4-Chlorotoluene		48.8	2.5	50	0	98	70	130	48.98	0.4(20)	
2-Chlorotoluene		46.5	2.5	50	0	93	70	130	46.6	0.1(20)	
1,3,5-Trimethylbenzene		45.4	2.5	50	0	91	66	136	45.41	0.1(20)	
tert-Butylbenzene		46.1	2.5	50	0	92	65	137	45.92	0.3(20)	
1,2,4-Trimethylbenzene		45.6	2.5	50	0	91	65	137	45.74	0.3(20)	
sec-Butylbenzene		47.6	2.5	50	0	95	66	134	47.2	0.9(20)	
1,3-Dichlorobenzene		47.3	2.5	50	0	95	70	130	47.67	0.8(20)	
1,4-Dichlorobenzene		45.5	2.5	50	0	91	70	130	45.34	0.3(20)	
4-Isopropyltoluene		46.2	2.5	50	0	92	66	137	46.01	0.4(20)	
1,2-Dichlorobenzene		45.3	2.5	50	0	91	70	130	44.71	1.3(20)	
n-Butylbenzene		45.4	2.5	50	0	91	60	142	46.33	2.0(20)	
1,2-Dibromo-3-chloropropane (DBCP)		268	15	250	0	107	67	130	258.3	3.5(20)	
1,2,4-Trichlorobenzene		50.9	10	50	0	102	61	137	50.27	1.2(20)	
Naphthalene		56.1	10	50	0	112	40	167	54.49	2.9(20)	
Hexachlorobutadiene		87.9	10	100	0	88	61	130	85.88	2.3(20)	
1,2,3-Trichlorobenzene		53.2	10	50	0	106	51	144	50.43	5.4(20)	
Surr: 1,2-Dichloroethane-d4		47.6		50		95	70	130			
Surr: Toluene-d8		48.2		50		96	70	130			
Surr: 4-Bromofluorobenzene		54.4		50		109	70	130			



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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
02-Mar-10

QC Summary Report

Work Order:
10021903

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Alpha uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag.

L50 = Analyte recovery was below acceptance limits for the LCS, but was acceptable in the MS/MSD.

L51 = Analyte recovery was above acceptance limits for the LCS, but was acceptable in the MS/MSD.

CHAIN-OF-CUSTODY RECORD

CA

Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : BMIS10021903
Report Due By : 5:00 PM On : 05-Mar-2010

Client:

Battelle Memorial Institute
 3990 Old Town Ave
 Suite C-205
 San Diego, CA 92110

Report Attention

David Conner (818) 393-2808 x connerd@battelle.org
 Shane Walton (614) 424-4117 x waltonsg@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org

Phone Number

Email Address

EDD Required : Yes

Sampled by : David Loera

Cooler Temp

Samples Received

Date Printed

PO : 218013

Job : G005862/JPL Groundwater Monitoring

4 °C

19-Feb-2010

19-Feb-2010

QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests			Sample Remarks											
					314_W	METALS_D W	VOC_TIC_W												
BMI10021903-01A	MW-5	AQ 02/18/10 11:19	5	0	10	Perchlorate	Cr	VOC by 524 Criteria											
BMI10021903-02A	DUPE-6-1Q10	AQ 02/18/10 11:19	5	0	10	Perchlorate	Cr	VOC by 524 Criteria											
BMI10021903-03A	MW-15	AQ 02/18/10 14:16	1	0	10		Cr												
BMI10021903-04A	DUPE-7-1Q10	AQ 02/18/10 14:16	1	0	10		Cr												
BMI10021903-05A	TRIP BLANK	AQ 02/18/10 00:00	1	0	10			VOC by 524 Criteria											Reno Trip Blank 1/18/10

Comments: Security seals intact. Frozen ice. Temp Blank #7708 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible. (E.: MS/MSD).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Alexander</i>	Elizabeth Alexander	Alpha Analytical, Inc.	2:19:10 1/31

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
 The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
 Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orho T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Serry Temp Kins
 Address 5051 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614-424-4815 Fax 614-424-3667



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Samples Collected From Which States? AZ CA NV WA
 ID OR OTHER
 Page # 1 of 1

Analyses Required

Client Name David Lerner P.O. # 218013 Job # 6005862512 SUM
 Address _____ EMail Address Lerner@battelle.com
 City, State, Zip _____ Phone # 614-726-7311 Fax # 614-458-1641

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Global ID #	ED7 / ED7-7 YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	REMARKS
1119	3/18/02	AQ	David Lerner	BMT10021903-01		David Lerner	MW-5	10		5			
1119	3/18/02	AQ					MW-15	10		5			
1416	3/18/02	AQ					DUPE-6-1810	10		1			
1416	3/18/02	AQ					DUPE-7-1810	10		1			
1416	3/18/02	AQ					Tip Blank	10		1			
1416	3/18/02	AQ					Temp Blank	10		1			

VOC 574.2
 Total Cr 200.8
 ClO4- 314
 CI-304-103-
 NDE, PO4-3 300

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>David Lerner</i>	David Lerner	Battelle	2-18-10	1500
<i>Anthony Stern</i>	Anthony Stern	Battelle	2-18-10	1500
<i>Elizabeth Alder</i>	Elizabeth Alder	Battelle	2-18-10	1500
<i>Elizabeth Alder</i>	Elizabeth Alder	Battelle	2-19-10	1131

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** L-Liter V-Via S-Soil Jar O-Orbo T-Tecliar B-Brass P-Plastic OT-Other
NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.

CAS SR #P1000377

Table of Contents

Cover Letter.....	1
Case Narrative.....	2
Acronym List.....	3
Sample Cross-Reference.....	4
Chain of Custody.....	5
Internal Chain of Custody.....	6
Sample Acceptance Check Form.....	7-8
Hexavalent Chromium Analytical Data	9-14
Hexavalent Chromium Raw Data.....	15-23

LABORATORY REPORT

February 11, 2010

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 1Q10 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on February 2, 2010. For your reference, these analyses have been assigned our service request number P1000377.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 23 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Sue Anderson
Project Manager

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

CAS Project No: P1000377

CASE NARRATIVE

The samples were received intact under chain of custody on February 2, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl <i>tert</i> -Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	<i>Standard Methods for the Examination of Water and Wastewater</i> , 19th Ed., 1995.
SW	<i>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</i> , SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Client: Battelle
Project: JPL GW Mon 1Q10/G486090

Service Request: P1000377

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P1000377-001	MW-21-5	2/2/10	08:05
P1000377-002	MW-21-4	2/2/10	08:28
P1000377-003	MW-21-3	2/2/10	08:56
P1000377-004	MW-21-2	2/2/10	09:24
P1000377-005	MW-21-1	2/2/10	09:59
P1000377-006	DUPE-1-1Q10	2/2/10	00:00
P1000377-007	EB-1-2/2/10	2/2/10	09:42



Water & Soil - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. 21000377
 CAS Contact:

Company Name & Address (Reporting Information)		Project Name			
BATTELLE 3990 OLD TOWN AVE., C-205 SAN DIEGO, CA 92110		JPL GW MON 1010 Project Number G 486090			
Project Manager DAVID CONNER Phone (619) 726-7311		P.O. # / Billing Information 214319 / BATTELLE ATTN: GERALD TOMPKINS 505 KING AVE COLUMBUS, OH 43201			
Email Address for Result Reporting		Sampler (Print & Sign)			
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers
MW-21-5	01	2/2/10	805	W	1
MW-21-4	02	1	828		
MW-21-3	03		856		
MW-21-2	04		924		
MW-21-1	05		959		
DUPE-1-1010	06		—		
EB-1-2/2/10	07		942		

Analysis Method and/or Analytes		Preservative Code		Preservative Key	
<input type="checkbox"/> Volatile Organics GC/MS <input type="checkbox"/> 624 <input type="checkbox"/> 8260B <input type="checkbox"/> Oxygenates <input type="checkbox"/> TPH Gas	<input type="checkbox"/> TPH Gas 8015B <input type="checkbox"/> BTEX 8021B <input type="checkbox"/> MTBE 8021B	<input type="checkbox"/> TPH Diesel Low Level 8015B (Subcontracted) <input type="checkbox"/> TPH FC 8015M (Subcontracted) <input type="checkbox"/> Semi-Volatile Organics GC/MS <input type="checkbox"/> 8270C (Subcontracted)	<input type="checkbox"/> 0 <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	<input type="checkbox"/> None <input type="checkbox"/> HCL <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> Zn Acetate <input type="checkbox"/> Asc Acid <input type="checkbox"/> Other	Remarks LEVEL IV QC DUPLICATE EDUIP. BLANK

Report Tier Levels - please select
 Tier I - (Results/Default if not specified) ___
 Tier II - (Results + QC) ___
 Tier III - (Data Validation Package) 10% Surcharge ___
 Tier V - (client specified) ___

MRL required/Yes/No
 MQL / PQL / required Yes / No

EDD required Yes / No
 Type:

Relinquished by: (Signature) _____ Date: 2/2/10 Time: 12:15
 Relinquished by: (Signature) _____ Date: 2/2/10 Time: 13:00
 Relinquished by: (Signature) _____ Date: 2/2/10 Time: 13:00

Columbia Analytical Services, Inc.

Chain of Custody Report

Client: Battelle
 Project: JPL GW Mon 1Q10/G486090

Service Request: P1000377

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P1000377-001.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-002.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-003.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-004.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-005.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-006.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	
P1000377-007.01	7196A	2/2/10	1311	SMO / ADAVID	
		2/2/10	1311	P-37 / ADAVID	
		2/2/10	1337	In Lab / SANDERSON	
		2/2/10	1458	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P1000377
 Project: JPL GW Mon 2009-2010
 Sample(s) received on: 02/02/10 Date opened: 02/02/10 by: ADAVID

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | | Yes | No | N/A |
|----|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 | Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Container(s) supplied by CAS ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Was a chain-of-custody provided? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Was the chain-of-custody properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Was proper temperature (thermal preservation) of cooler at receipt adhered to?
Cooler Temperature _____ °C Blank Temperature <u>3</u> °C | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Was a trip blank received?
Trip blank supplied by CAS: _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 | Were custody seals on outside of cooler/Box?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | Were custody seals on outside of sample container?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12 | Do containers have appropriate preservation , according to method/SOP or Client specified information?
Is there a client indication that the submitted samples are pH preserved?
Were VOA vials checked for presence/absence of air bubbles?
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Tubes: Are the tubes capped and intact?
Do they contain moisture? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14 | Badges: Are the badges properly capped and intact?
Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000377-001.01	125mL Plastic NP					
P1000377-002.01	125mL Plastic NP					
P1000377-003.01	125mL Plastic NP					
P1000377-004.01	125mL Plastic NP					
P1000377-005.01	125mL Plastic NP					
P1000377-006.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

DIVIDER SHEET

ANALYTICAL DATA
FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000377
 Date Collected : 02/02/10
 Date Received : 02/02/10

Chromium, Hexavalent

Prep Method : None
 Analysis Method : 7196A
 Test Notes :

Units : mg/L (ppm)
 Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-21-5	P1000377-001	0.010	0.003	1	NA	02/02/10 14:30	ND	
MW-21-4	P1000377-002	0.010	0.003	1	NA	02/02/10 14:30	ND	
MW-21-3	P1000377-003	0.010	0.003	1	NA	02/02/10 14:30	ND	
MW-21-2	P1000377-004	0.010	0.003	1	NA	02/02/10 14:30	ND	
MW-21-1	P1000377-005	0.010	0.003	1	NA	02/02/10 14:30	ND	
DUPE-1-1Q10	P1000377-006	0.010	0.003	1	NA	02/02/10 14:30	ND	
EB-1-2/2/10	P1000377-007	0.010	0.003	1	NA	02/02/10 14:30	ND	
Method Blank	P1000377-MB	0.010	0.003	1	NA	02/02/10 14:30	ND	

Approved By

Kanu Rya

Date :

2/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000377
Date Analyzed: 02/02/10

Title: Initial and Continuing Calibration Blank (ICB and CCB) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	PQL	MDL	Result
ICB	0.010	0.003	ND
CCB1	0.010	0.003	ND
CCB2	0.010	0.003	ND

Approved By: Kanu Rya Date: 2/4/10
ICCBMDL/120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000377
Date Analyzed: 02/02/10

Title: Initial and Continuing Calibration Verification (ICV and CCV) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	True Value	Result	Percent Recovery	Acceptance Criteria
ICV	0.0579	0.0562	97	90-110
CCV1	0.0579	0.0562	97	90-110
CCV2	0.0579	0.0551	95	90-110

Approved By: Kare Rya Date: 2/4/10
CCV1A/120594

QA/QC Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000377
 Date Collected : NA
 Date Received : NA
 Date Extracted : NA
 Date Analyzed : 02/02/10

Laboratory Control Sample Summary
 Inorganic Parameters

Sample Name : Laboratory Control Sample
 Lab Code : P1000377-LCS
 Test Notes :

Units : mg/L (ppm)
 Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	None	7196A	0.0400	0.0384	96	86-114	

Approved By *Karen Rye*

Date : *2/4/10*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000377
 Date Collected : 02/02/10
 Date Received : 02/02/10
 Date Extracted : NA
 Date Analyzed : 02/02/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : MW-21-5 Units : mg/L (ppm)
 Lab Code : P1000377-001MS P1000377-001DMS Basis : NA
 Test Notes :

Analyte	Prep Method	Analysis Method	PQL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chromium, Hexavalent	None	7196A	0.010	0.0500	0.0500	ND	0.0499	0.0499	100	100	80-120	<1	

Approved By *Karen Ryan* Date : 2/4/10 **14**

CAS SR #P1000390

Table of Contents

Cover Letter.....	1
Case Narrative.....	2
Acronym List.....	3
Sample Cross-Reference.....	4
Chain of Custody.....	5
Internal Chain of Custody.....	6
Sample Acceptance Check Form.....	7
Hexavalent Chromium Analytical Data	8-13
Hexavalent Chromium Raw Data.....	14-22

LABORATORY REPORT

February 11, 2010

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 1Q10 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on February 3, 2010. For your reference, these analyses have been assigned our service request number P1000390.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 22 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Sue Anderson
Project Manager

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

CAS Project No: P1000390

CASE NARRATIVE

The samples were received intact under chain of custody on February 3, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl <i>tert</i> -Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	<i>Standard Methods for the Examination of Water and Wastewater</i> , 19th Ed., 1995.
SW	<i>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</i> , SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Client: Battelle
Project: JPL GW Mon 1Q10/G486090

Service Request: P1000390

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P1000390-001	MW-14-3	2/3/10	08:59
P1000390-002	MW-14-2	2/3/10	09:27
P1000390-003	MW-14-1	2/3/10	09:59
P1000390-004	EB-2-2/3/10	2/3/10	09:46



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Water & Soil - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. 91000390
 CAS Contact:

Company Name & Address (Reporting Information) <u>BATTELLE</u> <u>3990 OLD TOWN AVE., C-205</u> <u>SAN DIEGO, CA 92110</u>		Project Name <u>JPL GW MON 1010</u>	
Project Manager <u>DAVID CONNER</u>		Project Number <u>G486090</u>	
Phone <u>(619) 726-7311</u>	Fax	P.O. # / Billing Information <u>214319 / BATELLE</u> <u>ATTN: GERALD TOMPKINS</u> <u>505 KING AVE</u> <u>COLUMBUS, OH 43201</u>	
Email Address for Result Reporting		Sampler (Print & Sign)	

Analysis Method and/or Analytes

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Preservative Code							Remarks					
						624 □ Volatile Organics GC/MS	625 □ Semi-Volatile Organics GC/MS	TPH Diesel Low Level 8015B □ (Subcontracted)	TPH FC 8015M □ (Subcontracted)	TPH Gas 8015B □	BTEX 8021B □	MTBE 8021B □		8260B □ Oxygenates	TPH Gas □			
MW-14-3	①	2/5/10	859	W	1													
MW-14-2	②		927															
MW-14-1	③		959															
EB-2-2/3/10	④		946															EQUIP. BLANK

Project Requirements (MRLs, QAPP)

Report Tier Levels - please select
 Tier I - (Results/Default if not specified) _____
 Tier II - (Results + QC) _____
 Tier III - (Data Validation Package) 10% Surcharge _____
 Tier V - (client specified) _____

Relinquished by: (Signature) _____ Date: 2/3/10 Time: 12:11
 Relinquished by: (Signature) _____ Date: 2/3/10 Time: 13:00
 Relinquished by: (Signature) _____ Date: 2/3/10 Time: 13:00

Received by: (Signature) _____ Date: 2/3/10 Time: 13:00
 Received by: (Signature) _____ Date: 2/3/10 Time: 13:00
 Received by: (Signature) _____ Date: 2/3/10 Time: 13:00

Temperature 30°C

Columbia Analytical Services, Inc.

Chain of Custody Report

Client: Battelle
 Project: JPL GW Mon 1Q10/G486090

Service Request: P1000390

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P1000390-001.01	7196A	2/3/10	1414	SMO / MZAMORA	
		2/3/10	1414	P-37 / MZAMORA	
		2/4/10	0732	In Lab / SANDERSON	
		2/4/10	0901	P-37 / SANDERSON	
P1000390-002.01	7196A	2/3/10	1414	SMO / MZAMORA	
		2/3/10	1414	P-37 / MZAMORA	
		2/4/10	0732	In Lab / SANDERSON	
		2/4/10	0901	P-37 / SANDERSON	
P1000390-003.01	7196A	2/3/10	1414	SMO / MZAMORA	
		2/3/10	1414	P-37 / MZAMORA	
		2/4/10	0732	In Lab / SANDERSON	
		2/4/10	0901	P-37 / SANDERSON	
P1000390-004.01	7196A	2/3/10	1414	SMO / MZAMORA	
		2/3/10	1414	P-37 / MZAMORA	
		2/4/10	0733	In Lab / SANDERSON	
		2/4/10	0901	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P1000390
 Project: JPL GW Mon 1Q10 / G486090
 Sample(s) received on: 02/03/10 Date opened: 02/03/10 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Container(s) supplied by CAS ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Was a chain-of-custody provided? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was the chain-of-custody properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cooler Temperature _____ °C Blank Temperature <u>3</u> °C | | | |
| 10 Was a trip blank received? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Trip blank supplied by CAS: _____ | | | |
| 11 Were custody seals on outside of cooler/Box? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were custody seals on outside of sample container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 13 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Do they contain moisture? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000390-001.01	125mL Plastic NP					
P1000390-002.01	125mL Plastic NP					
P1000390-003.01	125mL Plastic NP					
P1000390-004.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12); P1000390_Battelle_JPL GW Mon 1Q10 - G486090 - Page 1 of 1

DIVIDER SHEET

ANALYTICAL DATA
FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000390
 Date Collected : 02/03/10
 Date Received : 02/03/10

Chromium, Hexavalent

Prep Method : None
 Analysis Method : 7196A
 Test Notes :

Units : mg/L (ppm)
 Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-14-3	P1000390-001	0.010	0.003	1	NA	02/04/10 08:30	ND	
MW-14-2	P1000390-002	0.010	0.003	1	NA	02/04/10 08:30	ND	
MW-14-1	P1000390-003	0.010	0.003	1	NA	02/04/10 08:30	ND	
EB-2-2/3/10	P1000390-004	0.010	0.003	1	NA	02/04/10 08:30	ND	
Method Blank	P1000390-MB	0.010	0.003	1	NA	02/04/10 08:30	ND	

Approved By *Kam Pyy* Date : *2/5/10* **9**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000390
Date Analyzed: 02/04/10

Title: Initial and Continuing Calibration Blank (ICB and CCB) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	PQL	MDL	Result
ICB	0.010	0.003	ND
CCB1	0.010	0.003	ND

Approved By: Kam Rya Date: 2/5/10
ICCBMDL/120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon IQ10 / G486090

Service Request: P1000390
Date Analyzed: 02/04/10

Title: Initial and Continuing Calibration Verification (ICV and CCV) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	True Value	Result	Percent Recovery	Acceptance Criteria
ICV	0.0579	0.0553	96	90-110
CCV1	0.0579	0.0553	96	90-110

Approved By: _____

Kanu Rya

Date: _____

2/5/10

CCV1A/120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000390
 Date Collected : NA
 Date Received : NA
 Date Extracted : NA
 Date Analyzed : 02/04/10

Laboratory Control Sample Summary
 Inorganic Parameters

Sample Name : Laboratory Control Sample
 Lab Code : P1000390-LCS
 Test Notes :

Units : mg/L (ppm)
 Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	None	7196A	0.0400	0.0418	105	86-114	

Approved By Karen Ryan

Date : 2/5/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000390
 Date Collected : 02/03/10
 Date Received : 02/03/10
 Date Extracted : NA
 Date Analyzed : 02/04/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : MW-14-3 Units : mg/L (ppm)
 Lab Code : P1000390-001MS P1000390-001DMS Basis : NA
 Test Notes :

Analyte	Prep Method	Analysis Method	PQL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chromium, Hexavalent	None	7196A	0.010	0.0500	0.0500	ND	0.0491	0.0480	98	96	80-120	2	

Approved By *Karen Ryan*

Date : 2/5/10 **13**

CAS SR #P1000417

Table of Contents

Cover Letter.....	1
Case Narrative.....	2
Acronym List.....	3
Sample Cross-Reference.....	4
Chain of Custody.....	5
Internal Chain of Custody.....	6
Sample Acceptance Check Form.....	7
Hexavalent Chromium Analytical Data	8-13
Hexavalent Chromium Raw Data.....	14-22

LABORATORY REPORT

February 11, 2010

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 1Q10 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on February 4, 2010. For your reference, these analyses have been assigned our service request number P1000417.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 22 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Sue Anderson
Project Manager

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

CAS Project No: P1000417

CASE NARRATIVE

The samples were received intact under chain of custody on February 4, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl <i>tert</i> -Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	<i>Standard Methods for the Examination of Water and Wastewater</i> , 19th Ed., 1995.
SW	<i>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</i> , SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Client: Battelle
Project: JPL GW Mon 1Q10/G486090

Service Request: P1000417

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P1000417-001	MW-18-4	2/4/10	09:05
P1000417-002	MW-18-3	2/4/10	09:35
P1000417-003	MW-18-2	2/4/10	10:02
P1000417-004	DUPE-2-1Q10	2/4/10	00:00
P1000417-005	EB-3-2/4/10	2/4/10	09:50

Water & Soil - Chain of Custody Record & Analytical Service Request



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P1000417
 CAS Contact:

Company Name & Address (Reporting Information)		Project Name		Analysis Method and/or Analytes		Preservative Key	
BATELLE 3990 OLD TOWN AVE., C-205 SAN DIEGO, CA 92110		JPL GW MON 1Q10 Project Number 6486090		Volatile Organics GC/MS 624 <input type="checkbox"/> 8260B <input type="checkbox"/> Oxygenates <input type="checkbox"/> TPH Gas <input type="checkbox"/> TPH Gas 8015B <input type="checkbox"/> BTEX 8021B <input type="checkbox"/> MTBE 8021B <input type="checkbox"/> TPH Diesel Low Level 8015B <input type="checkbox"/> (Subcontracted) TPH Diesel 8015B <input type="checkbox"/> (Subcontracted) TPH FC 8015M (Subcontracted) Semi-Volatile Organics GC/MS 625 <input type="checkbox"/> 8270C <input type="checkbox"/> (Subcontracted)		0 None 1 HCL 2 HNO3 3 H2SO4 4 NaOH 5 Zn Acetate 6 Asc Acid 7 Other	
Project Manager		P.O. # / Billing Information		Preservative Code		Remarks	
DAVID CONNER Phone (619) 726-7311 Fax		214319 / BATELLE ATTN: GEMAD TOMPKINS 505 KING AVE COLUMBUS, OH 43201		0 (961 11 5)		DUPLICATE EDVIP BLANK	
Email Address for Result Reporting		Sampler (Print & Sign)		Matrix		Number of Containers	
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix			
MW-18-4	①	2/4/10	905	W		1	
MW-18-3	②		935				
MW-18-2	③		1002				
DUPE-2-1010	④						
EB-3-2/4/10	⑤		950				

Report Tier Levels - please select
 Tier I - (Results/Default if not specified) _____
 Tier II - (Results + QC) _____
 Tier III - (Data Validation Package) 10% Surcharge _____
 Tier V - (client specified) _____

Relinquished by: (Signature) _____ Date: 2/4/10 Time: 11:26
 Relinquished by: (Signature) _____ Date: 2/4/10 Time: 13:00
 Relinquished by: (Signature) _____ Date: _____ Time: _____

MRL required Yes / No _____
 MDL / PQL / J required Yes / No _____
 EDD required Yes / No _____
 Type: _____
 Date: 2/4/10 Time: 11:26
 Date: 2/4/10 Time: 13:00
 Date: _____ Time: _____

Project Requirements (MRLs, QAPP)
 Cooler / Blank / Ice / No Ice
 Temperature 3 °C

Columbia Analytical Services, Inc.

Chain of Custody Report

Client: Battelle
 Project: JPL GW Mon 1Q10/G486090

Service Request: P1000417

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P1000417-001.01	7196A	2/4/10	1325	SMO / MZAMORA	
		2/4/10	1327	P-37 / MZAMORA	
		2/4/10	1423	In Lab / SANDERSON	
		2/4/10	1636	P-37 / SANDERSON	
P1000417-002.01	7196A	2/4/10	1325	SMO / MZAMORA	
		2/4/10	1327	P-37 / MZAMORA	
		2/4/10	1423	In Lab / SANDERSON	
		2/4/10	1636	P-37 / SANDERSON	
P1000417-003.01	7196A	2/4/10	1325	SMO / MZAMORA	
		2/4/10	1327	P-37 / MZAMORA	
		2/4/10	1423	In Lab / SANDERSON	
		2/4/10	1636	P-37 / SANDERSON	
P1000417-004.01	7196A	2/4/10	1325	SMO / MZAMORA	
		2/4/10	1327	P-37 / MZAMORA	
		2/4/10	1423	In Lab / SANDERSON	
		2/4/10	1636	P-37 / SANDERSON	
P1000417-005.01	7196A	2/4/10	1325	SMO / MZAMORA	
		2/4/10	1327	P-37 / MZAMORA	
		2/4/10	1423	In Lab / SANDERSON	
		2/4/10	1636	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle

Work order: P1000417

Project: JPL GW Mon 1Q10 / G486090

Sample(s) received on: 02/04/10

Date opened: 02/04/10

by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | | Yes | No | N/A |
|----|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 | Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Container(s) supplied by CAS ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Was a chain-of-custody provided? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Was the chain-of-custody properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Was proper temperature (thermal preservation) of cooler at receipt adhered to?
Cooler Temperature _____ °C Blank Temperature <u>3</u> °C | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Was a trip blank received?
Trip blank supplied by CAS: _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 | Were custody seals on outside of cooler/Box?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | Were custody seals on outside of sample container?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12 | Do containers have appropriate preservation , according to method/SOP or Client specified information?
Is there a client indication that the submitted samples are pH preserved?
Were VOA vials checked for presence/absence of air bubbles?
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Tubes: Are the tubes capped and intact?
Do they contain moisture? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14 | Badges: Are the badges properly capped and intact?
Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH*	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000417-001.01	125mL Plastic NP					
P1000417-002.01	125mL Plastic NP					
P1000417-003.01	125mL Plastic NP					
P1000417-004.01	125mL Plastic NP					
P1000417-005.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

DIVIDER SHEET

ANALYTICAL DATA
FOR

Hexavalent Chromium

ANALYSIS

Analytical Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000417
 Date Collected : 02/04/10
 Date Received : 02/04/10

Chromium, Hexavalent

Prep Method : None
 Analysis Method : 7196A
 Test Notes :

Units : mg/L (ppm)
 Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-18-4	P1000417-001	0.010	0.003	1	NA	02/04/10 16:00	ND	
MW-18-3	P1000417-002	0.010	0.003	1	NA	02/04/10 16:00	ND	
MW-18-2	P1000417-003	0.010	0.003	1	NA	02/04/10 16:00	ND	
DUPE-2-1Q10	P1000417-004	0.010	0.003	1	NA	02/04/10 16:00	ND	
EB-3-2/4/10	P1000417-005	0.010	0.003	1	NA	02/04/10 16:00	ND	
Method Blank	P1000417-MB	0.010	0.003	1	NA	02/04/10 16:00	ND	

Approved By

Karen Rya

Date :

2/5/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000417
Date Analyzed: 02/04/10

Title: Initial and Continuing Calibration Blank (ICB and CCB) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	PQL	MDL	Result
ICB	0.010	0.003	ND
CCB1	0.010	0.003	ND

Approved By: _____

Kam Rya

Date: _____

2/5/10

ICCBMDL120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000417
Date Analyzed: 02/04/10

Title: Initial and Continuing Calibration Verification (ICV and CCV) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	True Value	Result	Percent Recovery	Acceptance Criteria
ICV	0.0579	0.0563	97	90-110
CCV1	0.0579	0.0573	99	90-110

Approved By: _____
CCV1A/120594

Kam Rya

Date: 2/5/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
Project Name : JPL GW Mon 1Q10
Project Number : G486090
Sample Matrix : WATER

Service Request : P1000417
Date Collected : NA
Date Received : NA
Date Extracted : NA
Date Analyzed : 02/04/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : P1000417-LCS
Test Notes :

Units : mg/L (ppm)
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	None	7196A	0.0400	0.0390	98	86-114	

Approved By

Kam Rya

Date :

2/5/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
 Project Name : JPL GW Mon 1Q10
 Project Number : G486090
 Sample Matrix : WATER

Service Request : P1000417
 Date Collected : 02/04/10
 Date Received : 02/04/10
 Date Extracted : NA
 Date Analyzed : 02/04/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : MW-18-4 Units : mg/L (ppm)
 Lab Code : P1000417-001MS P1000417-001DMS Basis : NA
 Test Notes :

Analyte	Prep Method	Analysis Method	PQL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chromium, Hexavalent	None	7196A	0.010	0.0500	0.0500	ND	0.0461	0.0481	92	96	80-120	4	

Approved By *Kam Rya*

Date : *2/5/10*

CAS SR #P1000442

Table of Contents

Cover Letter..... 1

Case Narrative..... 2

Acronym List..... 3

Sample Cross-Reference..... 4

Chain of Custody..... 5

Internal Chain of Custody..... 6

Sample Acceptance Check Form..... 7

Hexavalent Chromium Analytical Data 8-13

Hexavalent Chromium Raw Data..... 14-22

LABORATORY REPORT

February 11, 2010

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 1Q10 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on February 5, 2010. For your reference, these analyses have been assigned our service request number P1000442.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 22 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Sue Anderson
Project Manager

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

CAS Project No: P1000442

CASE NARRATIVE

The samples were received intact under chain of custody on February 5, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
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MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl <i>tert</i> -Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	<i>Standard Methods for the Examination of Water and Wastewater</i> , 19th Ed., 1995.
SW	<i>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</i> , SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Client: Battelle
Project: JPL GW Mon 1Q10/G486090

Service Request: P1000442

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P1000442-001	MW-17-4	2/5/10	08:10
P1000442-002	MW-17-3	2/5/10	08:45
P1000442-003	MW-17-2	2/5/10	09:15
P1000442-004	EB-4-2/5/10	2/5/10	08:59



Water & Soil - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P1000442
 CAS Contact:

Company Name & Address (Reporting Information)		Project Name		Analysis Method and/or Analytes		Preservative Key	
BAITELLE 3990 OLD TOWN AVE., C-205 SAN DIEGO, CA 92110		JPL GW MAN 1010 Project Number G486090		Analysis Method and/or Analytes D (Cn VI (7196))		Preservative Key 0 None 1 HCL 2 HNO3 3 H2SO4 4 NaOH 5 Zn Acetate 6 Asc Acid 7 Other	
Project Manager		P.O. # / Billing Information		Preservative Code		Remarks	
DAVID CONNER Phone (619) 726-7311		214319 / BAITELLE ATTN: GEMO THOMPSON 505 KING AVE COLUMBUS, OH 43201		Volatile Organics GC/MS 624 <input type="checkbox"/> 8260B <input type="checkbox"/> Oxygenates <input type="checkbox"/> TPH Gas <input type="checkbox"/> TPH Gas 8015B <input type="checkbox"/> BTEX 8021B <input type="checkbox"/> MTBE 8021B <input type="checkbox"/> TPH Diesel Low Level 8015B <input type="checkbox"/> (Subcontracted) TPH Diesel 8015B <input type="checkbox"/> (Subcontracted) TPH FC 8015M <input type="checkbox"/> (Subcontracted) Semi-Volatile Organics GC/MS 625 <input type="checkbox"/> 8270C <input type="checkbox"/> (Subcontracted)		Remarks EQUIP. BLANK	
Email Address for Result Reporting		Sampler (Print & Sign)		Matrix		Number of Containers	
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers		
MW-17-4	①	2/5/10	8:10	W	1		
MW-17-3	②		8:45				
MW-17-2	③		9:15				
EB-4-2/5/10	④		8:59				

Report Tier Levels - please select
 Tier I - (Results/Default if not specified) _____
 Tier II - (Results + QC) _____
 Tier III - (Data Validation Package) 10% Surcharge _____
 Tier V - (client specified) _____

MRL required Yes / No _____
 MDL / PQL / J required Yes / No _____
 EDD required Yes / No _____
 Type: _____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) _____ Date: 2/5/10 Time: 10:53
 Relinquished by: (Signature) _____ Date: 2/5/10 Time: 11:35
 Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) [Signature] Date: 2/5/10 Time: 10:53
 Received by: (Signature) [Signature] Date: 2/5/10 Time: 11:36
 Received by: (Signature) _____ Date: _____ Time: _____

Cooler / Blank / Ice / No Ice _____
 Temperature 30C °C

Columbia Analytical Services, Inc.

Chain of Custody Report

Client: Battelle
 Project: JPL GW Mon 1Q10/G486090

Service Request: P1000442

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P1000442-001.01	7196A	2/5/10	1155	SMO / MZAMORA	
		2/5/10	1155	P-37 / MZAMORA	
		2/5/10	1335	In Lab / SANDERSON	
		2/5/10	1732	P-37 / SANDERSON	
P1000442-002.01	7196A	2/5/10	1155	SMO / MZAMORA	
		2/5/10	1155	P-37 / MZAMORA	
		2/5/10	1335	In Lab / SANDERSON	
		2/5/10	1732	P-37 / SANDERSON	
P1000442-003.01	7196A	2/5/10	1155	SMO / MZAMORA	
		2/5/10	1155	P-37 / MZAMORA	
		2/5/10	1335	In Lab / SANDERSON	
		2/5/10	1732	P-37 / SANDERSON	
P1000442-004.01	7196A	2/5/10	1155	SMO / MZAMORA	
		2/5/10	1155	P-37 / MZAMORA	
		2/5/10	1335	In Lab / SANDERSON	
		2/5/10	1732	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090
Sample(s) received on: 02/05/10

Work order: P1000442
Date opened: 02/05/10 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | | Yes | No | N/A |
|----|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 | Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Container(s) supplied by CAS ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Was a chain-of-custody provided? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Was the chain-of-custody properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Was proper temperature (thermal preservation) of cooler at receipt adhered to?
Cooler Temperature _____ °C Blank Temperature <u>3</u> °C | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Was a trip blank received?
Trip blank supplied by CAS: _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 | Were custody seals on outside of cooler/Box?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact?
Were custody seals on outside of sample container?
Location of seal(s)? _____ Sealing Lid?
Were signature and date included?
Were seals intact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12 | Do containers have appropriate preservation , according to method/SOP or Client specified information?
Is there a client indication that the submitted samples are pH preserved?
Were VOA vials checked for presence/absence of air bubbles?
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Tubes: Are the tubes capped and intact?
Do they contain moisture? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14 | Badges: Are the badges properly capped and intact?
Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000442-001.01	125mL Plastic NP					
P1000442-002.01	125mL Plastic NP					
P1000442-003.01	125mL Plastic NP					
P1000442-004.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)
P1000442_Battelle_JPL GW Mon 1Q10_G486090 - Page 1 of 1

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA
FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
Project Name : JPL GW Mon 1Q10
Project Number : G486090
Sample Matrix : WATER

Service Request : P1000442
Date Collected : 02/05/10
Date Received : 02/05/10

Chromium, Hexavalent

Prep Method : None
Analysis Method : 7196A
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-17-4	P1000442-001	0.010	0.003	1	NA	02/05/10 14:35	ND	
MW-17-3	P1000442-002	0.010	0.003	1	NA	02/05/10 14:35	ND	
MW-17-2	P1000442-003	0.010	0.003	1	NA	02/05/10 14:35	ND	
EB-4-2/5/10	P1000442-004	0.010	0.003	1	NA	02/05/10 14:35	ND	
Method Blank	P1000442-MB	0.010	0.003	1	NA	02/05/10 14:35	ND	

Approved By

Karu Rya

Date :

2/5/10

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 1Q10 / G486090

Service Request: P1000442
Date Analyzed: 02/05/10

Title: Initial and Continuing Calibration Blank (ICB and CCB) Summary
Analyte: Chromium, Hexavalent
Method: 7196A
Units: mg/L (ppm)

Sample Name	PQL	MDL	Result
ICB	0.010	0.003	ND
CCB1	0.010	0.003	ND

Approved By: _____

Kam Rya

Date: _____

2/5/10

ICCBMDL/120594