Alpha Analytical, Inc.

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

Date: *04-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09112406 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09112406-01A	QCEB-19NOV	Aqueous
09112406-02A	MW-10	Aqueous
09112406-03A	QCEB-20NOV	Aqueous
09112406-04A	MW-14-5	Aqueous
09112406-05A	MW-14-4	Aqueous
09112406-06A	MW-14-3	Aqueous
09112406-07A	MW-14-2	Aqueous
09112406-08A	MW-14-1	Aqueous
09112406-09A	EB-06-11/23/09	Aqueous
09112406-10A	TB-06-11/23/09	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.

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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 : 11/24/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-10**					
Lab ID : BMI09112406-02A	Perchlorate	3.15	1.00 µg/L	11/25/09 12:32	11/25/09 15:21
Date Sampled 11/20/09 08:50					
Client ID: **MW-14-5**					
Lab ID : BMI09112406-04A	Perchlorate	ND	1.00 µg/L	11/25/09 12:32	11/25/09 15:39
Date Sampled 11/23/09 08:09					
Client ID: **MW-14-4**					
Lab ID : BMI09112406-05A	Perchlorate	3.38	1.00 µg/L	11/25/09 12:32	11/25/09 15:58
Date Sampled 11/23/09 08:47					
Client ID: **MW-14-3**					
Lab ID : BMI09112406-06A	Perchlorate	5.33	1.00 µg/L	11/25/09 12:32	11/25/09 16:53
Date Sampled 11/23/09 09:16					
Client ID: **MW-14-2**					
Lab ID : BMI09112406-07A	Perchlorate	3.31	1.00 µg/L	11/25/09 12:32	11/25/09 17:11
Date Sampled 11/23/09 09:46					
Client ID: **MW-14-1**					
Lab ID : BMI09112406-08A	Perchlorate	2.84	1.00 µg/L	11/25/09 12:32	11/25/09 17:30
Date Sampled 11/23/09 10:13					
Client ID: **EB-06-11/23/09**					
Lab ID : BMI09112406-09A	Perchlorate	ND	1.00 µg/L	11/25/09 12:32	11/25/09 17:58
Date Sampled 11/23/09 10:00					

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/8/09
Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
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San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 11/24/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-10**					
Lab ID : BMI09112406-02A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:20
Date Sampled 11/20/09 08:50					
Client ID: **MW-14-5**					
Lab ID : BMI09112406-04A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:26
Date Sampled 11/23/09 08:09					
Client ID: **MW-14-4**					
Lab ID : BMI09112406-05A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:32
Date Sampled 11/23/09 08:47					
Client ID: **MW-14-3**					
Lab ID : BMI09112406-06A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:37
Date Sampled 11/23/09 09:16					
Client ID: **MW-14-2**					
Lab ID : BMI09112406-07A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:43
Date Sampled 11/23/09 09:46					
Client ID: **MW-14-1**					
Lab ID : BMI09112406-08A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:48
Date Sampled 11/23/09 10:13					
Client ID: **EB-06-11/23/09**					
Lab ID : BMI09112406-09A	Chromium (Cr)	ND	0.0050 mg/L	11/25/09 11:11	11/25/09 14:54
Date Sampled 11/23/09 10:00					

ND = Not Detected

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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 : **QCEB-19NOV**						
Lab ID : BMI09112406-01A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 14:27	12/01/09 14:27
Date Received : 11/24/09						
Date Sampled : 11/19/09 15:30						
Client ID : **MW-10**						
Lab ID : BMI09112406-02A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 15:12	12/01/09 15:12
Date Received : 11/24/09						
Date Sampled : 11/20/09 08:50						
Client ID : **QCEB-20NOV**						
Lab ID : BMI09112406-03A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 14:49	12/01/09 14:49
Date Received : 11/24/09						
Date Sampled : 11/20/09 11:00						
Client ID : **MW-14-5**						
Lab ID : BMI09112406-04A	Sulfur dioxide	6.4		2.0 µg/L	12/01/09 15:35	12/01/09 15:35
Date Received : 11/24/09						
Date Sampled : 11/23/09 08:09						
Client ID : **MW-14-4**						
Lab ID : BMI09112406-05A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 15:56	12/01/09 15:56
Date Received : 11/24/09						
Date Sampled : 11/23/09 08:47						
Client ID : **MW-14-3**						
Lab ID : BMI09112406-06A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 16:18	12/01/09 16:18
Date Received : 11/24/09						
Date Sampled : 11/23/09 09:16						
Client ID : **MW-14-2**						
Lab ID : BMI09112406-07A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 16:40	12/01/09 16:40
Date Received : 11/24/09						
Date Sampled : 11/23/09 09:46						
Client ID : **MW-14-1**						
Lab ID : BMI09112406-08A	* * * None Found * * *	ND		2.0 µg/L	12/01/09 17:03	12/01/09 17:03
Date Received : 11/24/09						
Date Sampled : 11/23/09 10:13						
Client ID : **EB-06-11/23/09**						
Lab ID : BMI09112406-09A	Tertiary Butyl Alcohol (TBA)	13	Q	10 µg/L	12/01/09 14:05	12/01/09 14:05
Date Received : 11/24/09	2-Methyl-1-propene	9.9		2.0 µg/L	12/01/09 14:05	12/01/09 14:05
Date Sampled : 11/23/09 10:00						

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Client ID :	**TB-06-11/23/09**					
Lab ID :	BMI09112406-10A	*** None Found ***	ND	2.0 µg/L	12/01/09 13:43	12/01/09 13:43
Date Received :	11/24/09					
Date Sampled :	11/23/09 00:00					

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 Scholl Randy Gardner Walter Hinchman

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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

Alpha Analytical Number: BMI09112406-01A
Client I.D. Number: QCEB-19NOV

Sampled: 11/19/09 15:30
Received: 11/24/09
Extracted: 12/01/09 14:27
Analyzed: 12/01/09 14:27

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	1.3		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	1.9		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101		(70-130)	%REC
65	Surr: Toluene-d8	101		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90		(70-130)	%REC

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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RS

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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: BMI09112406-02A
Client I.D. Number: MW-10

Sampled: 11/20/09 08:50
Received: 11/24/09
Extracted: 12/01/09 15:12
Analyzed: 12/01/09 15:12

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	0.58		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	4.3		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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	0.97		0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101		(70-130)	%REC
65	Surr: Toluene-d8	104		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90		(70-130)	%REC

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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Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09112406-03A
Client I.D. Number: QCEB-20NOV

Sampled: 11/20/09 11:00
Received: 11/24/09
Extracted: 12/01/09 14:49
Analyzed: 12/01/09 14:49

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	0.74		0.50	µg/L
39	m,p-Xylene	2.2		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	20		0.50	µg/L
42	o-Xylene	0.78		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	2.0		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99		(70-130)	%REC
65	Surr: Toluene-d8	99		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90		(70-130)	%REC

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 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 / 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.

12/8/09
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: BMI09112406-04A
Client I.D. Number: MW-14-5

Sampled: 11/23/09 08:09
Received: 11/24/09
Extracted: 12/01/09 15:35
Analyzed: 12/01/09 15:35

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	Q	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	104	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	90	(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 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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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

12/8/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09112406-05A
Client I.D. Number: MW-14-4

Sampled: 11/23/09 08:47
Received: 11/24/09
Extracted: 12/01/09 15:56
Analyzed: 12/01/09 15:56

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99		(70-130)	%REC
65	Surr: Toluene-d8	105		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	89		(70-130)	%REC

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

12/8/09
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: BMI09112406-06A
Client I.D. Number: MW-14-3

Sampled: 11/23/09 09:16
Received: 11/24/09
Extracted: 12/01/09 16:18
Analyzed: 12/01/09 16:18

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	0.56		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	1.9		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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	0.85		0.50	µg/L

	Compound	Concentration	Reporting Limit	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101	(70-130)	%REC
65	Surr: Toluene-d8	104	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90	(70-130)	%REC

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 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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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.

12/8/09
Report Date

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: BMI09112406-07A
Client I.D. Number: MW-14-2

Sampled: 11/23/09 09:46
Received: 11/24/09
Extracted: 12/01/09 16:40
Analyzed: 12/01/09 16:40

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	Q	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	0.56		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	0.66		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	13		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	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	91	(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	0.85		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 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 / info@alpha-analytical.com

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12/8/09
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: BMI09112406-08A
Client I.D. Number: MW-14-1

Sampled: 11/23/09 10:13
Received: 11/24/09
Extracted: 12/01/09 17:03
Analyzed: 12/01/09 17:03

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	Q	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	4.1		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	105	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	91	(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 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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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

12/8/09
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: BMI09112406-09A
Client I.D. Number: EB-06-11/23/09

Sampled: 11/23/09 10:00
Received: 11/24/09
Extracted: 12/01/09 14:05
Analyzed: 12/01/09 14:05

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	Q	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	100	(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	92	(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 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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12/8/09
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: BMI09112406-10A
Client I.D. Number: TB-06-11/23/09

Sampled: 11/23/09 00:00
Received: 11/24/09
Extracted: 12/01/09 13:43
Analyzed: 12/01/09 13:43

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101		(70-130)	%REC
65	Surr: Toluene-d8	102		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	92		(70-130)	%REC

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 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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12/8/09
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: BMI09112406 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09112406-01A	QCEB-19NOV	Aqueous	2
09112406-02A	MW-10	Aqueous	2
09112406-03A	QCEB-20NOV	Aqueous	2
09112406-04A	MW-14-5	Aqueous	2
09112406-05A	MW-14-4	Aqueous	2
09112406-06A	MW-14-3	Aqueous	2
09112406-07A	MW-14-2	Aqueous	2
09112406-08A	MW-14-1	Aqueous	2
09112406-09A	EB-06-11/23/09	Aqueous	2
09112406-10A	TB-06-11/23/09	Aqueous	2

12/8/09

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

Date: 04-Dec-09

QC Summary Report

Work Order: 09112406

Method Blank

Type **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23156** Analysis Date: **11/25/2009 13:31**

Sample ID: **MB-23156** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23156** Analysis Date: **11/25/2009 13:49**

Sample ID: **LFB-23156** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.9	2	25		99.6	85	115			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 314.0**

File ID: **23** Batch ID: **23156** Analysis Date: **11/25/2009 16:16**

Sample ID: **09112406-05ALFM** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.2	2	25	3.383	91	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 314.0**

File ID: **24** Batch ID: **23156** Analysis Date: **11/25/2009 16:35**

Sample ID: **09112406-05ALFMD** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	29.2	2	25	3.383	103	80	120	26.16	11.2(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.

Alpha Analytical, Inc.

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

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

Date: *04-Dec-09*

QC Summary Report

Work Order: 09112406

Method Blank

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

File ID: **112309.B\MB.D** Batch ID: **23155K** Analysis Date: **11/25/2009 13:35**

Sample ID: **MB-23155** Units : **mg/L** Run ID: **ICP/MS_091125A** Prep Date: **11/25/2009 11:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **112309.B\L1.D** Batch ID: **23155K** Analysis Date: **11/25/2009 13:41**

Sample ID: **LCS-23155** Units : **mg/L** Run ID: **ICP/MS_091125A** Prep Date: **11/25/2009 11:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0482	0.005	0.05		96	80	120			

Sample Matrix Spike

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

File ID: **112309.B\MS.D** Batch ID: **23155K** Analysis Date: **11/25/2009 14:03**

Sample ID: **09112502-10AMS** Units : **mg/L** Run ID: **ICP/MS_091125A** Prep Date: **11/25/2009 11:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0548	0.005	0.05	0	110	80	120			

Sample Matrix Spike Duplicate

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

File ID: **112309.B\MSD.D** Batch ID: **23155K** Analysis Date: **11/25/2009 14:09**

Sample ID: **09112502-10AMSD** Units : **mg/L** Run ID: **ICP/MS_091125A** Prep Date: **11/25/2009 11:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0568	0.005	0.05	0	114	80	120	0.05483	3.5(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: 04-Dec-09

QC Summary Report

Work Order: 09112406

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

File ID: **09120107.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 11:30**

Sample ID: **MBLK MS15W1201M** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 11:30**

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	9.81		10		98	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			

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Work Order: 09112406

Surr: 4-Bromofluorobenzene	9.32	10	93	70	130	

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Date: 04-Dec-09

QC Summary Report

Work Order: 09112406

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09120105.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 10:35**

Sample ID: **LCS MS15W1201M** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 10:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	11.4	1	10		114	70	130			
Chloromethane	8.1	2	10		81	70	130			
Vinyl chloride	9.73	1	10		97	70	130			
Chloroethane	11	1	10		110	70	130			
Bromomethane	9.72	2	10		97	70	130			
Trichlorofluoromethane	11.6	1	10		116	70	130			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	9.74	2	10		97	70	130			
Freon-113	12.1	1	10		121	67	141			
trans-1,2-Dichloroethene	11	1	10		110	70	130			
Methyl tert-butyl ether (MTBE)	10.4	0.5	10		104	70	130			
1,1-Dichloroethane	10.2	1	10		102	70	130			
2-Butanone (MEK)	135	10	200		67	70(70)	130			L50
cis-1,2-Dichloroethene	10.7	1	10		107	70	130			
Bromochloromethane	10.3	1	10		103	70	130			
Chloroform	10.4	1	10		104	70	130			
2,2-Dichloropropane	12.1	1	10		121	70	130			
1,2-Dichloroethane	9.71	1	10		97	70	130			
1,1,1-Trichloroethane	11.3	1	10		113	70	130			
1,1-Dichloropropene	11.1	1	10		111	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.3	0.5	10		103	70	130			
Dibromomethane	9.69	1	10		97	70	130			
1,2-Dichloropropane	10.2	1	10		102	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	10.5	1	10		105	70	130			
cis-1,3-Dichloropropene	10.3	1	10		103	70	130			
trans-1,3-Dichloropropene	9.13	1	10		91	70	130			
1,1,2-Trichloroethane	9.36	1	10		94	70	130			
Toluene	10	0.5	10		100	70	130			
1,3-Dichloropropane	9.84	1	10		98	70	130			
Dibromochloromethane	9.83	1	10		98	70	130			
1,2-Dibromoethane (EDB)	20.1	2	20		101	70	130			
Tetrachloroethene	11.3	1	10		113	70	130			
1,1,1,2-Tetrachloroethane	10.7	1	10		107	70	130			
Chlorobenzene	10	1	10		100	70	130			
Ethylbenzene	10.2	0.5	10		102	70	130			
m,p-Xylene	10.3	0.5	10		103	70	130			
Bromoform	9.35	1	10		94	70	130			
Styrene	11.2	1	10		112	70	130			
o-Xylene	10.5	0.5	10		105	70	130			
1,1,2,2-Tetrachloroethane	9.49	1	10		95	70	130			
1,2,3-Trichloropropane	19.2	2	20		96	70	130			
Isopropylbenzene	9.89	1	10		99	70	130			
Bromobenzene	9.55	1	10		96	70	130			
n-Propylbenzene	9.99	1	10		99.9	70	130			
4-Chlorotoluene	10.2	1	10		102	70	130			
2-Chlorotoluene	9.9	1	10		99	70	130			
1,3,5-Trimethylbenzene	10	1	10		100	70	130			
tert-Butylbenzene	9.82	1	10		98	70	130			
1,2,4-Trimethylbenzene	10.1	1	10		101	70	130			
sec-Butylbenzene	10.2	1	10		102	70	130			
1,3-Dichlorobenzene	10.2	1	10		102	70	130			
1,4-Dichlorobenzene	9.49	1	10		95	70	130			
4-Isopropyltoluene	10.3	1	10		103	70	130			
1,2-Dichlorobenzene	9.48	1	10		95	70	130			
n-Butylbenzene	10.7	1	10		107	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	44.9	3	50		90	70	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	9.44	2	10		94	70	130			
Hexachlorobutadiene	20.6	2	20		103	70	130			
1,2,3-Trichlorobenzene	9.93	2	10		99	70	130			
Surr: 1,2-Dichloroethane-d4	9.64		10		96	70	130			
Surr: Toluene-d8	9.91		10		99	70	130			
Surr: 4-Bromofluorobenzene	9.53		10		95	70	130			

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QC Summary Report

Work Order: 09112406

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09120108.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 11:52**

Sample ID: **09112406-05AMS** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 11:52**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.6	2.5	50	0	85	13	167			
Chloromethane	36	10	50	0	72	28	145			
Vinyl chloride	44.9	2.5	50	0	90	43	134			
Chloroethane	50.5	2.5	50	0	101	39	154			
Bromomethane	43.1	10	50	0	86	19	176			
Trichlorofluoromethane	53.2	2.5	50	0	106	34	160			
1,1-Dichloroethene	53.9	2.5	50	0	108	60	130			
Dichloromethane	46.4	10	50	0	93	68	130			
Freon-113	57.4	2.5	50	0	115	49	141			
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130			
Methyl tert-butyl ether (MTBE)	49	1.3	50	0	98	56	141			
1,1-Dichloroethane	49	2.5	50	0	98	61	130			
2-Butanone (MEK)	494	50	1000	0	49	20	182			
cis-1,2-Dichloroethene	52.1	2.5	50	0	104	70	130			
Bromochloromethane	49.8	2.5	50	0	99.6	70	130			
Chloroform	50.5	2.5	50	0	101	67	130			
2,2-Dichloropropane	56.5	2.5	50	0	113	30	152			
1,2-Dichloroethane	47.4	2.5	50	0	95	60	135			
1,1,1-Trichloroethane	53.7	2.5	50	0	107	59	137			
1,1-Dichloropropene	52.5	2.5	50	0	105	63	130			
Carbon tetrachloride	55	2.5	50	0	110	50	147			
Benzene	49.8	1.3	50	0	99.6	67	130			
Dibromomethane	45.7	2.5	50	0	91	69	133			
1,2-Dichloropropane	49.5	2.5	50	0	99	69	130			
Trichloroethene	51.1	2.5	50	0	102	69	130			
Bromodichloromethane	50.4	2.5	50	0	101	66	134			
cis-1,3-Dichloropropene	46.8	2.5	50	0	94	63	130			
trans-1,3-Dichloropropene	42.4	2.5	50	0	85	66	131			
1,1,2-Trichloroethane	45.1	2.5	50	0	90	68	130			
Toluene	48.4	1.3	50	0	97	66	130			
1,3-Dichloropropane	48	2.5	50	0	96	70	130			
Dibromochloromethane	47.4	2.5	50	0	95	70	130			
1,2-Dibromoethane (EDB)	97.4	5	100	0	97	70	130			
Tetrachloroethene	54.3	2.5	50	0	109	61	134			
1,1,1,2-Tetrachloroethane	51.2	2.5	50	0	102	70	130			
Chlorobenzene	48.2	2.5	50	0	96	70	130			
Ethylbenzene	49.2	1.3	50	0	98	68	130			
m,p-Xylene	49.9	1.3	50	0	99.7	64	130			
Bromoform	44.2	2.5	50	0	88	64	138			
Styrene	52.9	2.5	50	0	106	69	130			
o-Xylene	50.2	1.3	50	0	100	70	130			
1,1,2,2-Tetrachloroethane	44.9	2.5	50	0	90	65	131			
1,2,3-Trichloropropane	92.7	10	100	0	93	70	130			
Isopropylbenzene	48.4	2.5	50	0	97	64	138			
Bromobenzene	47.5	2.5	50	0	95	70	130			
n-Propylbenzene	48.7	2.5	50	0	97	66	132			
4-Chlorotoluene	50	2.5	50	0	100	70	130			
2-Chlorotoluene	49.1	2.5	50	0	98	70	130			
1,3,5-Trimethylbenzene	49.1	2.5	50	0	98	66	136			
tert-Butylbenzene	47.9	2.5	50	0	96	65	137			
1,2,4-Trimethylbenzene	48.8	2.5	50	0	98	65	137			
sec-Butylbenzene	48.8	2.5	50	0	98	66	134			
1,3-Dichlorobenzene	49.7	2.5	50	0	99	70	130			
1,4-Dichlorobenzene	46.5	2.5	50	0	93	70	130			
4-Isopropyltoluene	50.3	2.5	50	0	101	66	137			
1,2-Dichlorobenzene	45.9	2.5	50	0	92	70	130			
n-Butylbenzene	52.3	2.5	50	0	105	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	216	15	250	0	86	67	130			
1,2,4-Trichlorobenzene	50.2	10	50	0	100	61	137			
Naphthalene	43.9	10	50	0	88	40	167			
Hexachlorobutadiene	98.8	10	100	0	99	61	130			
1,2,3-Trichlorobenzene	46.8	10	50	0	94	51	144			
Surr: 1,2-Dichloroethane-d4	47.3		50		95	70	130			
Surr: Toluene-d8	49.6		50		99	70	130			
Surr: 4-Bromofluorobenzene	48.2		50		96	70	130			

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Date: 04-Dec-09

QC Summary Report

Work Order: 09112406

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09120109.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 12:14**

Sample ID: **09112406-05AMSD** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 12:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	44.5	2.5	50	0	89	13	167	42.6	4.3(20)	
Chloromethane	36.9	10	50	0	74	28	145	35.97	2.5(20)	
Vinyl chloride	47.3	2.5	50	0	95	43	134	44.89	5.3(20)	
Chloroethane	51.2	2.5	50	0	102	39	154	50.46	1.5(20)	
Bromomethane	47.7	10	50	0	95	19	176	43.12	10.0(20)	
Trichlorofluoromethane	55.6	2.5	50	0	111	34	160	53.17	4.4(20)	
1,1-Dichloroethene	54.4	2.5	50	0	109	60	130	53.87	0.9(20)	
Dichloromethane	48.4	10	50	0	97	68	130	46.39	4.3(20)	
Freon-113	59.4	2.5	50	0	119	49	141	57.39	3.4(20)	
trans-1,2-Dichloroethene	55	2.5	50	0	110	63	130	52.39	4.8(20)	
Methyl tert-butyl ether (MTBE)	51.2	1.3	50	0	102	56	141	48.97	4.4(20)	
1,1-Dichloroethane	51.2	2.5	50	0	102	61	130	48.95	4.5(20)	
2-Butanone (MEK)	515	50	1000	0	52	20	182	494	4.2(20)	
cis-1,2-Dichloroethene	54.6	2.5	50	0	109	70	130	52.14	4.7(20)	
Bromochloromethane	51.5	2.5	50	0	103	70	130	49.79	3.5(20)	
Chloroform	52.3	2.5	50	0	105	67	130	50.45	3.7(20)	
2,2-Dichloropropane	58.7	2.5	50	0	117	30	152	56.45	4.0(20)	
1,2-Dichloroethane	48.7	2.5	50	0	97	60	135	47.44	2.7(20)	
1,1,1-Trichloroethane	54.6	2.5	50	0	109	59	137	53.73	1.6(20)	
1,1-Dichloropropene	54.2	2.5	50	0	108	63	130	52.49	3.2(20)	
Carbon tetrachloride	57.5	2.5	50	0	115	50	147	54.95	4.6(20)	
Benzene	51.2	1.3	50	0	102	67	130	49.79	2.8(20)	
Dibromomethane	48.5	2.5	50	0	97	69	133	45.7	6.0(20)	
1,2-Dichloropropane	50.9	2.5	50	0	102	69	130	49.46	2.8(20)	
Trichloroethene	53.3	2.5	50	0	107	69	130	51.12	4.1(20)	
Bromodichloromethane	52.1	2.5	50	0	104	66	134	50.44	3.3(20)	
cis-1,3-Dichloropropene	49.5	2.5	50	0	99	63	130	46.77	5.6(20)	
trans-1,3-Dichloropropene	44.1	2.5	50	0	88	66	131	42.37	4.1(20)	
1,1,2-Trichloroethane	46.8	2.5	50	0	94	68	130	45.13	3.6(20)	
Toluene	49.5	1.3	50	0	99	66	130	48.36	2.4(20)	
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130	48	3.3(20)	
Dibromochloromethane	48.7	2.5	50	0	97	70	130	47.41	2.8(20)	
1,2-Dibromoethane (EDB)	101	5	100	0	101	70	130	97.44	3.7(20)	
Tetrachloroethene	56	2.5	50	0	112	61	134	54.26	3.2(20)	
1,1,1,2-Tetrachloroethane	53.2	2.5	50	0	106	70	130	51.15	3.9(20)	
Chlorobenzene	49.2	2.5	50	0	98	70	130	48.16	2.2(20)	
Ethylbenzene	50.1	1.3	50	0	100	68	130	49.23	1.8(20)	
m,p-Xylene	50.7	1.3	50	0	101	64	130	49.86	1.8(20)	
Bromoform	44.9	2.5	50	0	90	64	138	44.16	1.7(20)	
Styrene	54.3	2.5	50	0	109	69	130	52.87	2.7(20)	
o-Xylene	51.6	1.3	50	0	103	70	130	50.16	2.8(20)	
1,1,2,2-Tetrachloroethane	46.3	2.5	50	0	93	65	131	44.91	3.0(20)	
1,2,3-Trichloropropane	94	10	100	0	94	70	130	92.71	1.4(20)	
Isopropylbenzene	49.3	2.5	50	0	99	64	138	48.39	1.8(20)	
Bromobenzene	48	2.5	50	0	96	70	130	47.51	0.9(20)	
n-Propylbenzene	49.1	2.5	50	0	98	66	132	48.74	0.8(20)	
4-Chlorotoluene	51	2.5	50	0	102	70	130	50.04	1.9(20)	
2-Chlorotoluene	48.4	2.5	50	0	97	70	130	49.07	1.5(20)	
1,3,5-Trimethylbenzene	50	2.5	50	0	100	66	136	49.09	1.8(20)	
tert-Butylbenzene	49	2.5	50	0	98	65	137	47.86	2.4(20)	
1,2,4-Trimethylbenzene	49.8	2.5	50	0	99.5	65	137	48.75	2.1(20)	
sec-Butylbenzene	50	2.5	50	0	100	66	134	48.78	2.5(20)	
1,3-Dichlorobenzene	50.1	2.5	50	0	100	70	130	49.7	0.9(20)	
1,4-Dichlorobenzene	48.1	2.5	50	0	96	70	130	46.54	3.2(20)	
4-Isopropyltoluene	51.6	2.5	50	0	103	66	137	50.27	2.5(20)	
1,2-Dichlorobenzene	47.3	2.5	50	0	95	70	130	45.93	2.9(20)	
n-Butylbenzene	53.6	2.5	50	0	107	60	142	52.31	2.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	222	15	250	0	89	67	130	215.7	2.7(20)	
1,2,4-Trichlorobenzene	53.2	10	50	0	106	61	137	50.18	5.9(20)	
Naphthalene	47.7	10	50	0	95	40	167	43.91	8.2(20)	
Hexachlorobutadiene	103	10	100	0	103	61	130	98.84	4.5(20)	
1,2,3-Trichlorobenzene	49.7	10	50	0	99	51	144	46.76	6.0(20)	
Surr: 1,2-Dichloroethane-d4	48		50		96	70	130			
Surr: Toluene-d8	50.1		50		100	70	130			
Surr: 4-Bromofluorobenzene	46.8		50		94	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: *04-Dec-09*

QC Summary Report

Work Order: 09112406

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.

Billing Information :

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 : BMIS09112406

Report Due By : 5:00 PM On : 09-Dec-2009

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

Report Attention	Phone Number	EMail 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 : GH/ DBL

PO : 218013

Client's COC # : 023593, 24120 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	24-Nov-2009	**24-Nov-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09112406-01A	QCEB-19NOV	AQ	11/19/09 15:30	3	0	10			VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-02A	MW-10	AQ	11/20/09 08:50	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-03A	QCEB-20NOV	AQ	11/20/09 11:00	3	0	10			VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-04A	MW-14-5	AQ	11/23/09 08:09	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-05A	MW-14-4	AQ	11/23/09 08:47	10	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					MS/MSD
BMI09112406-06A	MW-14-3	AQ	11/23/09 09:16	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-07A	MW-14-2	AQ	11/23/09 09:46	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-08A	MW-14-1	AQ	11/23/09 10:13	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					Level IV QC
BMI09112406-09A	EB-06-11/23/09	AQ	11/23/09 10:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112406-10A	TB-06-11/23/09	AQ	11/23/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno Trip Blank 6/22/09

Comments: No security seals. Frozen ice. Temp Blank #7730 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	11-24-09 1211

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 Gerald Tompkins
Address 505 King Ave.
City, State, Zip Columbus, OH 43201
Phone Number 6144244849 Fax 6144243667

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 X NV ___ WA ___
ID ___ OR ___ OTHER ___

023593
Page # 1 of 1

Client Name	P.O. #	Job #
BATTELLE	218013	JPL-GW-4Q09
Address	**EMail Address**	
505 King Ave	connerd@battelle.org	
City, State, Zip	**Phone #**	**Fax #**
Columbus, OH 43201	~~818-393-2808~~ GH	614 458-6641

Required QC Level? I II (III) IV
EDD / EDF? YES X NO ___
Global ID # ___

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by GH/DBL Lab ID Number (Office Use Only)	Report Attention DAVID CONNER Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required: VOC (524.2)	Total Cr (200.8)	ClO4- (314.0)	REMARKS
1530	19NOV	AQ	BMI0911240601	QCEB - 19 NOV			3 V	X			
0850	20NOV	AQ	-02	MW-10			5	X	X	X	
1100	20NOV	AQ	-03	QCEB - 20 NOV			3 V	X			

Alpha Analytical Sample Receipt
Security Seal? YES NO
Frozen Ice? YES NO
Temperature 4 °C

ADDITIONAL INSTRUCTIONS: D. Conner Phone # 619-726-7311

Signature	Print Name	Company	Date	Time
Relinquished by	GREG HEADINGTON	BATTELLE	20 NOV 09	1200
Received by	MARCO MENDOZA	INSIGHT	11/23/09	1101
Relinquished by	MARCO MENDOZA	INSIGHT	11/23/09	1200
Received by Elizabeth Adcox	Elizabeth Adcox	Alpha	11-24-09	1211
Relinquished by				
Received by				

*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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

24120

Page # 1 of 1

Client Name	P.O. #	Job #
BATTELLE / DAVID CONNER	218013	60058662
Address 3990 OLD TOWN AVE. C-205	EMail Address	
City, State, Zip SAN DIEGO CA 92110	Phone # (619) 726-7311	Fax #

Analyses Required

Required QC Level? I II (III) IV

EDD / EDF? YES ___ NO ___

Global ID # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524.2)	TOTAL Cr (200.8)	ClO_4^- (314.0)	Cl^-, SO_4, NO_3, NO_2, PO_4 (300.0)	REMARKS
0809	11/23/09	AQ	-04	MW-14-5	NORM		4/P 5	X	X	X		
0847			-05	MW-14-4			4/P 10	X	X	X		MS/MSD
0916			-06	MW-14-3			4/P 5	X	X	X		
0946			-07	MW-14-2			4/P 5	X	X	X		
1013			-08	MW-14-1			4/P 5	X	X	X		LEVEL IV QC
1000	11/23/09		-09	EB-06-11/23/09			4/P 5	X	X	X		EQUIPMENT BLANK
—	11/23/09		-10	TB-06-11/23/09			V 1	X				TRIP BLANK

Alpha Analytical Sample Receipt

Security Seals? YES NO

Frozen Ice? YES NO

Temperature 4 °C

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BRODEUR	INSIGHT GEC, INC	11/23/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	11-24-09	1211
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *06-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09112508 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09112508-01A	MW-22-5	Aqueous
09112508-02A	MW-22-4	Aqueous
09112508-03A	MW-22-3	Aqueous
09112508-04A	MW-22-2	Aqueous
09112508-05A	MW-22-1	Aqueous
09112508-06A	DUPE-04-4Q09	Aqueous
09112508-07A	EB-07-11/24/09	Aqueous
09112508-08A	TB-07-11/24/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09112508-01A	EPA Method 314.0	Perchlorate

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.

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 11/25/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-22-5**					
Lab ID : BMI09112508-01A	Perchlorate	1.29	1.00 µg/L	11/25/09 12:32	11/25/09 19:02
Date Sampled 11/24/09 08:10					
Client ID: **MW-22-4**					
Lab ID : BMI09112508-02A	Perchlorate	ND	1.00 µg/L	11/25/09 12:32	11/25/09 19:20
Date Sampled 11/24/09 08:38					
Client ID: **MW-22-3**					
Lab ID : BMI09112508-03A	Perchlorate	2.80	1.00 µg/L	11/25/09 12:32	11/25/09 19:39
Date Sampled 11/24/09 09:00					
Client ID: **MW-22-2**					
Lab ID : BMI09112508-04A	Perchlorate	2.40	1.00 µg/L	11/25/09 12:32	11/25/09 19:57
Date Sampled 11/24/09 09:22					
Client ID: **MW-22-1**					
Lab ID : BMI09112508-05A	Perchlorate	2.77	1.00 µg/L	11/25/09 12:32	11/25/09 20:15
Date Sampled 11/24/09 09:47					
Client ID: **DUPE-04-4Q09**					
Lab ID : BMI09112508-06A	Perchlorate	ND	1.00 µg/L	11/25/09 12:32	11/25/09 20:34
Date Sampled 11/24/09 00:00					
Client ID: **EB-07-11/24/09**					
Lab ID : BMI09112508-07A	Perchlorate	ND	1.00 µg/L	11/25/09 12:32	11/25/09 20:52
Date Sampled 11/24/09 09:37					

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/9/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 11/25/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-22-5**					
Lab ID : BMI09112508-01A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 18:51
Date Sampled 11/24/09 08:10					
Client ID: **MW-22-4**					
Lab ID : BMI09112508-02A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 18:56
Date Sampled 11/24/09 08:38					
Client ID: **MW-22-3**					
Lab ID : BMI09112508-03A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 19:02
Date Sampled 11/24/09 09:00					
Client ID: **MW-22-2**					
Lab ID : BMI09112508-04A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 19:08
Date Sampled 11/24/09 09:22					
Client ID: **MW-22-1**					
Lab ID : BMI09112508-05A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 19:13
Date Sampled 11/24/09 09:47					
Client ID: **DUPE-04-4Q09**					
Lab ID : BMI09112508-06A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 19:19
Date Sampled 11/24/09 00:00					
Client ID: **EB-07-11/24/09**					
Lab ID : BMI09112508-07A	Chromium (Cr)	ND	0.0050 mg/L	11/30/09 11:05	11/30/09 19:24
Date Sampled 11/24/09 09:37					

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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12/9/09
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
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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-22-5**					
Lab ID : BMI09112508-01A	Sulfur dioxide	21	2.0 µg/L	12/01/09 17:25	12/01/09 17:25
Date Received : 11/25/09					
Date Sampled : 11/24/09 08:10					
Client ID : **MW-22-4**					
Lab ID : BMI09112508-02A	Sulfur dioxide	7.3	2.0 µg/L	12/01/09 17:47	12/01/09 17:47
Date Received : 11/25/09					
Date Sampled : 11/24/09 08:38					
Client ID : **MW-22-3**					
Lab ID : BMI09112508-03A	*** None Found ***	ND	2.0 µg/L	12/01/09 18:09	12/01/09 18:09
Date Received : 11/25/09					
Date Sampled : 11/24/09 09:00					
Client ID : **MW-22-2**					
Lab ID : BMI09112508-04A	*** None Found ***	ND	2.0 µg/L	12/01/09 18:31	12/01/09 18:31
Date Received : 11/25/09					
Date Sampled : 11/24/09 09:22					
Client ID : **MW-22-1**					
Lab ID : BMI09112508-05A	*** None Found ***	ND	2.0 µg/L	12/01/09 18:53	12/01/09 18:53
Date Received : 11/25/09					
Date Sampled : 11/24/09 09:47					
Client ID : **DUPE-04-4Q09**					
Lab ID : BMI09112508-06A	Sulfur dioxide	5.7	2.0 µg/L	12/01/09 19:15	12/01/09 19:15
Date Received : 11/25/09					
Date Sampled : 11/24/09 00:00					
Client ID : **EB-07-11/24/09**					
Lab ID : BMI09112508-07A	*** None Found ***	ND	2.0 µg/L	12/01/09 13:21	12/01/09 13:21
Date Received : 11/25/09					
Date Sampled : 11/24/09 09:37					
Client ID : **TB-07-11/24/09**					
Lab ID : BMI09112508-08A	*** None Found ***	ND	2.0 µg/L	12/01/09 12:58	12/01/09 12:58
Date Received : 11/25/09					
Date Sampled : 11/24/09 00:00					

Alpha Analytical, Inc.

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/9/09

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: BMI09112508-01A
Client I.D. Number: MW-22-5

Sampled: 11/24/09 08:10
Received: 11/25/09
Extracted: 12/01/09 17:25
Analyzed: 12/01/09 17:25

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	98		(70-130)	%REC
65	Surr: Toluene-d8	103		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90		(70-130)	%REC

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 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 / 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.

12/9/09
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: BMI09112508-02A
Client I.D. Number: MW-22-4

Sampled: 11/24/09 08:38
Received: 11/25/09
Extracted: 12/01/09 17:47
Analyzed: 12/01/09 17:47

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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

	Compound	Concentration	Reporting Limit	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
65	Surr: Toluene-d8	104	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	91	(70-130)	%REC

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 Scholl Randy Gardner Walter Hinchman

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12/9/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09112508-03A
Client I.D. Number: MW-22-3

Sampled: 11/24/09 09:00
Received: 11/25/09
Extracted: 12/01/09 18:09
Analyzed: 12/01/09 18:09

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	100		(70-130)	%REC
65	Surr: Toluene-d8	102		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	91		(70-130)	%REC

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 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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12/9/09
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: BMI09112508-04A
Client I.D. Number: MW-22-2

Sampled: 11/24/09 09:22
Received: 11/25/09
Extracted: 12/01/09 18:31
Analyzed: 12/01/09 18:31

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	100		(70-130)	%REC
65	Surr: Toluene-d8	101		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	90		(70-130)	%REC

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 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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12/9/09
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: BMI09112508-05A
Client I.D. Number: MW-22-1

Sampled: 11/24/09 09:47
Received: 11/25/09
Extracted: 12/01/09 18:53
Analyzed: 12/01/09 18:53

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	0.71		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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	1.9		0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102		(70-130)	%REC
65	Surr: Toluene-d8	103		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	89		(70-130)	%REC

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 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 / info@alpha-analytical.com

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12/9/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09112508-06A
Client I.D. Number: DUPE-04-4Q09

Sampled: 11/24/09 00:00
Received: 11/25/09
Extracted: 12/01/09 19:15
Analyzed: 12/01/09 19:15

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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

	Compound	Concentration	Reporting Limit	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
65	Surr: Toluene-d8	102	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	91	(70-130)	%REC

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 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 / info@alpha-analytical.com

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

12/9/09
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: BMI09112508-07A
Client I.D. Number: EB-07-11/24/09

Sampled: 11/24/09 09:37
Received: 11/25/09
Extracted: 12/01/09 13:21
Analyzed: 12/01/09 13:21

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	Q	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	99	(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	94	(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 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 / 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.

12/9/09
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: BMI09112508-08A
Client I.D. Number: TB-07-11/24/09

Sampled: 11/24/09 00:00
Received: 11/25/09
Extracted: 12/01/09 12:58
Analyzed: 12/01/09 12:58

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L
2	Chloromethane	ND		1.0	µg/L
3	Vinyl chloride	ND		0.50	µg/L
4	Chloroethane	ND		0.50	µg/L
5	Bromomethane	ND		1.0	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L
9	Freon-113	ND		0.50	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L
13	2-Butanone (MEK)	ND	Q	10	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L
16	Chloroform	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L
22	Benzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L
25	Trichloroethene	ND		0.50	µg/L
26	Bromodichloromethane	ND		0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L
30	1,1,2-Trichloroethane	ND		0.50	µg/L
31	Toluene	ND		0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
37	Chlorobenzene	ND		0.50	µg/L
38	Ethylbenzene	ND		0.50	µg/L
39	m,p-Xylene	ND		0.50	µg/L
40	Bromoform	ND		0.50	µg/L
41	Styrene	ND		0.50	µg/L
42	o-Xylene	ND		0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
44	1,2,3-Trichloropropane	ND		1.0	µg/L
45	Isopropylbenzene	ND		0.50	µg/L
46	Bromobenzene	ND		0.50	µg/L
47	n-Propylbenzene	ND		0.50	µg/L
48	4-Chlorotoluene	ND		0.50	µg/L
49	2-Chlorotoluene	ND		0.50	µg/L
50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
51	tert-Butylbenzene	ND		0.50	µg/L
52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
53	sec-Butylbenzene	ND		0.50	µg/L
54	1,3-Dichlorobenzene	ND		0.50	µg/L
55	1,4-Dichlorobenzene	ND		0.50	µg/L
56	4-Isopropyltoluene	ND		0.50	µg/L
57	1,2-Dichlorobenzene	ND		0.50	µg/L
58	n-Butylbenzene	ND		0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND		2.5	µg/L
60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
61	Naphthalene	ND		1.0	µg/L
62	Hexachlorobutadiene	ND		1.0	µg/L
63	1,2,3-Trichlorobenzene	ND		1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99		(70-130)	%REC
65	Surr: Toluene-d8	103		(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	93		(70-130)	%REC

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 Scholl Randy Gardner Walter Hinchman

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12/9/09
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: BMI09112508 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09112508-01A	MW-22-5	Aqueous	2
09112508-02A	MW-22-4	Aqueous	2
09112508-03A	MW-22-3	Aqueous	2
09112508-04A	MW-22-2	Aqueous	2
09112508-05A	MW-22-1	Aqueous	2
09112508-06A	DUPE-04-4Q09	Aqueous	2
09112508-07A	EB-07-11/24/09	Aqueous	2
09112508-08A	TB-07-11/24/09	Aqueous	2

12/9/09

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

Date: *06-Dec-09*

QC Summary Report

Work Order: 09112508

Method Blank

Type **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23156** Analysis Date: **11/25/2009 13:31**

Sample ID: **MB-23156** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23156** Analysis Date: **11/25/2009 13:49**

Sample ID: **LFB-23156** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.9	2	25		99.6	85	115			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 314.0**

File ID: **23** Batch ID: **23156** Analysis Date: **11/25/2009 16:16**

Sample ID: **09112406-05ALFM** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.2	2	25	3.383	91	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 314.0**

File ID: **24** Batch ID: **23156** Analysis Date: **11/25/2009 16:35**

Sample ID: **09112406-05ALFMD** Units : **µg/L** Run ID: **IC_3_091125A** Prep Date: **11/25/2009 12:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	29.2	2	25	3.383	103	80	120	26.16	11.2(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.

Alpha Analytical, Inc.

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Date: *06-Dec-09*

QC Summary Report

Work Order: 09112508

Method Blank

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

File ID: **113009.B\019SMPL.D** Batch ID: **23168K** Analysis Date: **11/30/2009 18:00**

Sample ID: **MB-23168** Units : **mg/L** Run ID: **ICP/MS_091130B** Prep Date: **11/30/2009 11:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **113009.B\020_LCS.D** Batch ID: **23168K** Analysis Date: **11/30/2009 18:06**

Sample ID: **LCS-23168** Units : **mg/L** Run ID: **ICP/MS_091130B** Prep Date: **11/30/2009 11:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0568	0.005	0.05		114	80	120			

Sample Matrix Spike

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

File ID: **113009.B\025SMPL.D** Batch ID: **23168K** Analysis Date: **11/30/2009 18:34**

Sample ID: **09113040-01AMS** Units : **mg/L** Run ID: **ICP/MS_091130B** Prep Date: **11/30/2009 11:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0474	0.005	0.05	0	95	80	120			

Sample Matrix Spike Duplicate

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

File ID: **113009.B\026SMPL.D** Batch ID: **23168K** Analysis Date: **11/30/2009 18:40**

Sample ID: **09113040-01AMSD** Units : **mg/L** Run ID: **ICP/MS_091130B** Prep Date: **11/30/2009 11:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0493	0.005	0.05	0	99	80	120	0.04744	3.9(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.

Alpha Analytical, Inc.

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

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

Date: 06-Dec-09

QC Summary Report

Work Order: 09112508

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

File ID: **09120107.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 11:30**

Sample ID: **MBLK MS15W1201M** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 11:30**

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	9.81		10		98	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			

Alpha Analytical, Inc.

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Date: *06-Dec-09*

QC Summary Report

Work Order: 09112508

Surr: 4-Bromofluorobenzene	9.32	10	93	70	130	

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Date: 06-Dec-09

QC Summary Report

Work Order: 09112508

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09120105.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 10:35**

Sample ID: **LCS MS15W1201M** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 10:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	11.4	1	10		114	70	130			
Chloromethane	8.1	2	10		81	70	130			
Vinyl chloride	9.73	1	10		97	70	130			
Chloroethane	11	1	10		110	70	130			
Bromomethane	9.72	2	10		97	70	130			
Trichlorofluoromethane	11.6	1	10		116	70	130			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	9.74	2	10		97	70	130			
Freon-113	12.1	1	10		121	67	141			
trans-1,2-Dichloroethene	11	1	10		110	70	130			
Methyl tert-butyl ether (MTBE)	10.4	0.5	10		104	70	130			
1,1-Dichloroethane	10.2	1	10		102	70	130			
2-Butanone (MEK)	135	10	200		67	70(70)	130			L50
cis-1,2-Dichloroethene	10.7	1	10		107	70	130			
Bromochloromethane	10.3	1	10		103	70	130			
Chloroform	10.4	1	10		104	70	130			
2,2-Dichloropropane	12.1	1	10		121	70	130			
1,2-Dichloroethane	9.71	1	10		97	70	130			
1,1,1-Trichloroethane	11.3	1	10		113	70	130			
1,1-Dichloropropene	11.1	1	10		111	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.3	0.5	10		103	70	130			
Dibromomethane	9.69	1	10		97	70	130			
1,2-Dichloropropane	10.2	1	10		102	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	10.5	1	10		105	70	130			
cis-1,3-Dichloropropene	10.3	1	10		103	70	130			
trans-1,3-Dichloropropene	9.13	1	10		91	70	130			
1,1,2-Trichloroethane	9.36	1	10		94	70	130			
Toluene	10	0.5	10		100	70	130			
1,3-Dichloropropane	9.84	1	10		98	70	130			
Dibromochloromethane	9.83	1	10		98	70	130			
1,2-Dibromoethane (EDB)	20.1	2	20		101	70	130			
Tetrachloroethene	11.3	1	10		113	70	130			
1,1,1,2-Tetrachloroethane	10.7	1	10		107	70	130			
Chlorobenzene	10	1	10		100	70	130			
Ethylbenzene	10.2	0.5	10		102	70	130			
m,p-Xylene	10.3	0.5	10		103	70	130			
Bromoform	9.35	1	10		94	70	130			
Styrene	11.2	1	10		112	70	130			
o-Xylene	10.5	0.5	10		105	70	130			
1,1,2,2-Tetrachloroethane	9.49	1	10		95	70	130			
1,2,3-Trichloropropane	19.2	2	20		96	70	130			
Isopropylbenzene	9.89	1	10		99	70	130			
Bromobenzene	9.55	1	10		96	70	130			
n-Propylbenzene	9.99	1	10		99.9	70	130			
4-Chlorotoluene	10.2	1	10		102	70	130			
2-Chlorotoluene	9.9	1	10		99	70	130			
1,3,5-Trimethylbenzene	10	1	10		100	70	130			
tert-Butylbenzene	9.82	1	10		98	70	130			
1,2,4-Trimethylbenzene	10.1	1	10		101	70	130			
sec-Butylbenzene	10.2	1	10		102	70	130			
1,3-Dichlorobenzene	10.2	1	10		102	70	130			
1,4-Dichlorobenzene	9.49	1	10		95	70	130			
4-isopropyltoluene	10.3	1	10		103	70	130			
1,2-Dichlorobenzene	9.48	1	10		95	70	130			
n-Butylbenzene	10.7	1	10		107	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	44.9	3	50		90	70	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	9.44	2	10		94	70	130			
Hexachlorobutadiene	20.6	2	20		103	70	130			
1,2,3-Trichlorobenzene	9.93	2	10		99	70	130			
Surr: 1,2-Dichloroethane-d4	9.64		10		96	70	130			
Surr: Toluene-d8	9.91		10		99	70	130			
Surr: 4-Bromofluorobenzene	9.53		10		95	70	130			

Alpha Analytical, Inc.

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Date: 06-Dec-09

QC Summary Report

Work Order: 09112508

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09120108.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 11:52**

Sample ID: **09112406-05AMS** Units : µg/L Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 11:52**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.6	2.5	50	0	85	13	167			
Chloromethane	36	10	50	0	72	28	145			
Vinyl chloride	44.9	2.5	50	0	90	43	134			
Chloroethane	50.5	2.5	50	0	101	39	154			
Bromomethane	43.1	10	50	0	86	19	176			
Trichlorofluoromethane	53.2	2.5	50	0	106	34	160			
1,1-Dichloroethene	53.9	2.5	50	0	108	60	130			
Dichloromethane	46.4	10	50	0	93	68	130			
Freon-113	57.4	2.5	50	0	115	49	141			
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130			
Methyl tert-butyl ether (MTBE)	49	1.3	50	0	98	56	141			
1,1-Dichloroethane	49	2.5	50	0	98	61	130			
2-Butanone (MEK)	494	50	1000	0	49	20	182			
cis-1,2-Dichloroethene	52.1	2.5	50	0	104	70	130			
Bromochloromethane	49.8	2.5	50	0	99.6	70	130			
Chloroform	50.5	2.5	50	0	101	67	130			
2,2-Dichloropropane	56.5	2.5	50	0	113	30	152			
1,2-Dichloroethane	47.4	2.5	50	0	95	60	135			
1,1,1-Trichloroethane	53.7	2.5	50	0	107	59	137			
1,1-Dichloropropene	52.5	2.5	50	0	105	63	130			
Carbon tetrachloride	55	2.5	50	0	110	50	147			
Benzene	49.8	1.3	50	0	99.6	67	130			
Dibromomethane	45.7	2.5	50	0	91	69	133			
1,2-Dichloropropane	49.5	2.5	50	0	99	69	130			
Trichloroethene	51.1	2.5	50	0	102	69	130			
Bromodichloromethane	50.4	2.5	50	0	101	66	134			
cis-1,3-Dichloropropene	46.8	2.5	50	0	94	63	130			
trans-1,3-Dichloropropene	42.4	2.5	50	0	85	66	131			
1,1,2-Trichloroethane	45.1	2.5	50	0	90	68	130			
Toluene	48.4	1.3	50	0	97	66	130			
1,3-Dichloropropane	48	2.5	50	0	96	70	130			
Dibromochloromethane	47.4	2.5	50	0	95	70	130			
1,2-Dibromoethane (EDB)	97.4	5	100	0	97	70	130			
Tetrachloroethene	54.3	2.5	50	0	109	61	134			
1,1,1,2-Tetrachloroethane	51.2	2.5	50	0	102	70	130			
Chlorobenzene	48.2	2.5	50	0	96	70	130			
Ethylbenzene	49.2	1.3	50	0	98	68	130			
m,p-Xylene	49.9	1.3	50	0	99.7	64	130			
Bromoform	44.2	2.5	50	0	88	64	138			
Styrene	52.9	2.5	50	0	106	69	130			
o-Xylene	50.2	1.3	50	0	100	70	130			
1,1,2,2-Tetrachloroethane	44.9	2.5	50	0	90	65	131			
1,2,3-Trichloropropane	92.7	10	100	0	93	70	130			
Isopropylbenzene	48.4	2.5	50	0	97	64	138			
Bromobenzene	47.5	2.5	50	0	95	70	130			
n-Propylbenzene	48.7	2.5	50	0	97	66	132			
4-Chlorotoluene	50	2.5	50	0	100	70	130			
2-Chlorotoluene	49.1	2.5	50	0	98	70	130			
1,3,5-Trimethylbenzene	49.1	2.5	50	0	98	66	136			
tert-Butylbenzene	47.9	2.5	50	0	96	65	137			
1,2,4-Trimethylbenzene	48.8	2.5	50	0	98	65	137			
sec-Butylbenzene	48.8	2.5	50	0	98	66	134			
1,3-Dichlorobenzene	49.7	2.5	50	0	99	70	130			
1,4-Dichlorobenzene	46.5	2.5	50	0	93	70	130			
4-Isopropyltoluene	50.3	2.5	50	0	101	66	137			
1,2-Dichlorobenzene	45.9	2.5	50	0	92	70	130			
n-Butylbenzene	52.3	2.5	50	0	105	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	216	15	250	0	86	67	130			
1,2,4-Trichlorobenzene	50.2	10	50	0	100	61	137			
Naphthalene	43.9	10	50	0	88	40	167			
Hexachlorobutadiene	98.8	10	100	0	99	61	130			
1,2,3-Trichlorobenzene	46.8	10	50	0	94	51	144			
Surr: 1,2-Dichloroethane-d4	47.3		50		95	70	130			
Surr: Toluene-d8	49.6		50		99	70	130			
Surr: 4-Bromofluorobenzene	48.2		50		96	70	130			

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Date: 06-Dec-09

QC Summary Report

Work Order: 09112508

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09120109.D** Batch ID: **MS15W1201M** Analysis Date: **12/01/2009 12:14**

Sample ID: **09112406-05AMSD** Units : **µg/L** Run ID: **MSD_15_091201A** Prep Date: **12/01/2009 12:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	44.5	2.5	50	0	89	13	167	42.6	4.3(20)	
Chloromethane	36.9	10	50	0	74	28	145	35.97	2.5(20)	
Vinyl chloride	47.3	2.5	50	0	95	43	134	44.89	5.3(20)	
Chloroethane	51.2	2.5	50	0	102	39	154	50.46	1.5(20)	
Bromomethane	47.7	10	50	0	95	19	176	43.12	10.0(20)	
Trichlorofluoromethane	55.6	2.5	50	0	111	34	160	53.17	4.4(20)	
1,1-Dichloroethene	54.4	2.5	50	0	109	60	130	53.87	0.9(20)	
Dichloromethane	48.4	10	50	0	97	68	130	46.39	4.3(20)	
Freon-113	59.4	2.5	50	0	119	49	141	57.39	3.4(20)	
trans-1,2-Dichloroethene	55	2.5	50	0	110	63	130	52.39	4.8(20)	
Methyl tert-butyl ether (MTBE)	51.2	1.3	50	0	102	56	141	48.97	4.4(20)	
1,1-Dichloroethane	51.2	2.5	50	0	102	61	130	48.95	4.5(20)	
2-Butanone (MEK)	515	50	1000	0	52	20	182	494	4.2(20)	
cis-1,2-Dichloroethene	54.6	2.5	50	0	109	70	130	52.14	4.7(20)	
Bromochloromethane	51.5	2.5	50	0	103	70	130	49.79	3.5(20)	
Chloroform	52.3	2.5	50	0	105	67	130	50.45	3.7(20)	
2,2-Dichloropropane	58.7	2.5	50	0	117	30	152	56.45	4.0(20)	
1,2-Dichloroethane	48.7	2.5	50	0	97	60	135	47.44	2.7(20)	
1,1,1-Trichloroethane	54.6	2.5	50	0	109	59	137	53.73	1.6(20)	
1,1-Dichloropropene	54.2	2.5	50	0	108	63	130	52.49	3.2(20)	
Carbon tetrachloride	57.5	2.5	50	0	115	50	147	54.95	4.6(20)	
Benzene	51.2	1.3	50	0	102	67	130	49.79	2.8(20)	
Dibromomethane	48.5	2.5	50	0	97	69	133	45.7	6.0(20)	
1,2-Dichloropropane	50.9	2.5	50	0	102	69	130	49.46	2.8(20)	
Trichloroethene	53.3	2.5	50	0	107	69	130	51.12	4.1(20)	
Bromodichloromethane	52.1	2.5	50	0	104	66	134	50.44	3.3(20)	
cis-1,3-Dichloropropene	49.5	2.5	50	0	99	63	130	46.77	5.6(20)	
trans-1,3-Dichloropropene	44.1	2.5	50	0	88	66	131	42.37	4.1(20)	
1,1,2-Trichloroethane	46.8	2.5	50	0	94	68	130	45.13	3.6(20)	
Toluene	49.5	1.3	50	0	99	66	130	48.36	2.4(20)	
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130	48	3.3(20)	
Dibromochloromethane	48.7	2.5	50	0	97	70	130	47.41	2.8(20)	
1,2-Dibromoethane (EDB)	101	5	100	0	101	70	130	97.44	3.7(20)	
Tetrachloroethene	56	2.5	50	0	112	61	134	54.26	3.2(20)	
1,1,1,2-Tetrachloroethane	53.2	2.5	50	0	106	70	130	51.15	3.9(20)	
Chlorobenzene	49.2	2.5	50	0	98	70	130	48.16	2.2(20)	
Ethylbenzene	50.1	1.3	50	0	100	68	130	49.23	1.8(20)	
m,p-Xylene	50.7	1.3	50	0	101	64	130	49.86	1.8(20)	
Bromoform	44.9	2.5	50	0	90	64	138	44.16	1.7(20)	
Styrene	54.3	2.5	50	0	109	69	130	52.87	2.7(20)	
o-Xylene	51.6	1.3	50	0	103	70	130	50.16	2.8(20)	
1,1,2,2-Tetrachloroethane	46.3	2.5	50	0	93	65	131	44.91	3.0(20)	
1,2,3-Trichloropropane	94	10	100	0	94	70	130	92.71	1.4(20)	
Isopropylbenzene	49.3	2.5	50	0	99	64	138	48.39	1.8(20)	
Bromobenzene	48	2.5	50	0	96	70	130	47.51	0.9(20)	
n-Propylbenzene	49.1	2.5	50	0	98	66	132	48.74	0.8(20)	
4-Chlorotoluene	51	2.5	50	0	102	70	130	50.04	1.9(20)	
2-Chlorotoluene	48.4	2.5	50	0	97	70	130	49.07	1.5(20)	
1,3,5-Trimethylbenzene	50	2.5	50	0	100	66	136	49.09	1.8(20)	
tert-Butylbenzene	49	2.5	50	0	98	65	137	47.86	2.4(20)	
1,2,4-Trimethylbenzene	49.8	2.5	50	0	99.5	65	137	48.75	2.1(20)	
sec-Butylbenzene	50	2.5	50	0	100	66	134	48.78	2.5(20)	
1,3-Dichlorobenzene	50.1	2.5	50	0	100	70	130	49.7	0.9(20)	
1,4-Dichlorobenzene	48.1	2.5	50	0	96	70	130	46.54	3.2(20)	
4-Isopropyltoluene	51.6	2.5	50	0	103	66	137	50.27	2.5(20)	
1,2-Dichlorobenzene	47.3	2.5	50	0	95	70	130	45.93	2.9(20)	
n-Butylbenzene	53.6	2.5	50	0	107	60	142	52.31	2.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	222	15	250	0	89	67	130	215.7	2.7(20)	
1,2,4-Trichlorobenzene	53.2	10	50	0	106	61	137	50.18	5.9(20)	
Naphthalene	47.7	10	50	0	95	40	167	43.91	8.2(20)	
Hexachlorobutadiene	103	10	100	0	103	61	130	98.84	4.5(20)	
1,2,3-Trichlorobenzene	49.7	10	50	0	99	51	144	46.76	6.0(20)	
Surr: 1,2-Dichloroethane-d4	48		50		96	70	130			
Surr: Toluene-d8	50.1		50		100	70	130			
Surr: 4-Bromofluorobenzene	46.8		50		94	70	130			

Alpha Analytical, Inc.

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Date: *06-Dec-09*

QC Summary Report

Work Order: 09112508

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.

Billing Information :

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 : BMIS09112508

Report Due By : 5:00 PM On : 10-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 28889 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	25-Nov-2009	25-Nov-2009

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09112508-01A	MW-22-5	AQ	11/24/09 08:10	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-02A	MW-22-4	AQ	11/24/09 08:38	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-03A	MW-22-3	AQ	11/24/09 09:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-04A	MW-22-2	AQ	11/24/09 09:22	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-05A	MW-22-1	AQ	11/24/09 09:47	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-06A	DUPE-04-4Q09	AQ	11/24/09 00:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-07A	EB-07-11/24/09	AQ	11/24/09 09:37	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09112508-08A	TB-07-11/24/09	AQ	11/24/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno Trip Blank 6/22/09

Comments: No security seals. Frozen ice. Temp Blank #2587 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	11.25.09 1520

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 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? 28889
AZ ___ **CA** X **NV** ___ **WA** ___
ID ___ **OR** ___ **OTHER** ___
Page # 1 ***of*** 1

Client Name: BATTELLE / DAVID CONNER	P.O. # 218013	Job # G005862
Address: 3990 OLD TOWN AVE. C-205	EMail Address	
City, State, Zip: SAN DIEGO CA 92110	Phone # (619) 726-7311	Fax #

Required QC Level? I II (III) IV
EDD / EDF? YES ___ ***NO*** ___
Global ID # ___

Analyses Required

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	VOC (524.2)	TOTAL Cr (200.8)	ClO4- (314.0)	Cl-, SO4-, NO3-, NO2-, PO4-3 (300.0)				REMARKS
0810	11/24/09	AQ	BMI09112508-01	MW-22-5			V/P 5	X	X	X					
0838	↓	↓	-02	MW-22-4			↓	X	X	X					
0900			-03	MW-22-3				X	X	X					
0922			-04	MW-22-2				X	X	X					
0947			-05	MW-22-1				X	X	X					
—	11/24/09		-06	DUPE-04-4Q09			V/P 5	X	X	X					DUPLICATE
0937	11/24/09		-07	EB-07-11/24/09			V/P 5	X	X	X					EQUIPMENT BLANK
—	11/24/09	↓	-08	TB-07-11/24/09			V 1	X							TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BRADDON	INSIGHT EEC, INC	11/24/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	11-25-09	1520
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *09-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09120150 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09120150-01A	MW-4-5	Aqueous
09120150-02A	MW-4-4	Aqueous
09120150-03A	MW-4-3	Aqueous
09120150-04A	MW-4-2	Aqueous
09120150-05A	MW-4-1	Aqueous
09120150-06A	DUPE-05-4209	Aqueous
09120150-07A	EB-08-11/30/09	Aqueous
09120150-08A	TB-08-11/30/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09120150-05A	EPA Method 314.0	Perchlorate

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.

Alpha Analytical, Inc.

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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 : 12/01/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-4-5**					
Lab ID : BMI09120150-01A	Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 15:28
Date Sampled 11/30/09 08:31					
Client ID: **MW-4-4**					
Lab ID : BMI09120150-02A	Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 15:46
Date Sampled 11/30/09 08:56					
Client ID: **MW-4-3**					
Lab ID : BMI09120150-03A	Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 16:05
Date Sampled 11/30/09 09:28					
Client ID: **MW-4-2**					
Lab ID : BMI09120150-04A	Perchlorate	2.24	1.00 µg/L	12/02/09 12:28	12/02/09 16:23
Date Sampled 11/30/09 09:57					
Client ID: **MW-4-1**					
Lab ID : BMI09120150-05A	Perchlorate	96.0	1.00 µg/L	12/02/09 12:28	12/02/09 16:42
Date Sampled 11/30/09 10:38					
Client ID: **DUPE-05-4209**					
Lab ID : BMI09120150-06A	Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 18:14
Date Sampled 11/30/09 00:00					
Client ID: **EB-08-11/30/09**					
Lab ID : BMI09120150-07A	Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 18:32
Date Sampled 11/30/09 10:18					

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/14/09
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
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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 : 12/01/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-4-5**					
Lab ID : BMI09120150-01A	Chromium (Cr)	0.0052	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 08:31					
Client ID: **MW-4-4**					
Lab ID : BMI09120150-02A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 08:56					
Client ID: **MW-4-3**					
Lab ID : BMI09120150-03A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 09:28					
Client ID: **MW-4-2**					
Lab ID : BMI09120150-04A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 09:57					
Client ID: **MW-4-1**					
Lab ID : BMI09120150-05A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 10:38					
Client ID: **DUPE-05-4209**					
Lab ID : BMI09120150-06A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 00:00					
Client ID: **EB-08-11/30/09**					
Lab ID : BMI09120150-07A	Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/02/09
Date Sampled 11/30/09 10:18					

ND = Not Detected

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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-4-5** Lab ID : BMI09120150-01A Date Received : 12/01/09 Date Sampled : 11/30/09 08:31	* * * None Found * * *	ND	2.0 µg/L	12/04/09 14:37	12/04/09 14:37
Client ID : **MW-4-4** Lab ID : BMI09120150-02A Date Received : 12/01/09 Date Sampled : 11/30/09 08:56	* * * None Found * * *	ND	2.0 µg/L	12/04/09 14:59	12/04/09 14:59
Client ID : **MW-4-3** Lab ID : BMI09120150-03A Date Received : 12/01/09 Date Sampled : 11/30/09 09:28	* * * None Found * * *	ND	2.0 µg/L	12/04/09 15:22	12/04/09 15:22
Client ID : **MW-4-2** Lab ID : BMI09120150-04A Date Received : 12/01/09 Date Sampled : 11/30/09 09:57	* * * None Found * * *	ND	2.0 µg/L	12/04/09 15:44	12/04/09 15:44
Client ID : **MW-4-1** Lab ID : BMI09120150-05A Date Received : 12/01/09 Date Sampled : 11/30/09 10:38	* * * None Found * * *	ND	2.0 µg/L	12/04/09 16:06	12/04/09 16:06
Client ID : **DUPE-05-4209** Lab ID : BMI09120150-06A Date Received : 12/01/09 Date Sampled : 11/30/09 00:00	Sulfur dioxide	2.2	2.0 µg/L	12/04/09 16:28	12/04/09 16:28
Client ID : **EB-08-11/30/09** Lab ID : BMI09120150-07A Date Received : 12/01/09 Date Sampled : 11/30/09 10:18	* * * None Found * * *	ND	2.0 µg/L	12/04/09 13:31	12/04/09 13:31
Client ID : **TB-08-11/30/09** Lab ID : BMI09120150-08A Date Received : 12/01/09 Date Sampled : 11/30/09 00:00	* * * None Found * * *	ND	2.0 µg/L	12/04/09 13:09	12/04/09 13:09

Alpha Analytical, Inc.

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Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09

Report Date

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: BMI09120150-01A
Client I.D. Number: MW-4-5

Sampled: 11/30/09 08:31
Received: 12/01/09
Extracted: 12/04/09 14:37
Analyzed: 12/04/09 14:37

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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09
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

Alpha Analytical Number: BMI09120150-02A
Client I.D. Number: MW-4-4

Sampled: 11/30/09 08:56
Received: 12/01/09
Extracted: 12/04/09 14:59
Analyzed: 12/04/09 14:59

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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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

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12/14/09
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: BMI09120150-03A
Client I.D. Number: MW-4-3

Sampled: 11/30/09 09:28
Received: 12/01/09
Extracted: 12/04/09 15:22
Analyzed: 12/04/09 15:22

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	0.95	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	0.52	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	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09
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: BMI09120150-04A
Client I.D. Number: MW-4-2

Sampled: 11/30/09 09:57
Received: 12/01/09
Extracted: 12/04/09 15:44
Analyzed: 12/04/09 15:44

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	0.74	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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	91	(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	0.55	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09
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: BMI09120150-05A
Client I.D. Number: MW-4-1

Sampled: 11/30/09 10:38
Received: 12/01/09
Extracted: 12/04/09 16:06
Analyzed: 12/04/09 16:06

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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65 Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66 Surr: 4-Bromofluorobenzene	93	(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				

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09
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: BMI09120150-06A
Client I.D. Number: DUPE-05-4209

Sampled: 11/30/09 00:00
Received: 12/01/09
Extracted: 12/04/09 16:28
Analyzed: 12/04/09 16:28

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	1.1	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	0.55	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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	96	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/14/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120150-07A
Client I.D. Number: EB-08-11/30/09

Sampled: 11/30/09 10:18
Received: 12/01/09
Extracted: 12/04/09 13:31
Analyzed: 12/04/09 13:31

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	102	(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	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/14/09
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: BMI09120150-08A
Client I.D. Number: TB-08-11/30/09

Sampled: 11/30/09 00:00
Received: 12/01/09
Extracted: 12/04/09 13:09
Analyzed: 12/04/09 13:09

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	100	(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	97	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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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.

12/14/09
Report Date

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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: BMI09120150 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09120150-01A	MW-4-5	Aqueous	2
09120150-02A	MW-4-4	Aqueous	2
09120150-03A	MW-4-3	Aqueous	2
09120150-04A	MW-4-2	Aqueous	2
09120150-05A	MW-4-1	Aqueous	2
09120150-06A	DUPE-05-4209	Aqueous	2
09120150-07A	EB-08-11/30/09	Aqueous	2
09120150-08A	TB-08-11/30/09	Aqueous	2

12/14/09

Report Date

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120150

Method Blank

Type **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23184** Analysis Date: **12/02/2009 13:38**

Sample ID: **MB-23184** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23184** Analysis Date: **12/02/2009 13:56**

Sample ID: **LFB-23184** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.6	2	25		98	85	115			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 314.0**

File ID: **27** Batch ID: **23184** Analysis Date: **12/02/2009 17:37**

Sample ID: **09120150-05ALFM** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	343	20	250	96.03	99	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 314.0**

File ID: **28** Batch ID: **23184** Analysis Date: **12/02/2009 17:55**

Sample ID: **09120150-05ALFMD** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	349	20	250	96.03	101	80	120	343	1.7(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: *09-Dec-09*

QC Summary Report

Work Order: 09120150

Method Blank

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

File ID: **120309.B\79MB.D** Batch ID: **23179K** Analysis Date: **12/02/2009 22:39**

Sample ID: **MB-23179** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **120309.B\79L1.D** Batch ID: **23179K** Analysis Date: **12/02/2009 22:45**

Sample ID: **LCS-23179** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.057	0.005	0.05		114	80	120			

Sample Matrix Spike

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

File ID: **120309.B\79MS.D** Batch ID: **23179K** Analysis Date: **12/02/2009 23:13**

Sample ID: **09120150-05AMS** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0605	0.005	0.05	0	121	80	120			M1

Sample Matrix Spike Duplicate

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

File ID: **120309.B\79MSD.D** Batch ID: **23179K** Analysis Date: **12/02/2009 23:19**

Sample ID: **09120150-05AMSD** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0596	0.005	0.05	0	119	80	120	0.06047	1.4(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.

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

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120150

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

File ID: **09120408.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 11:40**

Sample ID: **MBLK MS15W1204M** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 11:40**

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	10.1		10		101	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120150

Surr: 4-Bromofluorobenzene	9.52	10	95	70	130

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120150

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09120405.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 10:24**

Sample ID: **LCS MS15W1204M** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 10:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.7	1	10		87	70	130			
Chloromethane	8.27	2	10		83	70	130			
Vinyl chloride	8.52	1	10		85	70	130			
Chloroethane	9.85	1	10		99	70	130			
Bromomethane	13.2	2	10		132	70	130(130)			L51
Trichlorofluoromethane	9.65	1	10		97	70	130			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	10.4	2	10		104	70	130			
Freon-113	10.8	1	10		108	67	141			
trans-1,2-Dichloroethene	11.3	1	10		113	70	130			
Methyl tert-butyl ether (MTBE)	11.4	0.5	10		114	70	130			
1,1-Dichloroethane	10.8	1	10		108	70	130			
2-Butanone (MEK)	197	10	200		98	70	130			
cis-1,2-Dichloroethene	11.5	1	10		115	70	130			
Bromochloromethane	11.4	1	10		114	70	130			
Chloroform	11.2	1	10		112	70	130			
2,2-Dichloropropane	12.3	1	10		123	70	130			
1,2-Dichloroethane	10.9	1	10		109	70	130			
1,1,1-Trichloroethane	11.4	1	10		114	70	130			
1,1-Dichloropropene	11.2	1	10		112	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	11	0.5	10		110	70	130			
Dibromomethane	11.2	1	10		112	70	130			
1,2-Dichloropropane	11.3	1	10		113	70	130			
Trichloroethene	11.5	1	10		115	70	130			
Bromodichloromethane	11.3	1	10		113	70	130			
cis-1,3-Dichloropropene	11.3	1	10		113	70	130			
trans-1,3-Dichloropropene	10.3	1	10		103	70	130			
1,1,2-Trichloroethane	10.8	1	10		108	70	130			
Toluene	10.5	0.5	10		105	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
Dibromochloromethane	10.2	1	10		102	70	130			
1,2-Dibromoethane (EDB)	21.9	2	20		109	70	130			
Tetrachloroethene	11.5	1	10		115	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10.5	1	10		105	70	130			
Ethylbenzene	10.7	0.5	10		107	70	130			
m,p-Xylene	10.9	0.5	10		109	70	130			
Bromoform	9.36	1	10		94	70	130			
Styrene	11.7	1	10		117	70	130			
o-Xylene	11	0.5	10		110	70	130			
1,1,2,2-Tetrachloroethane	10.1	1	10		101	70	130			
1,2,3-Trichloropropane	21.1	2	20		106	70	130			
Isopropylbenzene	10.7	1	10		107	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.6	1	10		106	70	130			
4-Chlorotoluene	10.8	1	10		108	70	130			
2-Chlorotoluene	10.7	1	10		107	70	130			
1,3,5-Trimethylbenzene	10.6	1	10		106	70	130			
tert-Butylbenzene	10.3	1	10		103	70	130			
1,2,4-Trimethylbenzene	10.6	1	10		106	70	130			
sec-Butylbenzene	10.5	1	10		105	70	130			
1,3-Dichlorobenzene	10.8	1	10		108	70	130			
1,4-Dichlorobenzene	9.94	1	10		99	70	130			
4-Isopropyltoluene	10.6	1	10		106	70	130			
1,2-Dichlorobenzene	10.1	1	10		101	70	130			
n-Butylbenzene	11.1	1	10		111	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	47.8	3	50		96	70	130			
1,2,4-Trichlorobenzene	10.7	2	10		107	70	130			
Naphthalene	10.1	2	10		101	70	130			
Hexachlorobutadiene	20.4	2	20		102	70	130			
1,2,3-Trichlorobenzene	10.4	2	10		104	70	130			
Surr: 1,2-Dichloroethane-d4	10.1		10		101	70	130			
Surr: Toluene-d8	9.72		10		97	70	130			
Surr: 4-Bromofluorobenzene	9.56		10		96	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: 09-Dec-09

QC Summary Report

Work Order: 09120150

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09120409.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 12:02**

Sample ID: **09120150-05AMS** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 12:02**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	34.6	2.5	50	0	69	13	167			
Chloromethane	36.3	10	50	0	73	28	145			
Vinyl chloride	40.1	2.5	50	0	80	43	134			
Chloroethane	42.9	2.5	50	0	86	39	154			
Bromomethane	46.1	10	50	0	92	19	176			
Trichlorofluoromethane	41.7	2.5	50	0	83	34	160			
1,1-Dichloroethene	49.3	2.5	50	0	99	60	130			
Dichloromethane	47.3	10	50	0	95	68	130			
Freon-113	54.2	2.5	50	0	108	49	141			
trans-1,2-Dichloroethene	51.4	2.5	50	0	103	63	130			
Methyl tert-butyl ether (MTBE)	50.5	1.3	50	0	101	56	141			
1,1-Dichloroethane	49.2	2.5	50	0	98	61	130			
2-Butanone (MEK)	552	50	1000	0	55	20	182			
cis-1,2-Dichloroethene	52.4	2.5	50	0	105	70	130			
Bromochloromethane	50.7	2.5	50	0	101	70	130			
Chloroform	50.8	2.5	50	0	102	67	130			
2,2-Dichloropropane	56	2.5	50	0	112	30	152			
1,2-Dichloroethane	48.6	2.5	50	0	97	60	135			
1,1,1-Trichloroethane	52.1	2.5	50	0	104	59	137			
1,1-Dichloropropene	51.6	2.5	50	0	103	63	130			
Carbon tetrachloride	52.7	2.5	50	0	105	50	147			
Benzene	49.7	1.3	50	0	99	67	130			
Dibromomethane	48.5	2.5	50	0	97	69	133			
1,2-Dichloropropane	50.1	2.5	50	0	100	69	130			
Trichloroethene	50	2.5	50	0	99.9	69	130			
Bromodichloromethane	49.7	2.5	50	0	99	66	134			
cis-1,3-Dichloropropene	47.6	2.5	50	0	95	63	130			
trans-1,3-Dichloropropene	43.7	2.5	50	0	87	66	131			
1,1,2-Trichloroethane	47.1	2.5	50	0	94	68	130			
Toluene	47.1	1.3	50	0	94	66	130			
1,3-Dichloropropane	48	2.5	50	0	96	70	130			
Dibromochloromethane	44	2.5	50	0	88	70	130			
1,2-Dibromoethane (EDB)	96.5	5	100	0	96	70	130			
Tetrachloroethene	51.6	2.5	50	0	103	61	134			
1,1,1,2-Tetrachloroethane	49.1	2.5	50	0	98	70	130			
Chlorobenzene	47.7	2.5	50	0	95	70	130			
Ethylbenzene	47.7	1.3	50	0	95	68	130			
m,p-Xylene	48.5	1.3	50	0	97	64	130			
Bromoform	40.2	2.5	50	0	80	64	138			
Styrene	52.9	2.5	50	0	106	69	130			
o-Xylene	49	1.3	50	0	98	70	130			
1,1,2,2-Tetrachloroethane	44.7	2.5	50	0	89	65	131			
1,2,3-Trichloropropane	92.8	10	100	0	93	70	130			
Isopropylbenzene	48.5	2.5	50	0	97	64	138			
Bromobenzene	47.5	2.5	50	0	95	70	130			
n-Propylbenzene	48.2	2.5	50	0	96	66	132			
4-Chlorotoluene	49.2	2.5	50	0	98	70	130			
2-Chlorotoluene	48.4	2.5	50	0	97	70	130			
1,3,5-Trimethylbenzene	48.2	2.5	50	0	96	66	136			
tert-Butylbenzene	46.8	2.5	50	0	94	65	137			
1,2,4-Trimethylbenzene	47.6	2.5	50	0	95	65	137			
sec-Butylbenzene	47.3	2.5	50	0	95	66	134			
1,3-Dichlorobenzene	48	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	44.5	2.5	50	0	89	70	130			
4-Isopropyltoluene	48	2.5	50	0	96	66	137			
1,2-Dichlorobenzene	44.5	2.5	50	0	89	70	130			
n-Butylbenzene	49.2	2.5	50	0	98	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	206	15	250	0	82	67	130			
1,2,4-Trichlorobenzene	44.9	10	50	0	90	61	137			
Naphthalene	41.7	10	50	0	83	40	167			
Hexachlorobutadiene	87.3	10	100	0	87	61	130			
1,2,3-Trichlorobenzene	42.3	10	50	0	85	51	144			
Surr: 1,2-Dichloroethane-d4	49.7		50		99	70	130			
Surr: Toluene-d8	48.6		50		97	70	130			
Surr: 4-Bromofluorobenzene	49.2		50		98	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: *09-Dec-09*

QC Summary Report

Work Order: 09120150

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09120410.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 12:24**

Sample ID: **09120150-05AMSD** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 12:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.8	2.5	50	0	72	13	167	34.61	3.3(20)	
Chloromethane	36.9	10	50	0	74	28	145	36.26	1.7(20)	
Vinyl chloride	40	2.5	50	0	80	43	134	40.08	0.2(20)	
Chloroethane	45	2.5	50	0	90	39	154	42.89	4.8(20)	
Bromomethane	55.7	10	50	0	111	19	176	46.06	19.0(20)	
Trichlorofluoromethane	46.9	2.5	50	0	94	34	160	41.73	11.7(20)	
1,1-Dichloroethene	51.2	2.5	50	0	102	60	130	49.25	3.9(20)	
Dichloromethane	47.9	10	50	0	96	68	130	47.32	1.2(20)	
Freon-113	54.2	2.5	50	0	108	49	141	54.24	0.2(20)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	51.38	1.9(20)	
Methyl tert-butyl ether (MTBE)	51.3	1.3	50	0	103	56	141	50.45	1.7(20)	
1,1-Dichloroethane	49.9	2.5	50	0	99.8	61	130	49.2	1.4(20)	
2-Butanone (MEK)	565	50	1000	0	57	20	182	552.5	2.3(20)	
cis-1,2-Dichloroethene	53.1	2.5	50	0	106	70	130	52.39	1.4(20)	
Bromochloromethane	52	2.5	50	0	104	70	130	50.68	2.5(20)	
Chloroform	52.1	2.5	50	0	104	67	130	50.75	2.6(20)	
2,2-Dichloropropane	56.4	2.5	50	0	113	30	152	55.97	0.7(20)	
1,2-Dichloroethane	49.5	2.5	50	0	99	60	135	48.58	2.0(20)	
1,1,1-Trichloroethane	52.8	2.5	50	0	106	59	137	52.11	1.3(20)	
1,1-Dichloropropene	52.2	2.5	50	0	104	63	130	51.62	1.1(20)	
Carbon tetrachloride	53.8	2.5	50	0	108	50	147	52.73	2.1(20)	
Benzene	50.4	1.3	50	0	101	67	130	49.74	1.4(20)	
Dibromomethane	50.3	2.5	50	0	101	69	133	48.45	3.8(20)	
1,2-Dichloropropane	51.3	2.5	50	0	103	69	130	50.14	2.3(20)	
Trichloroethene	51.8	2.5	50	0	104	69	130	49.95	3.6(20)	
Bromodichloromethane	51.7	2.5	50	0	103	66	134	49.74	3.9(20)	
cis-1,3-Dichloropropene	49.5	2.5	50	0	99	63	130	47.64	3.9(20)	
trans-1,3-Dichloropropene	45.7	2.5	50	0	91	66	131	43.69	4.4(20)	
1,1,2-Trichloroethane	48.6	2.5	50	0	97	68	130	47.12	3.1(20)	
Toluene	48	1.3	50	0	96	66	130	47.05	2.0(20)	
1,3-Dichloropropane	49.3	2.5	50	0	99	70	130	47.96	2.8(20)	
Dibromochloromethane	46.5	2.5	50	0	93	70	130	43.97	5.6(20)	
1,2-Dibromoethane (EDB)	99.6	5	100	0	99.6	70	130	96.45	3.2(20)	
Tetrachloroethene	52.7	2.5	50	0	105	61	134	51.63	2.1(20)	
1,1,1,2-Tetrachloroethane	51.1	2.5	50	0	102	70	130	49.09	3.9(20)	
Chlorobenzene	48.8	2.5	50	0	98	70	130	47.7	2.3(20)	
Ethylbenzene	48.7	1.3	50	0	97	68	130	47.72	2.0(20)	
m,p-Xylene	49.3	1.3	50	0	99	64	130	48.46	1.7(20)	
Bromoform	42.8	2.5	50	0	86	64	138	40.16	6.4(20)	
Styrene	54	2.5	50	0	108	69	130	52.85	2.2(20)	
o-Xylene	50.6	1.3	50	0	101	70	130	48.97	3.2(20)	
1,1,2,2-Tetrachloroethane	45.6	2.5	50	0	91	65	131	44.73	2.0(20)	
1,2,3-Trichloropropane	95.6	10	100	0	96	70	130	92.81	3.0(20)	
Isopropylbenzene	48.6	2.5	50	0	97	64	138	48.5	0.2(20)	
Bromobenzene	48.3	2.5	50	0	97	70	130	47.47	1.8(20)	
n-Propylbenzene	48.3	2.5	50	0	97	66	132	48.21	0.2(20)	
4-Chlorotoluene	50.1	2.5	50	0	100	70	130	49.24	1.8(20)	
2-Chlorotoluene	48.7	2.5	50	0	97	70	130	48.4	0.5(20)	
1,3,5-Trimethylbenzene	48.8	2.5	50	0	98	66	136	48.18	1.2(20)	
tert-Butylbenzene	47.5	2.5	50	0	95	65	137	46.81	1.5(20)	
1,2,4-Trimethylbenzene	48.6	2.5	50	0	97	65	137	47.6	2.0(20)	
sec-Butylbenzene	48.2	2.5	50	0	96	66	134	47.25	2.1(20)	
1,3-Dichlorobenzene	48.9	2.5	50	0	98	70	130	48	1.9(20)	
1,4-Dichlorobenzene	46.4	2.5	50	0	93	70	130	44.5	4.2(20)	
4-Isopropyltoluene	49.1	2.5	50	0	98	66	137	48.04	2.1(20)	
1,2-Dichlorobenzene	46.5	2.5	50	0	93	70	130	44.51	4.4(20)	
n-Butylbenzene	50.4	2.5	50	0	101	60	142	49.21	2.4(20)	
1,2-Dibromo-3-chloropropane (DBCP)	212	15	250	0	85	67	130	205.9	3.1(20)	
1,2,4-Trichlorobenzene	47.7	10	50	0	95	61	137	44.85	6.2(20)	
Naphthalene	44.7	10	50	0	89	40	167	41.66	7.1(20)	
Hexachlorobutadiene	92.3	10	100	0	92	61	130	87.26	5.7(20)	
1,2,3-Trichlorobenzene	46	10	50	0	92	51	144	42.33	8.2(20)	
Surr: 1,2-Dichloroethane-d4	49.6		50		99	70	130			
Surr: Toluene-d8	48.9		50		98	70	130			
Surr: 4-Bromofluorobenzene	48.8		50		98	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: *09-Dec-09*

QC Summary Report

Work Order: 09120150

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.

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

Billing Information :

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 : BMIS09120150

Report Due By : 5:00 PM On : 15-Dec-09

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

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 24123 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	01-Dec-09	**01-Dec-09**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09120150-01A	MW-4-5	AQ	11/30/09 08:31	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120150-02A	MW-4-4	AQ	11/30/09 08:56	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					Level IV QC
BMI09120150-03A	MW-4-3	AQ	11/30/09 09:28	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120150-04A	MW-4-2	AQ	11/30/09 09:57	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120150-05A	MW-4-1	AQ	11/30/09 10:38	10	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					MS/MSD
BMI09120150-06A	DUPE-05-4209	AQ	11/30/09 00:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120150-07A	EB-08-11/30/09	AQ	11/30/09 10:18	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120150-08A	TB-08-11/30/09	AQ	11/30/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno TB, 8/25/09

Comments: No security seals. Frozen ice. Temp Blank #7737 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Perchlorate RL of 1.0 ug/L. :

	Signature	Print Name	Company	Date/Time
Logged in by:			**Alpha Analytical, Inc.**	

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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

24123

Page # 1 of 1

Client Name	P.O. #	Job #
BATTELLE / DAVID CONNER	218013	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	VOA (524.2)	TOTAL Cr (6010)	Cl04 (314.0) Cl, SO4, NO3, NO2 PO43 (300.0)					REMARKS
0831	11/30/09	AQ	[illegible]-01	MW-4-5	NORM		V/P 5	X	X	X					
0857			-02	MW-4-4				X	X	X					LEVEL IV QC
0928			-03	MW-4-3				X	X	X					
0957			-04	MW-4-2			V/P 5	X	X	X					
1038			-05	MW-4-1			V/P 10	X	X	X					MS/MSD
—	11/30/09	AQ	-06	DUPE-05-4Q09			V/P 5	X	X	X					DUPLICATE
1018			-07	EB-08-11/30/09			V/P 5	X	X	X					EQUIPMENT BLANK
—	11/30/09		-08	TB-08-11/30/09			V 1	X							TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished By	[signature]	CHASE BROGDON	INSIGHT ECC, INC.	11/30/09	1300
Received by	[signature]	[illegible]	[illegible]	12-1-09	0004
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *07-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI09120203 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09120203-01A	MW-12-5	Aqueous
09120203-02A	MW-12-4	Aqueous
09120203-03A	MW-12-3	Aqueous
09120203-04A	MW-12-2	Aqueous
09120203-05A	MW-12-1	Aqueous
09120203-06A	DUPE-06-4Q09	Aqueous
09120203-07A	EB-09-12/01/09	Aqueous
09120203-08A	TB-09-12/01/09	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.

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/02/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-12-5**				
Lab ID : BMI09120203-01A Perchlorate	1.10	1.00 µg/L	12/02/09 12:28	12/02/09 19:27
Date Sampled 12/01/09 08:11				
Client ID: **MW-12-4**				
Lab ID : BMI09120203-02A Perchlorate	2.91	1.00 µg/L	12/02/09 12:28	12/02/09 19:46
Date Sampled 12/01/09 08:41				
Client ID: **MW-12-3**				
Lab ID : BMI09120203-03A Perchlorate	3.16	1.00 µg/L	12/02/09 12:28	12/02/09 20:04
Date Sampled 12/01/09 09:19				
Client ID: **MW-12-2**				
Lab ID : BMI09120203-04A Perchlorate	2.38	1.00 µg/L	12/02/09 12:28	12/02/09 20:22
Date Sampled 12/01/09 09:45				
Client ID: **MW-12-1**				
Lab ID : BMI09120203-05A Perchlorate	1.28	1.00 µg/L	12/02/09 12:28	12/02/09 20:41
Date Sampled 12/01/09 10:15				
Client ID: **DUPE-06-4Q09**				
Lab ID : BMI09120203-06A Perchlorate	3.11	1.00 µg/L	12/02/09 12:28	12/02/09 20:59
Date Sampled 12/01/09 00:00				
Client ID: **EB-09-12/01/09**				
Lab ID : BMI09120203-07A Perchlorate	ND	1.00 µg/L	12/02/09 12:28	12/02/09 21:18
Date Sampled 12/01/09 10:01				

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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12/15/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/02/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-12-5**				
Lab ID : BMI09120203-01A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 00:33
Date Sampled 12/01/09 08:11				
Client ID: **MW-12-4**				
Lab ID : BMI09120203-02A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 00:38
Date Sampled 12/01/09 08:41				
Client ID: **MW-12-3**				
Lab ID : BMI09120203-03A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 00:44
Date Sampled 12/01/09 09:19				
Client ID: **MW-12-2**				
Lab ID : BMI09120203-04A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 00:50
Date Sampled 12/01/09 09:45				
Client ID: **MW-12-1**				
Lab ID : BMI09120203-05A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 00:55
Date Sampled 12/01/09 10:15				
Client ID: **DUPE-06-4Q09**				
Lab ID : BMI09120203-06A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 01:01
Date Sampled 12/01/09 00:00				
Client ID: **EB-09-12/01/09**				
Lab ID : BMI09120203-07A Chromium (Cr)	ND	0.0050 mg/L	12/02/09 11:07	12/03/09 01:06
Date Sampled 12/01/09 10:01				

ND = Not Detected

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ANALYTICAL REPORT

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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-12-5**					
Lab ID :	BMI09120203-01A	* * * None Found * * *	ND	2.0 µg/L	12/03/09 13:10	12/03/09 13:10
Date Received :	12/02/09					
Date Sampled :	12/01/09 08:11					
Client ID :	**MW-12-4**					
Lab ID :	BMI09120203-02A	Sulfur dioxide	8.5	2.0 µg/L	12/03/09 13:32	12/03/09 13:32
Date Received :	12/02/09					
Date Sampled :	12/01/09 08:41					
Client ID :	**MW-12-3**					
Lab ID :	BMI09120203-03A	Sulfur dioxide	9.0	2.0 µg/L	12/03/09 13:54	12/03/09 13:54
Date Received :	12/02/09					
Date Sampled :	12/01/09 09:19					
Client ID :	**MW-12-2**					
Lab ID :	BMI09120203-04A	Sulfur dioxide	2.8	2.0 µg/L	12/03/09 14:16	12/03/09 14:16
Date Received :	12/02/09					
Date Sampled :	12/01/09 09:45					
Client ID :	**MW-12-1**					
Lab ID :	BMI09120203-05A	* * * None Found * * *	ND	2.0 µg/L	12/03/09 14:38	12/03/09 14:38
Date Received :	12/02/09					
Date Sampled :	12/01/09 10:15					
Client ID :	**DUPE-06-4Q09**					
Lab ID :	BMI09120203-06A	Sulfur dioxide	7.4	2.0 µg/L	12/03/09 15:01	12/03/09 15:01
Date Received :	12/02/09					
Date Sampled :	12/01/09 00:00					
Client ID :	**EB-09-12/01/09**					
Lab ID :	BMI09120203-07A	Tertiary Butyl Alcohol (TBA)	15	10 µg/L	12/03/09 12:47	12/03/09 12:47
Date Received :	12/02/09	2-Methyl-1-propene	5.9	2.0 µg/L	12/03/09 12:47	12/03/09 12:47
Date Sampled :	12/01/09 10:01					
Client ID :	**TB-09-12/01/09**					
Lab ID :	BMI09120203-08A	* * * None Found * * *	ND	2.0 µg/L	12/03/09 12:25	12/03/09 12:25
Date Received :	12/02/09					
Date Sampled :	12/01/09 00:00					

Alpha Analytical, Inc.

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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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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

Alpha Analytical Number: BMI09120203-01A
Client I.D. Number: MW-12-5

Sampled: 12/01/09 08:11
Received: 12/02/09
Extracted: 12/03/09 13:10
Analyzed: 12/03/09 13:10

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	101	(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	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/15/09
Report Date

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(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: BMI09120203-02A
Client I.D. Number: MW-12-4

Sampled: 12/01/09 08:41
Received: 12/02/09
Extracted: 12/03/09 13:32
Analyzed: 12/03/09 13:32

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	0.60	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	1.1	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
65	Surr: Toluene-d8	101	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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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

Alpha Analytical Number: BMI09120203-03A
Client I.D. Number: MW-12-3

Sampled: 12/01/09 09:19
Received: 12/02/09
Extracted: 12/03/09 13:54
Analyzed: 12/03/09 13:54

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	2.4	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	1.7	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
65	Surr: Toluene-d8	101	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	92	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/15/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120203-04A
Client I.D. Number: MW-12-2

Sampled: 12/01/09 09:45
Received: 12/02/09
Extracted: 12/03/09 14:16
Analyzed: 12/03/09 14:16

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	101	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	95	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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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.

12/15/09
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: BMI09120203-05A
Client I.D. Number: MW-12-1

Sampled: 12/01/09 10:15
Received: 12/02/09
Extracted: 12/03/09 14:38
Analyzed: 12/03/09 14:38

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
65	Surr: Toluene-d8	101	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	92	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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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.

12/15/09
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: BMI09120203-06A
Client I.D. Number: DUPE-06-4Q09

Sampled: 12/01/09 00:00
Received: 12/02/09
Extracted: 12/03/09 15:01
Analyzed: 12/03/09 15:01

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	2.9	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	2.2	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
65	Surr: Toluene-d8	102	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/15/09
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: BMI09120203-07A
Client I.D. Number: EB-09-12/01/09

Sampled: 12/01/09 10:01
Received: 12/02/09
Extracted: 12/03/09 12:47
Analyzed: 12/03/09 12:47

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
65	Surr: Toluene-d8	102	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/15/09
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: BMI09120203-08A
Client I.D. Number: TB-09-12/01/09

Sampled: 12/01/09 00:00
Received: 12/02/09
Extracted: 12/03/09 12:25
Analyzed: 12/03/09 12:25

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	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	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/15/09
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: BMI09120203 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09120203-01A	MW-12-5	Aqueous	2
09120203-02A	MW-12-4	Aqueous	2
09120203-03A	MW-12-3	Aqueous	2
09120203-04A	MW-12-2	Aqueous	2
09120203-05A	MW-12-1	Aqueous	2
09120203-06A	DUPE-06-4Q09	Aqueous	2
09120203-07A	EB-09-12/01/09	Aqueous	2
09120203-08A	TB-09-12/01/09	Aqueous	2

12/15/09

Report Date

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120203

Method Blank

Type **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23184** Analysis Date: **12/02/2009 13:38**

Sample ID: **MB-23184** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23184** Analysis Date: **12/02/2009 13:56**

Sample ID: **LFB-23184** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.6	2	25		98	85	115			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 314.0**

File ID: **27** Batch ID: **23184** Analysis Date: **12/02/2009 17:37**

Sample ID: **09120150-05ALFM** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	343	20	250	96.03	99	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 314.0**

File ID: **28** Batch ID: **23184** Analysis Date: **12/02/2009 17:55**

Sample ID: **09120150-05ALFMD** Units : **µg/L** Run ID: **IC_3_091202A** Prep Date: **12/02/2009 12:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	349	20	250	96.03	101	80	120	343	1.7(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.

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120203

Method Blank

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

File ID: **120309.B\79MB.D** Batch ID: **23179K** Analysis Date: **12/02/2009 22:39**

Sample ID: **MB-23179** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **120309.B\79L1.D** Batch ID: **23179K** Analysis Date: **12/02/2009 22:45**

Sample ID: **LCS-23179** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.057	0.005	0.05		114	80	120			

Sample Matrix Spike

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

File ID: **120309.B\79MS.D** Batch ID: **23179K** Analysis Date: **12/02/2009 23:13**

Sample ID: **09120150-05AMS** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0605	0.005	0.05	0	121	80	120			M1

Sample Matrix Spike Duplicate

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

File ID: **120309.B\79MSD.D** Batch ID: **23179K** Analysis Date: **12/02/2009 23:19**

Sample ID: **09120150-05AMSD** Units : **mg/L** Run ID: **ICP/MS_091202C** Prep Date: **12/02/2009 11:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0596	0.005	0.05	0	119	80	120	0.06047	1.4(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.

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

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

Alpha Analytical, Inc.

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120203

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

File ID: **09120308.D** Batch ID: **MS15W1203M** Analysis Date: **12/03/2009 10:12**

Sample ID: **MBLK MS15W1203M** Units : **µg/L** Run ID: **MSD_15_091203D** Prep Date: **12/03/2009 10:12**

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	9.87		10		99	70	130			
Surr: Toluene-d8	10.3		10		103	70	130			

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120203

Surr: 4-Bromofluorobenzene	9.36	10	94	70	130	

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120203

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09120305.D** Batch ID: **MS15W1203M** Analysis Date: **12/03/2009 09:05**

Sample ID: **LCS MS15W1203M** Units : **µg/L** Run ID: **MSD_15_091203D** Prep Date: **12/03/2009 09:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.67	1	10		97	70	130			
Chloromethane	7.75	2	10		78	70	130			
Vinyl chloride	8.77	1	10		88	70	130			
Chloroethane	10.2	1	10		102	70	130			
Bromomethane	12.4	2	10		124	70	130			
Trichlorofluoromethane	10.7	1	10		107	70	130			
1,1-Dichloroethene	11	1	10		110	70	130			
Dichloromethane	9.95	2	10		100	70	130			
Freon-113	11.5	1	10		115	67	141			
trans-1,2-Dichloroethene	10.9	1	10		109	70	130			
Methyl tert-butyl ether (MTBE)	10.4	0.5	10		104	70	130			
1,1-Dichloroethane	10.4	1	10		104	70	130			
2-Butanone (MEK)	168	10	200		84	70	130			
cis-1,2-Dichloroethene	11	1	10		110	70	130			
Bromochloromethane	10.6	1	10		106	70	130			
Chloroform	10.7	1	10		107	70	130			
2,2-Dichloropropane	12.1	1	10		121	70	130			
1,2-Dichloroethane	10.1	1	10		101	70	130			
1,1,1-Trichloroethane	11.2	1	10		112	70	130			
1,1-Dichloropropene	11	1	10		110	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.4	0.5	10		104	70	130			
Dibromomethane	10.2	1	10		102	70	130			
1,2-Dichloropropane	10.8	1	10		108	70	130			
Trichloroethene	10.9	1	10		109	70	130			
Bromodichloromethane	10.9	1	10		109	70	130			
cis-1,3-Dichloropropene	10.7	1	10		107	70	130			
trans-1,3-Dichloropropene	9.6	1	10		96	70	130			
1,1,2-Trichloroethane	10.1	1	10		101	70	130			
Toluene	10.2	0.5	10		102	70	130			
1,3-Dichloropropane	10.2	1	10		102	70	130			
Dibromochloromethane	9.99	1	10		99.9	70	130			
1,2-Dibromoethane (EDB)	20.6	2	20		103	70	130			
Tetrachloroethene	11.5	1	10		115	70	130			
1,1,1,2-Tetrachloroethane	10.9	1	10		109	70	130			
Chlorobenzene	10.3	1	10		103	70	130			
Ethylbenzene	10.5	0.5	10		105	70	130			
m,p-Xylene	10.7	0.5	10		107	70	130			
Bromoform	9.29	1	10		93	70	130			
Styrene	11.5	1	10		115	70	130			
o-Xylene	10.7	0.5	10		107	70	130			
1,1,2,2-Tetrachloroethane	9.52	1	10		95	70	130			
1,2,3-Trichloropropane	19.6	2	20		98	70	130			
Isopropylbenzene	10.4	1	10		104	70	130			
Bromobenzene	10	1	10		100	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.4	1	10		104	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	130			
tert-Butylbenzene	10.2	1	10		102	70	130			
1,2,4-Trimethylbenzene	10.4	1	10		104	70	130			
sec-Butylbenzene	10.5	1	10		105	70	130			
1,3-Dichlorobenzene	10.4	1	10		104	70	130			
1,4-Dichlorobenzene	9.75	1	10		98	70	130			
4-Isopropyltoluene	10.5	1	10		105	70	130			
1,2-Dichlorobenzene	9.73	1	10		97	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	45.1	3	50		90	70	130			
1,2,4-Trichlorobenzene	10.5	2	10		105	70	130			
Naphthalene	9.55	2	10		96	70	130			
Hexachlorobutadiene	20.6	2	20		103	70	130			
1,2,3-Trichlorobenzene	9.87	2	10		99	70	130			
Surr: 1,2-Dichloroethane-d4	9.59		10		96	70	130			
Surr: Toluene-d8	9.95		10		100	70	130			
Surr: 4-Bromofluorobenzene	9.75		10		98	70	130			

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120203

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09120309.D** Batch ID: **MS15W1203M** Analysis Date: **12/03/2009 10:34**

Sample ID: **09120203-01AMS** Units : **µg/L** Run ID: **MSD_15_091203D** Prep Date: **12/03/2009 10:34**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	37.5	2.5	50	0	75	13	167			
Chloromethane	33.7	10	50	0	67	28	145			
Vinyl chloride	39.6	2.5	50	0	79	43	134			
Chloroethane	44.6	2.5	50	0	89	39	154			
Bromomethane	43.4	10	50	0	87	19	176			
Trichlorofluoromethane	46.3	2.5	50	0	93	34	160			
1,1-Dichloroethene	48.3	2.5	50	0	97	60	130			
Dichloromethane	45.6	10	50	0	91	68	130			
Freon-113	51.5	2.5	50	0	103	49	141			
trans-1,2-Dichloroethene	48.3	2.5	50	0	97	63	130			
Methyl tert-butyl ether (MTBE)	48.8	1.3	50	0	98	56	141			
1,1-Dichloroethane	47.1	2.5	50	0	94	61	130			
2-Butanone (MEK)	536	50	1000	0	54	20	182			
cis-1,2-Dichloroethene	50.2	2.5	50	0	100	70	130			
Bromochloromethane	50.4	2.5	50	0	101	70	130			
Chloroform	49	2.5	50	0	98	67	130			
2,2-Dichloropropane	53.5	2.5	50	0	107	30	152			
1,2-Dichloroethane	48	2.5	50	0	96	60	135			
1,1,1-Trichloroethane	49.5	2.5	50	0	99	59	137			
1,1-Dichloropropene	48.1	2.5	50	0	96	63	130			
Carbon tetrachloride	50.4	2.5	50	0	101	50	147			
Benzene	47.4	1.3	50	0	95	67	130			
Dibromomethane	48.6	2.5	50	0	97	69	133			
1,2-Dichloropropane	49	2.5	50	0	98	69	130			
Trichloroethene	47.9	2.5	50	0	96	69	130			
Bromodichloromethane	50	2.5	50	0	100	66	134			
cis-1,3-Dichloropropene	48.2	2.5	50	0	96	63	130			
trans-1,3-Dichloropropene	44.3	2.5	50	0	89	66	131			
1,1,2-Trichloroethane	46.7	2.5	50	0	93	68	130			
Toluene	44.7	1.3	50	0	89	66	130			
1,3-Dichloropropane	47.5	2.5	50	0	95	70	130			
Dibromochloromethane	45.4	2.5	50	0	91	70	130			
1,2-Dibromoethane (EDB)	96.1	5	100	0	96	70	130			
Tetrachloroethene	48.6	2.5	50	0	97	61	134			
1,1,1,2-Tetrachloroethane	48.5	2.5	50	0	97	70	130			
Chlorobenzene	45.9	2.5	50	0	92	70	130			
Ethylbenzene	45.7	1.3	50	0	91	68	130			
m,p-Xylene	46.3	1.3	50	0	93	64	130			
Bromoform	42.3	2.5	50	0	85	64	138			
Styrene	51.4	2.5	50	0	103	69	130			
o-Xylene	47.2	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	44	2.5	50	0	88	65	131			
1,2,3-Trichloropropane	90.8	10	100	0	91	70	130			
Isopropylbenzene	46.8	2.5	50	0	94	64	138			
Bromobenzene	47.1	2.5	50	0	94	70	130			
n-Propylbenzene	46.3	2.5	50	0	93	66	132			
4-Chlorotoluene	48.3	2.5	50	0	97	70	130			
2-Chlorotoluene	47.1	2.5	50	0	94	70	130			
1,3,5-Trimethylbenzene	46.8	2.5	50	0	94	66	136			
tert-Butylbenzene	45	2.5	50	0	90	65	137			
1,2,4-Trimethylbenzene	46.8	2.5	50	0	94	65	137			
sec-Butylbenzene	45.7	2.5	50	0	91	66	134			
1,3-Dichlorobenzene	47.6	2.5	50	0	95	70	130			
1,4-Dichlorobenzene	44.9	2.5	50	0	90	70	130			
4-Isopropyltoluene	46.9	2.5	50	0	94	66	137			
1,2-Dichlorobenzene	45.1	2.5	50	0	90	70	130			
n-Butylbenzene	48	2.5	50	0	96	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	211	15	250	0	84	67	130			
1,2,4-Trichlorobenzene	46.4	10	50	0	93	61	137			
Naphthalene	43.3	10	50	0	87	40	167			
Hexachlorobutadiene	87.9	10	100	0	88	61	130			
1,2,3-Trichlorobenzene	43.8	10	50	0	88	51	144			
Surr: 1,2-Dichloroethane-d4	48.7		50		97	70	130			
Surr: Toluene-d8	48.5		50		97	70	130			
Surr: 4-Bromofluorobenzene	48.5		50		97	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: 09-Dec-09

QC Summary Report

Work Order: 09120203

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09120310.D** Batch ID: **MS15W1203M** Analysis Date: **12/03/2009 10:56**

Sample ID: **09120203-01AMSD** Units : **µg/L** Run ID: **MSD_15_091203D** Prep Date: **12/03/2009 10:56**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	34.4	2.5	50	0	69	13	167	37.52	8.6(20)	
Chloromethane	32.7	10	50	0	65	28	145	33.68	3.1(20)	
Vinyl chloride	36.3	2.5	50	0	73	43	134	39.61	8.9(20)	
Chloroethane	41.5	2.5	50	0	83	39	154	44.58	7.2(20)	
Bromomethane	46.4	10	50	0	93	19	176	43.35	6.9(20)	
Trichlorofluoromethane	42.2	2.5	50	0	84	34	160	46.29	9.3(20)	
1,1-Dichloroethene	44.4	2.5	50	0	89	60	130	48.27	8.3(20)	
Dichloromethane	44.5	10	50	0	89	68	130	45.56	2.5(20)	
Freon-113	46.7	2.5	50	0	93	49	141	51.54	9.9(20)	
trans-1,2-Dichloroethene	46.2	2.5	50	0	92	63	130	48.32	4.5(20)	
Methyl tert-butyl ether (MTBE)	48	1.3	50	0	96	56	141	48.77	1.7(20)	
1,1-Dichloroethane	44.9	2.5	50	0	90	61	130	47.1	4.7(20)	
2-Butanone (MEK)	523	50	1000	0	52	20	182	535.5	2.4(20)	
cis-1,2-Dichloroethene	48.3	2.5	50	0	97	70	130	50.18	3.8(20)	
Bromochloromethane	48.9	2.5	50	0	98	70	130	50.42	3.1(20)	
Chloroform	47.1	2.5	50	0	94	67	130	49.02	4.0(20)	
2,2-Dichloropropane	50.2	2.5	50	0	100	30	152	53.54	6.5(20)	
1,2-Dichloroethane	46.8	2.5	50	0	94	60	135	47.96	2.5(20)	
1,1,1-Trichloroethane	45.9	2.5	50	0	92	59	137	49.54	7.6(20)	
1,1-Dichloropropene	45	2.5	50	0	90	63	130	48.09	6.7(20)	
Carbon tetrachloride	46.6	2.5	50	0	93	50	147	50.43	8.0(20)	
Benzene	45.4	1.3	50	0	91	67	130	47.36	4.2(20)	
Dibromomethane	46.6	2.5	50	0	93	69	133	48.6	4.3(20)	
1,2-Dichloropropane	47.5	2.5	50	0	95	69	130	48.96	3.0(20)	
Trichloroethene	45	2.5	50	0	90	69	130	47.87	6.3(20)	
Bromodichloromethane	48.7	2.5	50	0	97	66	134	50.02	2.8(20)	
cis-1,3-Dichloropropene	46.3	2.5	50	0	93	63	130	48.21	4.1(20)	
trans-1,3-Dichloropropene	42.8	2.5	50	0	86	66	131	44.25	3.4(20)	
1,1,2-Trichloroethane	44.8	2.5	50	0	90	68	130	46.69	4.1(20)	
Toluene	42.9	1.3	50	0	86	66	130	44.74	4.3(20)	
1,3-Dichloropropane	46	2.5	50	0	92	70	130	47.52	3.3(20)	
Dibromochloromethane	44.1	2.5	50	0	88	70	130	45.38	2.8(20)	
1,2-Dibromoethane (EDB)	93.1	5	100	0	93	70	130	96.11	3.2(20)	
Tetrachloroethene	45.3	2.5	50	0	91	61	134	48.63	7.2(20)	
1,1,1,2-Tetrachloroethane	47.4	2.5	50	0	95	70	130	48.5	2.3(20)	
Chlorobenzene	44.7	2.5	50	0	89	70	130	45.9	2.7(20)	
Ethylbenzene	43.7	1.3	50	0	87	68	130	45.74	4.7(20)	
m,p-Xylene	44.4	1.3	50	0	89	64	130	46.3	4.2(20)	
Bromoform	41.1	2.5	50	0	82	64	138	42.26	2.8(20)	
Styrene	49.9	2.5	50	0	99.9	69	130	51.38	2.9(20)	
o-Xylene	46.5	1.3	50	0	93	70	130	47.21	1.4(20)	
1,1,2,2-Tetrachloroethane	43.4	2.5	50	0	87	65	131	44.01	1.3(20)	
1,2,3-Trichloropropane	88.1	10	100	0	88	70	130	90.78	3.0(20)	
Isopropylbenzene	43.9	2.5	50	0	88	64	138	46.75	6.4(20)	
Bromobenzene	46.2	2.5	50	0	92	70	130	47.11	2.0(20)	
n-Propylbenzene	44.1	2.5	50	0	88	66	132	46.3	4.9(20)	
4-Chlorotoluene	45.9	2.5	50	0	92	70	130	48.33	5.2(20)	
2-Chlorotoluene	45.5	2.5	50	0	91	70	130	47.08	3.3(20)	
1,3,5-Trimethylbenzene	44.8	2.5	50	0	90	66	136	46.8	4.5(20)	
tert-Butylbenzene	42.8	2.5	50	0	86	65	137	45.03	5.0(20)	
1,2,4-Trimethylbenzene	45	2.5	50	0	90	65	137	46.81	3.9(20)	
sec-Butylbenzene	43.4	2.5	50	0	87	66	134	45.7	5.1(20)	
1,3-Dichlorobenzene	47.2	2.5	50	0	94	70	130	47.62	0.9(20)	
1,4-Dichlorobenzene	44.2	2.5	50	0	88	70	130	44.93	1.7(20)	
4-Isopropyltoluene	44.7	2.5	50	0	89	66	137	46.93	4.9(20)	
1,2-Dichlorobenzene	43.9	2.5	50	0	88	70	130	45.12	2.8(20)	
n-Butylbenzene	46.1	2.5	50	0	92	60	142	48.04	4.2(20)	
1,2-Dibromo-3-chloropropane (DBCP)	207	15	250	0	83	67	130	210.8	1.9(20)	
1,2,4-Trichlorobenzene	47.2	10	50	0	94	61	137	46.36	1.7(20)	
Naphthalene	43.9	10	50	0	88	40	167	43.25	1.5(20)	
Hexachlorobutadiene	87.9	10	100	0	88	61	130	87.92	0.0(20)	
1,2,3-Trichlorobenzene	45.8	10	50	0	92	51	144	43.78	4.5(20)	
Surr: 1,2-Dichloroethane-d4	48.9		50		98	70	130			
Surr: Toluene-d8	48.5		50		97	70	130			
Surr: 4-Bromofluorobenzene	48.1		50		96	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: *09-Dec-09*

QC Summary Report

Work Order: 09120203

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.

Billing Information :

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 : BMIS09120203

Report Due By : 5:00 PM On : 16-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 24121 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	02-Dec-2009	**02-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09120203-01A	MW-12-5	AQ	12/01/09 08:11	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-02A	MW-12-4	AQ	12/01/09 08:41	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-03A	MW-12-3	AQ	12/01/09 09:19	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-04A	MW-12-2	AQ	12/01/09 09:45	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-05A	MW-12-1	AQ	12/01/09 10:15	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-06A	DUPE-06-4Q09	AQ	12/01/09 00:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-07A	EB-09-12/01/09	AQ	12/01/09 10:01	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120203-08A	TB-09-12/01/09	AQ	12/01/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno Trip Blank 8/25/09

Comments: No security seals. Frozen ice. Temp Blank #8765 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Logged in EB and TB per previous workorders. :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12.2.09 1029

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 GERALD DIMPKINS / 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

24121

Page # 1 of 1

Client Name: BATTELLE / DAVID CONNER
Address: 3990 OLD TOWN AVE. C-205
City, State, Zip: SAN DIEGO CA 92110
P.O. # 218013
Job # 60058G2
EMail Address:
Phone # (619) 726-7311
Fax #

Required QC Level? I II III IV

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

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524.2)	TOTAL cr (200.8)	Cl, SO4, NO3, NO2, PO4-3 (300.0)	REMARKS
0811	12/01/09	AQ	BMI09120203-01	MW-12-5	NORM		4/p 5	X	X	X	
0841			-02	MW-12-4				X	X	X	
0919			-03	MW-12-3				X	X	X	
0945			-04	MW-12-2				X	X	X	
1015			-05	MW-12-1				X	X	X	
"			-06	DUPE-06-4009			4/p 5	X	X	X	DUPLICATE
1001			-07	EB-09-12/01/09			4/p 5				EQUIPMENT BLANK
"			-08	TB-09-12/01/09			V1				TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BRADDAN	INSIGHT ENG. INC	12/01/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	12-2-09	1029
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *16-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI09120304 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09120304-01A	MW-11-5	Aqueous
09120304-02A	MW-11-4	Aqueous
09120304-03A	MW-11-3	Aqueous
09120304-04A	MW-11-2	Aqueous
09120304-05A	MW-11-1	Aqueous
09120304-06A	EB-10-12/02/09	Aqueous
09120304-07A	TB-10-12/02/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09120304-01A	EPA Method 314.0	Perchlorate
09120304-02A	EPA Method 314.0	Perchlorate

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.

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/03/09

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-11-1**					
Lab ID : BMI09120304-05A	Chloride	31	0.50 mg/L	12/03/09 12:51	12/03/09 14:22
Date Sampled 12/02/09 10:38	Nitrite (NO2) - N	ND	0.25 mg/L	12/03/09 12:51	12/03/09 14:22
	Nitrate (NO3) - N	1.2	0.25 mg/L	12/03/09 12:51	12/03/09 14:22
	Sulfate (SO4)	51	0.50 mg/L	12/03/09 12:51	12/03/09 14:22
	Phosphate, ortho - P	ND	0.25 mg/L	12/03/09 12:51	12/03/09 14:22

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/16/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/03/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-11-5**					
Lab ID : BMI09120304-01A	Perchlorate	1.11	1.00 µg/L	12/11/09 11:22	12/11/09 13:16
Date Sampled 12/02/09 08:42					
Client ID: **MW-11-4**					
Lab ID : BMI09120304-02A	Perchlorate	1.27	1.00 µg/L	12/11/09 11:22	12/11/09 13:35
Date Sampled 12/02/09 09:09					
Client ID: **MW-11-3**					
Lab ID : BMI09120304-03A	Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 13:53
Date Sampled 12/02/09 09:41					
Client ID: **MW-11-2**					
Lab ID : BMI09120304-04A	Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 14:12
Date Sampled 12/02/09 10:07					
Client ID: **MW-11-1**					
Lab ID : BMI09120304-05A	Perchlorate	1.64	1.00 µg/L	12/11/09 11:22	12/11/09 14:30
Date Sampled 12/02/09 10:38					
Client ID: **EB-10-12/02/09**					
Lab ID : BMI09120304-06A	Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 14:48
Date Sampled 12/02/09 10:23					

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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12/16/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/03/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-11-5**					
Lab ID : BMI09120304-01A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 22:39
Date Sampled 12/02/09 08:42					
Client ID: **MW-11-4**					
Lab ID : BMI09120304-02A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 22:45
Date Sampled 12/02/09 09:09					
Client ID: **MW-11-3**					
Lab ID : BMI09120304-03A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 22:50
Date Sampled 12/02/09 09:41					
Client ID: **MW-11-2**					
Lab ID : BMI09120304-04A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 22:56
Date Sampled 12/02/09 10:07					
Client ID: **MW-11-1**					
Lab ID : BMI09120304-05A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 23:01
Date Sampled 12/02/09 10:38					
Client ID: **EB-10-12/02/09**					
Lab ID : BMI09120304-06A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 23:35
Date Sampled 12/02/09 10:23					

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/16/09
Report Date

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : **MW-11-5**					
Lab ID : BMI09120304-01A	Sulfur dioxide	8.4	2.0 µg/L	12/04/09 16:50	12/04/09 16:50
Date Received : 12/03/09					
Date Sampled : 12/02/09 08:42					
Client ID : **MW-11-4**					
Lab ID : BMI09120304-02A	Sulfur dioxide	9.9	2.0 µg/L	12/04/09 17:13	12/04/09 17:13
Date Received : 12/03/09					
Date Sampled : 12/02/09 09:09					
Client ID : **MW-11-3**					
Lab ID : BMI09120304-03A	Sulfur dioxide	10	2.0 µg/L	12/04/09 17:35	12/04/09 17:35
Date Received : 12/03/09					
Date Sampled : 12/02/09 09:41					
Client ID : **MW-11-2**					
Lab ID : BMI09120304-04A	Sulfur dioxide	7.1	2.0 µg/L	12/04/09 17:57	12/04/09 17:57
Date Received : 12/03/09					
Date Sampled : 12/02/09 10:07					
Client ID : **MW-11-1**					
Lab ID : BMI09120304-05A	Sulfur dioxide	4.5	2.0 µg/L	12/04/09 18:20	12/04/09 18:20
Date Received : 12/03/09					
Date Sampled : 12/02/09 10:38					
Client ID : **EB-10-12/02/09**					
Lab ID : BMI09120304-06A	* * * None Found * * *	ND	2.0 µg/L	12/04/09 14:15	12/04/09 14:15
Date Received : 12/03/09					
Date Sampled : 12/02/09 10:23					
Client ID : **TB-10-12/02/09**					
Lab ID : BMI09120304-07A	* * * None Found * * *	ND	2.0 µg/L	12/04/09 13:53	12/04/09 13:53
Date Received : 12/03/09					
Date Sampled : 12/02/09 00:00					

Alpha Analytical, Inc.

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/16/09

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: BMI09120304-01A
Client I.D. Number: MW-11-5

Sampled: 12/02/09 08:42
Received: 12/03/09
Extracted: 12/04/09 16:50
Analyzed: 12/04/09 16:50

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	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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
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: BMI09120304-02A
Client I.D. Number: MW-11-4

Sampled: 12/02/09 09:09
Received: 12/03/09
Extracted: 12/04/09 17:13
Analyzed: 12/04/09 17:13

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	102	(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	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
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: BMI09120304-03A
Client I.D. Number: MW-11-3

Sampled: 12/02/09 09:41
Received: 12/03/09
Extracted: 12/04/09 17:35
Analyzed: 12/04/09 17:35

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	102	(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	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
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: BMI09120304-04A
Client I.D. Number: MW-11-2

Sampled: 12/02/09 10:07
Received: 12/03/09
Extracted: 12/04/09 17:57
Analyzed: 12/04/09 17:57

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	103	(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	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120304-05A
Client I.D. Number: MW-11-1

Sampled: 12/02/09 10:38
Received: 12/03/09
Extracted: 12/04/09 18:20
Analyzed: 12/04/09 18:20

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	102	(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	93	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/16/09
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: BMI09120304-06A
Client I.D. Number: EB-10-12/02/09

Sampled: 12/02/09 10:23
Received: 12/03/09
Extracted: 12/04/09 14:15
Analyzed: 12/04/09 14:15

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	102	(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	92	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
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: BMI09120304-07A
Client I.D. Number: TB-10-12/02/09

Sampled: 12/02/09 00:00
Received: 12/03/09
Extracted: 12/04/09 13:53
Analyzed: 12/04/09 13:53

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	104	(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	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/16/09
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: BMI09120304 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09120304-01A	MW-11-5	Aqueous	2
09120304-02A	MW-11-4	Aqueous	2
09120304-03A	MW-11-3	Aqueous	2
09120304-04A	MW-11-2	Aqueous	2
09120304-05A	MW-11-1	Aqueous	2
09120304-06A	EB-10-12/02/09	Aqueous	2
09120304-07A	TB-10-12/02/09	Aqueous	2

12/16/09

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

Date: 09-Dec-09

QC Summary Report

Work Order: 09120304

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **16** Batch ID: **23190A** Analysis Date: **12/03/2009 13:26**

Sample ID: **MB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **17** Batch ID: **23190A** Analysis Date: **12/03/2009 13:45**

Sample ID: **LFB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.16	0.25	1.25		92	90	110			
Nitrate (NO3) - N	1.29	0.25	1.25		103	90	110			
Phosphate, ortho - P	1.42	0.25	1.25		113	90	110			L1

Laboratory Fortified Blank Duplicate

Type **LFBD** Test Code: **EPA Method 300.0**

File ID: **18** Batch ID: **23190A** Analysis Date: **12/03/2009 14:03**

Sample ID: **LFBD-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.23	0.25	1.25		98	90	110	1.156	6.1(10)	
Nitrate (NO3) - N	1.32	0.25	1.25		106	90	110	1.288	2.6(10)	
Phosphate, ortho - P	1.33	0.25	1.25		106	90	110	1.418	6.4(10)	

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **23** Batch ID: **23190A** Analysis Date: **12/03/2009 15:36**

Sample ID: **09120304-05ALFM** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.07	0.25	1.25	0	86	80	120			
Nitrate (NO3) - N	2.48	0.25	1.25	1.186	103	80	120			
Phosphate, ortho - P	1.54	0.25	1.25	0	123	80	120			M1

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23190A** Analysis Date: **12/03/2009 15:54**

Sample ID: **09120304-05ALFMD** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.09	0.25	1.25	0	87	80	120	1.074	1.2(10)	
Nitrate (NO3) - N	2.48	0.25	1.25	1.186	103	80	120	2.477	0.0(10)	
Phosphate, ortho - P	1.73	0.25	1.25	0	138	80	120	1.538	11.7(10)	M1 R58

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.

L1 = The associated blank spike recovery was above laboratory acceptance limits.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

R58 = MS/MSD RPD exceeded the laboratory control limit.

Alpha Analytical, Inc.

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

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

Date: *09-Dec-09*

QC Summary Report

Work Order: 09120304

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **16** Batch ID: **23190B** Analysis Date: **12/03/2009 13:26**

Sample ID: **MB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **17** Batch ID: **23190B** Analysis Date: **12/03/2009 13:45**

Sample ID: **LFB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	9.62	0.5	10		96	90	110			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **23** Batch ID: **23190B** Analysis Date: **12/03/2009 15:36**

Sample ID: **09120304-05ALFM** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	59.8	0.5	10	51.3	85	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23190B** Analysis Date: **12/03/2009 15:54**

Sample ID: **09120304-05ALFMD** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	60.7	0.5	10	51.3	94	80	120	59.78	1.5(10)	

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 Analytical, Inc.

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

Date: *09-Dec-09*

QC Summary Report

Work Order: 09120304

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **16** Batch ID: **23190C** Analysis Date: **12/03/2009 13:26**

Sample ID: **MB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **17** Batch ID: **23190C** Analysis Date: **12/03/2009 13:45**

Sample ID: **LFB-23190** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.74	0.5	5		95	90	110			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **23** Batch ID: **23190C** Analysis Date: **12/03/2009 15:36**

Sample ID: **09120304-05ALFM** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	35.6	0.5	5	31.18	89	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23190C** Analysis Date: **12/03/2009 15:54**

Sample ID: **09120304-05ALFMD** Units : **mg/L** Run ID: **IC_1_091203A** Prep Date: **12/03/2009 12:51**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	35.9	0.5	5	31.18	93	80	120	35.61	0.7(10)	

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: *16-Dec-09*

QC Summary Report

Work Order: 09120304

Method Blank

Type **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23231** Analysis Date: **12/11/2009 12:21**

Sample ID: **MB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23231** Analysis Date: **12/11/2009 12:40**

Sample ID: **LFB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25		99	85	115			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 314.0**

File ID: **34** Batch ID: **23231** Analysis Date: **12/11/2009 18:29**

Sample ID: **09121005-03ALFM** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	72.6	2	25	42.21	122	80	120			M1

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 314.0**

File ID: **35** Batch ID: **23231** Analysis Date: **12/11/2009 18:48**

Sample ID: **09121005-03ALFMD** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	73.4	2	25	42.21	125	80	120	72.65	1.0(15)	M1

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.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

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QC Summary Report

Work Order: 09120304

Method Blank

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

File ID: **120409.B\92MB.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:08**

Sample ID: **MB-23192** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **120409.B\92L1.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:14**

Sample ID: **LCS-23192** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0535	0.005	0.05		107	80	120			

Sample Matrix Spike

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

File ID: **120409.B\92MS.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:42**

Sample ID: **09120401-01AMS** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0487	0.005	0.05	0	97	80	120			

Sample Matrix Spike Duplicate

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

File ID: **120409.B\92MSD.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:48**

Sample ID: **09120401-01AMSD** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0479	0.005	0.05	0	96	80	120	0.04871	1.8(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: 09-Dec-09

QC Summary Report

Work Order: 09120304

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

File ID: **09120408.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 11:40**

Sample ID: **MBLK MS15W1204M** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 11:40**

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	10.1		10		101	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			

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Surr: 4-Bromofluorobenzene	9.52	10	95	70	130	

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120304

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09120405.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 10:24**

Sample ID: **LCS MS15W1204M** Units : **µg/L** Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 10:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.7	1	10		87	70	130			
Chloromethane	8.27	2	10		83	70	130			
Vinyl chloride	8.52	1	10		85	70	130			
Chloroethane	9.85	1	10		99	70	130			
Bromomethane	13.2	2	10		132	70	130(130)			L51
Trichlorofluoromethane	9.65	1	10		97	70	130			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	10.4	2	10		104	70	130			
Freon-113	10.8	1	10		108	67	141			
trans-1,2-Dichloroethene	11.3	1	10		113	70	130			
Methyl tert-butyl ether (MTBE)	11.4	0.5	10		114	70	130			
1,1-Dichloroethane	10.8	1	10		108	70	130			
2-Butanone (MEK)	197	10	200		98	70	130			
cis-1,2-Dichloroethene	11.5	1	10		115	70	130			
Bromochloromethane	11.4	1	10		114	70	130			
Chloroform	11.2	1	10		112	70	130			
2,2-Dichloropropane	12.3	1	10		123	70	130			
1,2-Dichloroethane	10.9	1	10		109	70	130			
1,1,1-Trichloroethane	11.4	1	10		114	70	130			
1,1-Dichloropropene	11.2	1	10		112	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	11	0.5	10		110	70	130			
Dibromomethane	11.2	1	10		112	70	130			
1,2-Dichloropropane	11.3	1	10		113	70	130			
Trichloroethene	11.5	1	10		115	70	130			
Bromodichloromethane	11.3	1	10		113	70	130			
cis-1,3-Dichloropropene	11.3	1	10		113	70	130			
trans-1,3-Dichloropropene	10.3	1	10		103	70	130			
1,1,2-Trichloroethane	10.8	1	10		108	70	130			
Toluene	10.5	0.5	10		105	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
Dibromochloromethane	10.2	1	10		102	70	130			
1,2-Dibromoethane (EDB)	21.9	2	20		109	70	130			
Tetrachloroethene	11.5	1	10		115	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10.5	1	10		105	70	130			
Ethylbenzene	10.7	0.5	10		107	70	130			
m,p-Xylene	10.9	0.5	10		109	70	130			
Bromoform	9.36	1	10		94	70	130			
Styrene	11.7	1	10		117	70	130			
o-Xylene	11	0.5	10		110	70	130			
1,1,2,2-Tetrachloroethane	10.1	1	10		101	70	130			
1,2,3-Trichloropropane	21.1	2	20		106	70	130			
Isopropylbenzene	10.7	1	10		107	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.6	1	10		106	70	130			
4-Chlorotoluene	10.8	1	10		108	70	130			
2-Chlorotoluene	10.7	1	10		107	70	130			
1,3,5-Trimethylbenzene	10.6	1	10		106	70	130			
tert-Butylbenzene	10.3	1	10		103	70	130			
1,2,4-Trimethylbenzene	10.6	1	10		106	70	130			
sec-Butylbenzene	10.5	1	10		105	70	130			
1,3-Dichlorobenzene	10.8	1	10		108	70	130			
1,4-Dichlorobenzene	9.94	1	10		99	70	130			
4-Isopropyltoluene	10.6	1	10		106	70	130			
1,2-Dichlorobenzene	10.1	1	10		101	70	130			
n-Butylbenzene	11.1	1	10		111	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	47.8	3	50		96	70	130			
1,2,4-Trichlorobenzene	10.7	2	10		107	70	130			
Naphthalene	10.1	2	10		101	70	130			
Hexachlorobutadiene	20.4	2	20		102	70	130			
1,2,3-Trichlorobenzene	10.4	2	10		104	70	130			
Surr: 1,2-Dichloroethane-d4	10.1		10		101	70	130			
Surr: Toluene-d8	9.72		10		97	70	130			
Surr: 4-Bromofluorobenzene	9.56		10		96	70	130			

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120304

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09120409.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 12:02**

Sample ID: **09120150-05AMS** Units : µg/L Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 12:02**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	34.6	2.5	50	0	69	13	167			
Chloromethane	36.3	10	50	0	73	28	145			
Vinyl chloride	40.1	2.5	50	0	80	43	134			
Chloroethane	42.9	2.5	50	0	86	39	154			
Bromomethane	46.1	10	50	0	92	19	176			
Trichlorofluoromethane	41.7	2.5	50	0	83	34	160			
1,1-Dichloroethene	49.3	2.5	50	0	99	60	130			
Dichloromethane	47.3	10	50	0	95	68	130			
Freon-113	54.2	2.5	50	0	108	49	141			
trans-1,2-Dichloroethene	51.4	2.5	50	0	103	63	130			
Methyl tert-butyl ether (MTBE)	50.5	1.3	50	0	101	56	141			
1,1-Dichloroethane	49.2	2.5	50	0	98	61	130			
2-Butanone (MEK)	552	50	1000	0	55	20	182			
cis-1,2-Dichloroethene	52.4	2.5	50	0	105	70	130			
Bromochloromethane	50.7	2.5	50	0	101	70	130			
Chloroform	50.8	2.5	50	0	102	67	130			
2,2-Dichloropropane	56	2.5	50	0	112	30	152			
1,2-Dichloroethane	48.6	2.5	50	0	97	60	135			
1,1,1-Trichloroethane	52.1	2.5	50	0	104	59	137			
1,1-Dichloropropene	51.6	2.5	50	0	103	63	130			
Carbon tetrachloride	52.7	2.5	50	0	105	50	147			
Benzene	49.7	1.3	50	0	99	67	130			
Dibromomethane	48.5	2.5	50	0	97	69	133			
1,2-Dichloropropane	50.1	2.5	50	0	100	69	130			
Trichloroethene	50	2.5	50	0	99.9	69	130			
Bromodichloromethane	49.7	2.5	50	0	99	66	134			
cis-1,3-Dichloropropene	47.6	2.5	50	0	95	63	130			
trans-1,3-Dichloropropene	43.7	2.5	50	0	87	66	131			
1,1,2-Trichloroethane	47.1	2.5	50	0	94	68	130			
Toluene	47.1	1.3	50	0	94	66	130			
1,3-Dichloropropane	48	2.5	50	0	96	70	130			
Dibromochloromethane	44	2.5	50	0	88	70	130			
1,2-Dibromoethane (EDB)	96.5	5	100	0	96	70	130			
Tetrachloroethene	51.6	2.5	50	0	103	61	134			
1,1,1,2-Tetrachloroethane	49.1	2.5	50	0	98	70	130			
Chlorobenzene	47.7	2.5	50	0	95	70	130			
Ethylbenzene	47.7	1.3	50	0	95	68	130			
m,p-Xylene	48.5	1.3	50	0	97	64	130			
Bromoform	40.2	2.5	50	0	80	64	138			
Styrene	52.9	2.5	50	0	106	69	130			
o-Xylene	49	1.3	50	0	98	70	130			
1,1,2,2-Tetrachloroethane	44.7	2.5	50	0	89	65	131			
1,2,3-Trichloropropane	92.8	10	100	0	93	70	130			
Isopropylbenzene	48.5	2.5	50	0	97	64	138			
Bromobenzene	47.5	2.5	50	0	95	70	130			
n-Propylbenzene	48.2	2.5	50	0	96	66	132			
4-Chlorotoluene	49.2	2.5	50	0	98	70	130			
2-Chlorotoluene	48.4	2.5	50	0	97	70	130			
1,3,5-Trimethylbenzene	48.2	2.5	50	0	96	66	136			
tert-Butylbenzene	46.8	2.5	50	0	94	65	137			
1,2,4-Trimethylbenzene	47.6	2.5	50	0	95	65	137			
sec-Butylbenzene	47.3	2.5	50	0	95	66	134			
1,3-Dichlorobenzene	48	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	44.5	2.5	50	0	89	70	130			
4-Isopropyltoluene	48	2.5	50	0	96	66	137			
1,2-Dichlorobenzene	44.5	2.5	50	0	89	70	130			
n-Butylbenzene	49.2	2.5	50	0	98	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	206	15	250	0	82	67	130			
1,2,4-Trichlorobenzene	44.9	10	50	0	90	61	137			
Naphthalene	41.7	10	50	0	83	40	167			
Hexachlorobutadiene	87.3	10	100	0	87	61	130			
1,2,3-Trichlorobenzene	42.3	10	50	0	85	51	144			
Surr: 1,2-Dichloroethane-d4	49.7		50		99	70	130			
Surr: Toluene-d8	48.6		50		97	70	130			
Surr: 4-Bromofluorobenzene	49.2		50		98	70	130			

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Date: 09-Dec-09

QC Summary Report

Work Order: 09120304

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09120410.D** Batch ID: **MS15W1204M** Analysis Date: **12/04/2009 12:24**

Sample ID: **09120150-05AMSD** Units : µg/L Run ID: **MSD_15_091204B** Prep Date: **12/04/2009 12:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.8	2.5	50	0	72	13	167	34.61	3.3(20)	
Chloromethane	36.9	10	50	0	74	28	145	36.26	1.7(20)	
Vinyl chloride	40	2.5	50	0	80	43	134	40.08	0.2(20)	
Chloroethane	45	2.5	50	0	90	39	154	42.89	4.8(20)	
Bromomethane	55.7	10	50	0	111	19	176	46.06	19.0(20)	
Trichlorofluoromethane	46.9	2.5	50	0	94	34	160	41.73	11.7(20)	
1,1-Dichloroethene	51.2	2.5	50	0	102	60	130	49.25	3.9(20)	
Dichloromethane	47.9	10	50	0	96	68	130	47.32	1.2(20)	
Freon-113	54.2	2.5	50	0	108	49	141	54.24	0.2(20)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	51.38	1.9(20)	
Methyl tert-butyl ether (MTBE)	51.3	1.3	50	0	103	56	141	50.45	1.7(20)	
1,1-Dichloroethane	49.9	2.5	50	0	99.8	61	130	49.2	1.4(20)	
2-Butanone (MEK)	565	50	1000	0	57	20	182	552.5	2.3(20)	
cis-1,2-Dichloroethene	53.1	2.5	50	0	106	70	130	52.39	1.4(20)	
Bromochloromethane	52	2.5	50	0	104	70	130	50.68	2.5(20)	
Chloroform	52.1	2.5	50	0	104	67	130	50.75	2.6(20)	
2,2-Dichloropropane	56.4	2.5	50	0	113	30	152	55.97	0.7(20)	
1,2-Dichloroethane	49.5	2.5	50	0	99	60	135	48.58	2.0(20)	
1,1,1-Trichloroethane	52.8	2.5	50	0	106	59	137	52.11	1.3(20)	
1,1-Dichloropropene	52.2	2.5	50	0	104	63	130	51.62	1.1(20)	
Carbon tetrachloride	53.8	2.5	50	0	108	50	147	52.73	2.1(20)	
Benzene	50.4	1.3	50	0	101	67	130	49.74	1.4(20)	
Dibromomethane	50.3	2.5	50	0	101	69	133	48.45	3.8(20)	
1,2-Dichloropropane	51.3	2.5	50	0	103	69	130	50.14	2.3(20)	
Trichloroethene	51.8	2.5	50	0	104	69	130	49.95	3.6(20)	
Bromodichloromethane	51.7	2.5	50	0	103	66	134	49.74	3.9(20)	
cis-1,3-Dichloropropene	49.5	2.5	50	0	99	63	130	47.64	3.9(20)	
trans-1,3-Dichloropropene	45.7	2.5	50	0	91	66	131	43.69	4.4(20)	
1,1,2-Trichloroethane	48.6	2.5	50	0	97	68	130	47.12	3.1(20)	
Toluene	48	1.3	50	0	96	66	130	47.05	2.0(20)	
1,3-Dichloropropane	49.3	2.5	50	0	99	70	130	47.96	2.8(20)	
Dibromochloromethane	46.5	2.5	50	0	93	70	130	43.97	5.6(20)	
1,2-Dibromoethane (EDB)	99.6	5	100	0	99.6	70	130	96.45	3.2(20)	
Tetrachloroethene	52.7	2.5	50	0	105	61	134	51.63	2.1(20)	
1,1,1,2-Tetrachloroethane	51.1	2.5	50	0	102	70	130	49.09	3.9(20)	
Chlorobenzene	48.8	2.5	50	0	98	70	130	47.7	2.3(20)	
Ethylbenzene	48.7	1.3	50	0	97	68	130	47.72	2.0(20)	
m,p-Xylene	49.3	1.3	50	0	99	64	130	48.46	1.7(20)	
Bromoform	42.8	2.5	50	0	86	64	138	40.16	6.4(20)	
Styrene	54	2.5	50	0	108	69	130	52.85	2.2(20)	
o-Xylene	50.6	1.3	50	0	101	70	130	48.97	3.2(20)	
1,1,2,2-Tetrachloroethane	45.6	2.5	50	0	91	65	131	44.73	2.0(20)	
1,2,3-Trichloropropane	95.6	10	100	0	96	70	130	92.81	3.0(20)	
Isopropylbenzene	48.6	2.5	50	0	97	64	138	48.5	0.2(20)	
Bromobenzene	48.3	2.5	50	0	97	70	130	47.47	1.8(20)	
n-Propylbenzene	48.3	2.5	50	0	97	66	132	48.21	0.2(20)	
4-Chlorotoluene	50.1	2.5	50	0	100	70	130	49.24	1.8(20)	
2-Chlorotoluene	48.7	2.5	50	0	97	70	130	48.4	0.5(20)	
1,3,5-Trimethylbenzene	48.8	2.5	50	0	98	66	136	48.18	1.2(20)	
tert-Butylbenzene	47.5	2.5	50	0	95	65	137	46.81	1.5(20)	
1,2,4-Trimethylbenzene	48.6	2.5	50	0	97	65	137	47.6	2.0(20)	
sec-Butylbenzene	48.2	2.5	50	0	96	66	134	47.25	2.1(20)	
1,3-Dichlorobenzene	48.9	2.5	50	0	98	70	130	48	1.9(20)	
1,4-Dichlorobenzene	46.4	2.5	50	0	93	70	130	44.5	4.2(20)	
4-Isopropyltoluene	49.1	2.5	50	0	98	66	137	48.04	2.1(20)	
1,2-Dichlorobenzene	46.5	2.5	50	0	93	70	130	44.51	4.4(20)	
n-Butylbenzene	50.4	2.5	50	0	101	60	142	49.21	2.4(20)	
1,2-Dibromo-3-chloropropane (DBCP)	212	15	250	0	85	67	130	205.9	3.1(20)	
1,2,4-Trichlorobenzene	47.7	10	50	0	95	61	137	44.85	6.2(20)	
Naphthalene	44.7	10	50	0	89	40	167	41.66	7.1(20)	
Hexachlorobutadiene	92.3	10	100	0	92	61	130	87.26	5.7(20)	
1,2,3-Trichlorobenzene	46	10	50	0	92	51	144	42.33	8.2(20)	
Surr: 1,2-Dichloroethane-d4	49.6		50		99	70	130			
Surr: Toluene-d8	48.9		50		98	70	130			
Surr: 4-Bromofluorobenzene	48.8		50		98	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: *09-Dec-09*

QC Summary Report

Work Order: 09120304

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.

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

Billing Information :

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 : BMIS09120304

Report Due By : 5:00 PM On : 17-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 24122 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	03-Dec-2009	**03-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	METALS_DW	VOC_TIC_W	VOC_W		Sample Remarks
BMI09120304-01A	MW-11-5	AQ	12/02/09 08:42	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		Level IV QC
BMI09120304-02A	MW-11-4	AQ	12/02/09 09:09	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120304-03A	MW-11-3	AQ	12/02/09 09:41	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		Level IV QC
BMI09120304-04A	MW-11-2	AQ	12/02/09 10:07	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120304-05A	MW-11-1	AQ	12/02/09 10:38	5	0	10	NO2, NO3, PO4, SO4, Cl	NO2, NO3, PO4, SO4, Cl	NO2, NO3, PO4, SO4, Cl	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120304-06A	EB-10-12/02/09	AQ	12/02/09 10:23	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120304-07A	TB-10-12/02/09	AQ	12/02/09 00:00	1	0	10						VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 8/25/09

Comments: No security seals. Frozen ice. Temp Blank #7776 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12-3-09 12:39

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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

24122

Page # 1 of 1

Client Name: BATTELLE / DAVID CONNER
P.O. # 218013
Job # 60058G2
Address: 5710 OLD TOWN AVE. C-205
EMail Address
City, State, Zip: SAN DIEGO CA 92110
Phone # (619) 726-7311
Fax #

Required QC Level? I II (III) IV

EDD / EDF? YES ___ NO ___

Global ID # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524.2)	TOTAL Cr (6010)	ClO4 - (314.0) Cl-, SO4, NO3, NO2, PO4?3 (300.0)					REMARKS
0842	12/02/09	AQ	BMI09120304-01	MW-11-5	NORM		V/P 5	X	X	X					LEVEL III QC
0909			-02	MW-11-4				X	X	X					
0941			-03	MW-11-3				X	X	X					LEVEL III QC
1007			-04	MW-11-2				X	X	X					
1038	12/02/09		-05	MW-11-1			V/P 5	X	X	X	X				
1023	12/02/09		-06	EB-10-12/02/09			V/P 5	X	X	X					EQUIPMENT BLANK
"	12/02/09		-07	TB-10-12/02/09			V1	X							TRIP BLANK

Analyses Required

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BROGDON	INSIGHT E.E.C., INC.	12/02/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	12-3-09	12:39
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *17-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09120403 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09120403-01A	MW-24-5	Aqueous
09120403-02A	MW-24-4	Aqueous
09120403-03A	MW-24-3	Aqueous
09120403-04A	MW-24-2	Aqueous
09120403-05A	MW-24-1	Aqueous
09120403-06A	EB-11-12/03/09	Aqueous
09120403-07A	TB-11-12/03/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09120403-03A	EPA Method 314.0	Perchlorate

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.

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/04/09

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-24-1**				
Lab ID : BMI09120403-05A Chloride	71	2.5 mg/L	12/04/09 13:59	12/04/09 16:14
Date Sampled 12/03/09 10:11 Nitrite (NO2) - N	ND	0.25 mg/L	12/04/09 13:59	12/04/09 14:23
Nitrate (NO3) - N	1.4	0.25 mg/L	12/04/09 13:59	12/04/09 14:23
Sulfate (SO4)	46	0.50 mg/L	12/04/09 13:59	12/04/09 14:23
Phosphate, ortho - P	ND	0.25 mg/L	12/04/09 13:59	12/04/09 14:23

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/17/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/04/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-24-5**				
Lab ID : BMI09120403-01A Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 15:07
Date Sampled 12/03/09 08:17				
Client ID: **MW-24-4**				
Lab ID : BMI09120403-02A Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 15:25
Date Sampled 12/03/09 08:49				
Client ID: **MW-24-3**				
Lab ID : BMI09120403-03A Perchlorate	27.9	1.00 µg/L	12/11/09 11:22	12/11/09 15:44
Date Sampled 12/03/09 09:17				
Client ID: **MW-24-2**				
Lab ID : BMI09120403-04A Perchlorate	2.61	1.00 µg/L	12/11/09 11:22	12/11/09 16:02
Date Sampled 12/03/09 09:40				
Client ID: **MW-24-1**				
Lab ID : BMI09120403-05A Perchlorate	1.13	1.00 µg/L	12/11/09 11:22	12/11/09 16:57
Date Sampled 12/03/09 10:11				
Client ID: **EB-11-12/03/09**				
Lab ID : BMI09120403-06A Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 17:16
Date Sampled 12/03/09 09:59				

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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12/17/09
Report Date

Alpha Analytical, Inc.

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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 : 12/04/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-24-5**					
Lab ID : BMI09120403-01A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 23:47
Date Sampled 12/03/09 08:17					
Client ID: **MW-24-4**					
Lab ID : BMI09120403-02A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 23:52
Date Sampled 12/03/09 08:49					
Client ID: **MW-24-3**					
Lab ID : BMI09120403-03A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/04/09 23:58
Date Sampled 12/03/09 09:17					
Client ID: **MW-24-2**					
Lab ID : BMI09120403-04A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/05/09 00:04
Date Sampled 12/03/09 09:40					
Client ID: **MW-24-1**					
Lab ID : BMI09120403-05A	Chromium (Cr)	0.013	0.0050 mg/L	12/04/09 10:17	12/05/09 00:09
Date Sampled 12/03/09 10:11					
Client ID: **EB-11-12/03/09**					
Lab ID : BMI09120403-06A	Chromium (Cr)	ND	0.0050 mg/L	12/04/09 10:17	12/05/09 00:15
Date Sampled 12/03/09 09:59					

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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12/17/09
Report Date

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : **MW-24-5**					
Lab ID : BMI09120403-01A	*** None Found ***	ND	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 08:17					
Client ID : **MW-24-4**					
Lab ID : BMI09120403-02A	Sulfur dioxide	18	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 08:49					
Client ID : **MW-24-3**					
Lab ID : BMI09120403-03A	Sulfur dioxide	20	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 09:17					
Client ID : **MW-24-2**					
Lab ID : BMI09120403-04A	Sulfur dioxide	9.2	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 09:40					
Client ID : **MW-24-1**					
Lab ID : BMI09120403-05A	Sulfur dioxide	5.5	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 10:11					
Client ID : **EB-11-12/03/09**					
Lab ID : BMI09120403-06A	*** None Found ***	ND	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 09:59					
Client ID : **TB-11-12/03/09**					
Lab ID : BMI09120403-07A	*** None Found ***	ND	2.0 µg/L	12/10/09	12/10/09
Date Received : 12/04/09					
Date Sampled : 12/03/09 00:00					

Alpha Analytical, Inc.

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09

Report Date

Alpha Analytical, Inc.

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(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: BMI09120403-01A
Client I.D. Number: MW-24-5

Sampled: 12/03/09 08:17
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

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	101	(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	100	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
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: BMI09120403-02A
Client I.D. Number: MW-24-4

Sampled: 12/03/09 08:49
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

Volatile Organics by GC/MS
EPA Method SW8260B

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

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
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: BMI09120403-03A
Client I.D. Number: MW-24-3

Sampled: 12/03/09 09:17
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

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	102	(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	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
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: BMI09120403-04A
Client I.D. Number: MW-24-2

Sampled: 12/03/09 09:40
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101	(70-130)	%REC
65	Surr: Toluene-d8	102	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120403-05A
Client I.D. Number: MW-24-1

Sampled: 12/03/09 10:11
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	1.2	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	101	(70-130)	%REC
65	Surr: Toluene-d8	102	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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

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12/18/09
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: BMI09120403-06A
Client I.D. Number: EB-11-12/03/09

Sampled: 12/03/09 09:59
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
65	Surr: Toluene-d8	104	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
Report Date

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: BMI09120403-07A
Client I.D. Number: TB-11-12/03/09

Sampled: 12/03/09 00:00
Received: 12/04/09
Extracted: 12/10/09
Analyzed: 12/10/09

Volatile Organics by GC/MS
EPA Method SW8260B

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
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
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
65	Surr: Toluene-d8	104	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/18/09
Report Date

Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI09120403 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09120403-01A	MW-24-5	Aqueous	2
09120403-02A	MW-24-4	Aqueous	2
09120403-03A	MW-24-3	Aqueous	2
09120403-04A	MW-24-2	Aqueous	2
09120403-05A	MW-24-1	Aqueous	2
09120403-06A	EB-11-12/03/09	Aqueous	2
09120403-07A	TB-11-12/03/09	Aqueous	2

12/18/09

Report Date

Alpha Analytical, Inc.

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

Date: *09-Dec-09*

QC Summary Report

Work Order: 09120403

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **18** Batch ID: **23198A** Analysis Date: **12/04/2009 14:42**

Sample ID: **MB-23198** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **19** Batch ID: **23198A** Analysis Date: **12/04/2009 15:00**

Sample ID: **LFB-23198** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.14	0.25	1.25		91	90	110			
Nitrate (NO3) - N	1.32	0.25	1.25		106	90	110			
Phosphate, ortho - P	1.3	0.25	1.25		104	90	110			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23198A** Analysis Date: **12/04/2009 16:33**

Sample ID: **09120403-05ALFM** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	5.48	0.25	6.25	0	88	80	120			
Nitrate (NO3) - N	8.14	0.25	6.25	1.366	108	80	120			
Phosphate, ortho - P	7.76	0.25	6.25	0	124	80	120			M1

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **25** Batch ID: **23198A** Analysis Date: **12/04/2009 16:51**

Sample ID: **09120403-05ALFMD** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	5.52	0.25	6.25	0	88	80	120	5.482	0.7(10)	
Nitrate (NO3) - N	7.82	0.25	6.25	1.366	103	80	120	8.139	4.0(10)	
Phosphate, ortho - P	7.63	0.25	6.25	0	122	80	120	7.757	1.7(10)	M1

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.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

Alpha Analytical, Inc.

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Date: *09-Dec-09*

QC Summary Report

Work Order: 09120403

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **18** Batch ID: **23198B** Analysis Date: **12/04/2009 14:42**

Sample ID: **MB-23198** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **19** Batch ID: **23198B** Analysis Date: **12/04/2009 15:00**

Sample ID: **LFB-23198** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	9.52	0.5	10		95	90	110			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23198B** Analysis Date: **12/04/2009 16:33**

Sample ID: **09120403-05ALFM** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	94.1	0.5	50	46.39	95	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **25** Batch ID: **23198B** Analysis Date: **12/04/2009 16:51**

Sample ID: **09120403-05ALFMD** Units : **mg/L** Run ID: **IC_1_091204A** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	92.6	0.5	50	46.39	93	80	120	94.08	1.5(10)	

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: *09-Dec-09*

QC Summary Report

Work Order: 09120403

Method Blank

Type **MBLK** Test Code: **EPA Method 300.0**

File ID: **18** Batch ID: **23198C** Analysis Date: **12/04/2009 14:42**

Sample ID: **MB-23198** Units : **mg/L** Run ID: **IC_1_091204B** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0**

File ID: **19** Batch ID: **23198C** Analysis Date: **12/04/2009 15:00**

Sample ID: **LFB-23198** Units : **mg/L** Run ID: **IC_1_091204B** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.73	0.5	5		95	90	110			

Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0**

File ID: **24** Batch ID: **23198C** Analysis Date: **12/04/2009 16:33**

Sample ID: **09120403-05ALFM** Units : **mg/L** Run ID: **IC_1_091204B** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	96.7	0.5	25	70.84	103	80	120			

Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0**

File ID: **25** Batch ID: **23198C** Analysis Date: **12/04/2009 16:51**

Sample ID: **09120403-05ALFMD** Units : **mg/L** Run ID: **IC_1_091204B** Prep Date: **12/04/2009 13:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	97	0.5	25	70.84	105	80	120	96.7	0.3(10)	

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: *17-Dec-09*

QC Summary Report

Work Order: 09120403

Method Blank

Type: **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23231** Analysis Date: **12/11/2009 12:21**

Sample ID: **MB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type: **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23231** Analysis Date: **12/11/2009 12:40**

Sample ID: **LFB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25		99	85	115			

Sample Matrix Spike

Type: **LFM** Test Code: **EPA Method 314.0**

File ID: **34** Batch ID: **23231** Analysis Date: **12/11/2009 18:29**

Sample ID: **09121005-03ALFM** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	72.6	2	25	42.21	122	80	120			M1

Sample Matrix Spike Duplicate

Type: **LFMD** Test Code: **EPA Method 314.0**

File ID: **35** Batch ID: **23231** Analysis Date: **12/11/2009 18:48**

Sample ID: **09121005-03ALFMD** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	73.4	2	25	42.21	125	80	120	72.65	1.0(15)	M1

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.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

Alpha Analytical, Inc.

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

Date: *17-Dec-09*

QC Summary Report

Work Order: 09120403

Method Blank

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

File ID: **120409.B\92MB.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:08**

Sample ID: **MB-23192** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **120409.B\92L1.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:14**

Sample ID: **LCS-23192** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0535	0.005	0.05		107	80	120			

Sample Matrix Spike

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

File ID: **120409.B\92MS.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:42**

Sample ID: **09120401-01AMS** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0487	0.005	0.05	0	97	80	120			

Sample Matrix Spike Duplicate

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

File ID: **120409.B\92MSD.D** Batch ID: **23192K** Analysis Date: **12/04/2009 21:48**

Sample ID: **09120401-01AMSD** Units : **mg/L** Run ID: **ICP/MS_091204B** Prep Date: **12/04/2009 10:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0479	0.005	0.05	0	96	80	120	0.04871	1.8(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: *18-Dec-2009*

QC Summary Report

Work Order: 09120403

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

File ID: **09121007.D** Batch ID: **MS15W1210M** Analysis Date: **12/10/2009 10:14**

Sample ID: **MBLK MS15W1210M** Units : **µg/L** Run ID: **MSD_15_091210B** Prep Date: **12/10/2009 10:14**

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	9.94		10		99	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			

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Date: 18-Dec-2009

QC Summary Report

Work Order: 09120403

Surr: 4-Bromofluorobenzene	9.57		10	96	70	130			

Laboratory Control Spike Type LCS Test Code: **EPA Method SW8260B**

File ID: **09121005.D** Batch ID: **MS15W1210M** Analysis Date: **12/10/2009 09:18**

Sample ID: **LCS MS15W1210M** Units : **µg/L** Run ID: **MSD_15_091210B** Prep Date: **12/10/2009 09:18**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.35	1	10		84	70	130			
Chloromethane	8	2	10		80	70	130			
Vinyl chloride	8.45	1	10		85	70	130			
Chloroethane	9.56	1	10		96	70	130			
Bromomethane	13.6	2	10		136	70	130(130)			L51
Trichlorofluoromethane	9.59	1	10		96	70	130			
1,1-Dichloroethene	11	1	10		110	70	130			
Dichloromethane	10.1	2	10		101	70	130			
trans-1,2-Dichloroethene	11	1	10		110	70	130			
Methyl tert-butyl ether (MTBE)	10.5	0.5	10		105	70	130			
1,1-Dichloroethane	10.5	1	10		105	70	130			
cis-1,2-Dichloroethene	11.3	1	10		113	70	130			
Bromochloromethane	10.7	1	10		107	70	130			
Chloroform	10.8	1	10		108	70	130			
2,2-Dichloropropane	12.4	1	10		124	70	130			
1,2-Dichloroethane	10.2	1	10		102	70	130			
1,1,1-Trichloroethane	11.3	1	10		113	70	130			
1,1-Dichloropropene	11.2	1	10		112	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	10.8	0.5	10		108	70	130			
Dibromomethane	10.3	1	10		103	70	130			
1,2-Dichloropropane	11	1	10		110	70	130			
Trichloroethene	11	1	10		110	70	130			
Bromodichloromethane	10.8	1	10		108	70	130			
cis-1,3-Dichloropropene	11	1	10		110	70	130			
trans-1,3-Dichloropropene	9.78	1	10		98	70	130			
1,1,2-Trichloroethane	9.87	1	10		99	70	130			
Toluene	10.5	0.5	10		105	70	130			
1,3-Dichloropropane	10.3	1	10		103	70	130			
Dibromochloromethane	9.94	1	10		99	70	130			
1,2-Dibromoethane (EDB)	21	2	20		105	70	130			
Tetrachloroethene	11.5	1	10		115	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10.5	1	10		105	70	130			
Ethylbenzene	10.8	0.5	10		108	70	130			
m,p-Xylene	11	0.5	10		110	70	130			
Bromoform	9.08	1	10		91	70	130			
Styrene	11.8	1	10		118	70	130			
o-Xylene	11.2	0.5	10		112	70	130			
1,1,2,2-Tetrachloroethane	9.77	1	10		98	70	130			
1,2,3-Trichloropropane	20	2	20		99.8	70	130			
Isopropylbenzene	10.8	1	10		108	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.9	1	10		109	70	130			
4-Chlorotoluene	11	1	10		110	70	130			
2-Chlorotoluene	10.8	1	10		108	70	130			
1,3,5-Trimethylbenzene	10.9	1	10		109	70	130			
tert-Butylbenzene	10.6	1	10		106	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.8	1	10		108	70	130			
1,3-Dichlorobenzene	10.8	1	10		108	70	130			
1,4-Dichlorobenzene	10.1	1	10		101	70	130			
4-Isopropyltoluene	10.9	1	10		109	70	130			
1,2-Dichlorobenzene	10.1	1	10		101	70	130			
n-Butylbenzene	11.3	1	10		113	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	45.5	3	50		91	70	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	9.72	2	10		97	70	130			
Hexachlorobutadiene	21.1	2	20		105	70	130			
1,2,3-Trichlorobenzene	10.1	2	10		101	70	130			
Surr: 1,2-Dichloroethane-d4	9.72		10		97	70	130			
Surr: Toluene-d8	9.9		10		99	70	130			
Surr: 4-Bromofluorobenzene	9.79		10		98	70	130			

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Date: *18-Dec-2009*

QC Summary Report

Work Order: 09120403

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09121010.D** Batch ID: **MS15W1210M** Analysis Date: **12/10/2009 11:21**

Sample ID: **09120308-07AMS** Units : **µg/L** Run ID: **MSD_15_091210B** Prep Date: **12/10/2009 11:21**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.6	2.5	50	0	85	13	167			
Chloromethane	38.2	10	50	0	76	28	145			
Vinyl chloride	42.4	2.5	50	0	85	43	134			
Chloroethane	42.4	2.5	50	0	85	39	154			
Bromomethane	50.9	10	50	0	102	19	176			
Trichlorofluoromethane	42	2.5	50	0	84	34	160			
1,1-Dichloroethene	49.4	2.5	50	0	99	60	130			
Dichloromethane	46.6	10	50	0	93	68	130			
trans-1,2-Dichloroethene	50.2	2.5	50	0	100	63	130			
Methyl tert-butyl ether (MTBE)	51.9	1.3	50	0.86	102	56	141			
1,1-Dichloroethane	48.3	2.5	50	0	97	61	130			
cis-1,2-Dichloroethene	51	2.5	50	0	102	70	130			
Bromochloromethane	50.7	2.5	50	0	101	70	130			
Chloroform	48.9	2.5	50	0	98	67	130			
2,2-Dichloropropane	55.2	2.5	50	0	110	30	152			
1,2-Dichloroethane	48.4	2.5	50	0	97	60	135			
1,1,1-Trichloroethane	50.6	2.5	50	0	101	59	137			
1,1-Dichloropropene	50.3	2.5	50	0	101	63	130			
Carbon tetrachloride	50.1	2.5	50	0	100	50	147			
Benzene	49.2	1.3	50	0	98	67	130			
Dibromomethane	48.1	2.5	50	0	96	69	133			
1,2-Dichloropropane	50.3	2.5	50	0	101	69	130			
Trichloroethene	49.4	2.5	50	0	99	69	130			
Bromodichloromethane	49.6	2.5	50	0	99	66	134			
cis-1,3-Dichloropropene	48.9	2.5	50	0	98	63	130			
trans-1,3-Dichloropropene	44.3	2.5	50	0	89	66	131			
1,1,2-Trichloroethane	47.5	2.5	50	0	95	68	130			
Toluene	47.1	1.3	50	0	94	66	130			
1,3-Dichloropropane	48.7	2.5	50	0	97	70	130			
Dibromochloromethane	44.4	2.5	50	0	89	70	130			
1,2-Dibromoethane (EDB)	98.1	5	100	0	98	70	130			
Tetrachloroethene	51.6	2.5	50	1.5	100	61	134			
1,1,1,2-Tetrachloroethane	49	2.5	50	0	98	70	130			
Chlorobenzene	46.7	2.5	50	0	93	70	130			
Ethylbenzene	46.9	1.3	50	0	94	68	130			
m,p-Xylene	47.5	1.3	50	0	95	64	130			
Bromoform	40.3	2.5	50	0	81	64	138			
Styrene	51	2.5	50	0	102	69	130			
o-Xylene	47.9	1.3	50	0	96	70	130			
1,1,2,2-Tetrachloroethane	44	2.5	50	0	88	65	131			
1,2,3-Trichloropropane	90.7	10	100	0	91	70	130			
Isopropylbenzene	48.6	2.5	50	0	97	64	138			
Bromobenzene	47.6	2.5	50	0	95	70	130			
n-Propylbenzene	47.8	2.5	50	0	96	66	132			
4-Chlorotoluene	47.7	2.5	50	0	95	70	130			
2-Chlorotoluene	47.3	2.5	50	0	95	70	130			
1,3,5-Trimethylbenzene	47.2	2.5	50	0	94	66	136			
tert-Butylbenzene	45.5	2.5	50	0	91	65	137			
1,2,4-Trimethylbenzene	46.4	2.5	50	0	93	65	137			
sec-Butylbenzene	45.7	2.5	50	0	91	66	134			
1,3-Dichlorobenzene	46.7	2.5	50	0	93	70	130			
1,4-Dichlorobenzene	44.2	2.5	50	0	88	70	130			
4-Isopropyltoluene	46.9	2.5	50	0	94	66	137			
1,2-Dichlorobenzene	43.7	2.5	50	0	87	70	130			
n-Butylbenzene	47.4	2.5	50	0	95	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	219	15	250	0	88	67	130			
1,2,4-Trichlorobenzene	44.8	10	50	0	90	61	137			
Naphthalene	44.5	10	50	0	89	40	167			
Hexachlorobutadiene	85.4	10	100	0	85	61	130			
1,2,3-Trichlorobenzene	43	10	50	0	86	51	144			
Surr: 1,2-Dichloroethane-d4	49		50		98	70	130			
Surr: Toluene-d8	49.2		50		98	70	130			
Surr: 4-Bromofluorobenzene	49.4		50		99	70	130			

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Date: 18-Dec-2009

QC Summary Report

Work Order: 09120403

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09121011.D** Batch ID: **MS15W1210M** Analysis Date: **12/10/2009 11:43**

Sample ID: **09120308-07AMSD** Units : **µg/L** Run ID: **MSD_15_091210B** Prep Date: **12/10/2009 11:43**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	49.6	2.5	50	0	99	13	167	42.63	15.2(20)	
Chloromethane	43.6	10	50	0	87	28	145	38.2	13.1(20)	
Vinyl chloride	46.9	2.5	50	0	94	43	134	42.43	10.1(20)	
Chloroethane	48	2.5	50	0	96	39	154	42.4	12.3(20)	
Bromomethane	69	10	50	0	138	19	176	50.89	30.2(20)	R58
Trichlorofluoromethane	52.2	2.5	50	0	104	34	160	41.95	21.8(20)	R5
1,1-Dichloroethene	55.8	2.5	50	0	112	60	130	49.39	12.1(20)	
Dichloromethane	50	10	50	0	100	68	130	46.63	7.0(20)	
trans-1,2-Dichloroethene	55.3	2.5	50	0	111	63	130	50.18	9.7(20)	
Methyl tert-butyl ether (MTBE)	54	1.3	50	0.86	106	56	141	51.86	4.1(20)	
1,1-Dichloroethane	53.1	2.5	50	0	106	61	130	48.31	9.4(20)	
cis-1,2-Dichloroethene	56	2.5	50	0	112	70	130	51.01	9.4(20)	
Bromochloromethane	54.5	2.5	50	0	109	70	130	50.7	7.3(20)	
Chloroform	53.1	2.5	50	0	106	67	130	48.85	8.4(20)	
2,2-Dichloropropane	62	2.5	50	0	124	30	152	55.22	11.5(20)	
1,2-Dichloroethane	51.2	2.5	50	0	102	60	135	48.4	5.6(20)	
1,1,1-Trichloroethane	55.8	2.5	50	0	112	59	137	50.62	9.7(20)	
1,1-Dichloropropene	55.6	2.5	50	0	111	63	130	50.27	10.1(20)	
Carbon tetrachloride	57.7	2.5	50	0	115	50	147	50.12	14.1(20)	
Benzene	53.5	1.3	50	0	107	67	130	49.23	8.3(20)	
Dibromomethane	51.8	2.5	50	0	104	69	133	48.13	7.3(20)	
1,2-Dichloropropane	54	2.5	50	0	108	69	130	50.27	7.2(20)	
Trichloroethene	54.4	2.5	50	0	109	69	130	49.37	9.6(20)	
Bromodichloromethane	53.3	2.5	50	0	107	66	134	49.55	7.3(20)	
cis-1,3-Dichloropropene	53	2.5	50	0	106	63	130	48.94	8.0(20)	
trans-1,3-Dichloropropene	47.8	2.5	50	0	96	66	131	44.33	7.5(20)	
1,1,2-Trichloroethane	50.5	2.5	50	0	101	68	130	47.54	6.0(20)	
Toluene	50.7	1.3	50	0	101	66	130	47.05	7.4(20)	
1,3-Dichloropropane	50.9	2.5	50	0	102	70	130	48.65	4.6(20)	
Dibromochloromethane	47.3	2.5	50	0	95	70	130	44.35	6.5(20)	
1,2-Dibromoethane (EDB)	102	5	100	0	102	70	130	98.05	4.3(20)	
Tetrachloroethene	56.9	2.5	50	1.5	111	61	134	51.64	9.7(20)	
1,1,1,2-Tetrachloroethane	52.9	2.5	50	0	106	70	130	49.01	7.6(20)	
Chlorobenzene	50.6	2.5	50	0	101	70	130	46.66	8.0(20)	
Ethylbenzene	51.2	1.3	50	0	102	68	130	46.85	8.9(20)	
m,p-Xylene	52.1	1.3	50	0	104	64	130	47.52	9.2(20)	
Bromoform	42.8	2.5	50	0	86	64	138	40.3	6.0(20)	
Styrene	56.1	2.5	50	0	112	69	130	50.96	9.6(20)	
o-Xylene	52.6	1.3	50	0	105	70	130	47.88	9.4(20)	
1,1,2,2-Tetrachloroethane	46.1	2.5	50	0	92	65	131	44	4.6(20)	
1,2,3-Trichloropropane	93	10	100	0	93	70	130	90.71	2.5(20)	
Isopropylbenzene	55.1	2.5	50	0	110	64	138	48.64	12.5(20)	
Bromobenzene	52.3	2.5	50	0	105	70	130	47.6	9.5(20)	
n-Propylbenzene	54.1	2.5	50	0	108	66	132	47.76	12.5(20)	
4-Chlorotoluene	54.5	2.5	50	0	109	70	130	47.71	13.2(20)	
2-Chlorotoluene	53.9	2.5	50	0	108	70	130	47.27	13.0(20)	
1,3,5-Trimethylbenzene	52.9	2.5	50	0	106	66	136	47.21	11.3(20)	
tert-Butylbenzene	51.5	2.5	50	0	103	65	137	45.53	12.4(20)	
1,2,4-Trimethylbenzene	52.2	2.5	50	0	104	65	137	46.44	11.6(20)	
sec-Butylbenzene	53	2.5	50	0	106	66	134	45.65	15.0(20)	
1,3-Dichlorobenzene	52.3	2.5	50	0	105	70	130	46.68	11.3(20)	
1,4-Dichlorobenzene	48.8	2.5	50	0	98	70	130	44.16	10.0(20)	
4-Isopropyltoluene	52.5	2.5	50	0	105	66	137	46.87	11.4(20)	
1,2-Dichlorobenzene	48.6	2.5	50	0	97	70	130	43.73	10.5(20)	
n-Butylbenzene	54.4	2.5	50	0	109	60	142	47.42	13.7(20)	
1,2-Dibromo-3-chloropropane (DBCP)	230	15	250	0	92	67	130	219.1	4.8(20)	
1,2,4-Trichlorobenzene	51.1	10	50	0	102	61	137	44.75	13.2(20)	
Naphthalene	48.8	10	50	0	98	40	167	44.48	9.3(20)	
Hexachlorobutadiene	98.6	10	100	0	99	61	130	85.39	14.3(20)	
1,2,3-Trichlorobenzene	49.1	10	50	0	98	51	144	42.97	13.3(20)	
Surr: 1,2-Dichloroethane-d4	48.9		50		98	70	130			
Surr: Toluene-d8	49		50		98	70	130			
Surr: 4-Bromofluorobenzene	50.4		50		101	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: *18-Dec-2009*

QC Summary Report

Work Order: 09120403

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.

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

R5 = MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

R58 = MS/MSD RPD exceeded the laboratory control limit.

Billing Information :

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 : BMIS09120403

Report Due By : 5:00 PM On : 18-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 28891 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	04-Dec-2009	**04-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	METALS_D W	VOC_TIC_ W	VOC_W		Sample Remarks
BMI09120403-01A	MW-24-5	AQ	12/03/09 08:17	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-02A	MW-24-4	AQ	12/03/09 08:49	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-03A	MW-24-3	AQ	12/03/09 09:17	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-04A	MW-24-2	AQ	12/03/09 09:40	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-05A	MW-24-1	AQ	12/03/09 10:11	5	0	10	NO2, NO3, PO4, SO4, Cl	NO2, NO3, PO4, SO4, Cl	NO2, NO3, PO4, SO4, Cl	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-06A	EB-11-12/03/09	AQ	12/03/09 09:59	5	0	10				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09120403-07A	TB-11-12/03/09	AQ	12/03/09 00:00	1	0	10						VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 8/25/09

Comments: No security seals. Frozen ice. Temp Blank #7650 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Logged in EB and TB per sample containers received. :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12-4-09 1132

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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

28891

Page # 1 of 1

Client Name	P.O. #	Job #
BATTELLE / DAVID CONNER	218013	60058G2
Address: 3990 OLD TOWN AVE. C-205	EMail Address	
City, State, Zip: SAN DIEGO CA 92110	Phone # (619) 726-7311	Fax #

Analyses Required: VOC (524.2); TOTAL Cr (6010); ClO4 (314.0); Cl-, SO4=, NO3-, PO4-3 (300.0)

Required QC Level? I II (III) IV

EDD / EDF? YES ___ NO ___

Global ID # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC	TOTAL Cr	ClO4	Cl-, SO4=, NO3-, PO4-3				REMARKS
0817	12/03/09	AQ	BMI09120403-01	MW-24-5	NORM		V/P 5	X	X	X					
0849			-02	MW-24-4				X	X	X					
0917			-03	MW-24-3				X	X	X					
0940			-04	MW-24-2				X	X	X					
1011			-05	MW-24-1			V/P 5	X	X	X	X				
0959			-06	EB-11-12/03/09			V/P 5								EQUIPMENT BLANK
"	12/03/09		-07	TB-11-12/03/09			VI								TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BRADDON	INSIGHT ETEC, INC	12/03/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	12.4.09	1132
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *23-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09120901 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09120901-01A	MW-23-5	Aqueous
09120901-02A	MW-23-4	Aqueous
09120901-03A	MW-23-3	Aqueous
09120901-04A	MW-23-2	Aqueous
09120901-05A	MW-23-1	Aqueous
09120901-06A	EB-12-12/04/09	Aqueous
09120901-07A	TB-12-12/04/09	Aqueous
09120901-08A	SB-1-4Q09	Aqueous
09120901-09A	MW-25-5	Aqueous
09120901-10A	MW-25-4	Aqueous
09120901-11A	MW-25-3	Aqueous
09120901-12A	MW-25-2	Aqueous
09120901-13A	MW-25-1	Aqueous
09120901-14A	DUPE-07-4Q09	Aqueous
09120901-15A	EB-13-12/08/09	Aqueous
09120901-16A	TB-13-12/08/09	Aqueous
09120901-17A	MW-26-2	Aqueous
09120901-18A	MW-26-1	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09120901-01A	EPA Method 314.0	Perchlorate
09120901-09A	EPA Method 314.0	Perchlorate

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.

Sample -16A was lost due to auto sampler error; no sample left to re-run.

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

Alpha Analytical, Inc.

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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 : 12/09/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-23-5**				
Lab ID : BMI09120901-01A Perchlorate	1.00	1.00 µg/L	12/10/09 12:34	12/10/09 15:21
Date Sampled 12/04/09 08:39				
Client ID: **MW-23-4**				
Lab ID : BMI09120901-02A Perchlorate	1.01	1.00 µg/L	12/10/09 12:34	12/10/09 15:40
Date Sampled 12/04/09 09:08				
Client ID: **MW-23-3**				
Lab ID : BMI09120901-03A Perchlorate	ND	1.00 µg/L	12/10/09 12:34	12/10/09 15:58
Date Sampled 12/04/09 09:39				
Client ID: **MW-23-2**				
Lab ID : BMI09120901-04A Perchlorate	4.43	1.00 µg/L	12/10/09 12:34	12/10/09 16:16
Date Sampled 12/04/09 10:03				
Client ID: **MW-23-1**				
Lab ID : BMI09120901-05A Perchlorate	2.80	1.00 µg/L	12/10/09 12:34	12/10/09 16:35
Date Sampled 12/04/09 10:34				
Client ID: **EB-12-12/04/09**				
Lab ID : BMI09120901-06A Perchlorate	ND	1.00 µg/L	12/10/09 12:34	12/10/09 16:53
Date Sampled 12/04/09 10:11				
Client ID: **MW-25-5**				
Lab ID : BMI09120901-09A Perchlorate	12.0	1.00 µg/L	12/10/09 12:34	12/10/09 17:12
Date Sampled 12/08/09 08:58				
Client ID: **MW-25-4**				
Lab ID : BMI09120901-10A Perchlorate	7.42	1.00 µg/L	12/10/09 12:34	12/10/09 18:44
Date Sampled 12/08/09 09:44				
Client ID: **MW-25-3**				
Lab ID : BMI09120901-11A Perchlorate	8.99	1.00 µg/L	12/10/09 12:34	12/10/09 19:02
Date Sampled 12/08/09 10:42				
Client ID: **MW-25-2**				
Lab ID : BMI09120901-12A Perchlorate	13.3	1.00 µg/L	12/10/09 12:34	12/10/09 19:21
Date Sampled 12/08/09 11:09				
Client ID: **MW-25-1**				
Lab ID : BMI09120901-13A Perchlorate	10.2	1.00 µg/L	12/10/09 12:34	12/10/09 19:39
Date Sampled 12/08/09 11:40				

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Client ID: **DUPE-07-4Q09**						
Lab ID : BMI09120901-14A	Perchlorate	7.42	1.00 µg/L	12/10/09 12:34	12/10/09 19:57	
Date Sampled 12/08/09 00:00						
Client ID: **EB-13-12/08/09**						
Lab ID : BMI09120901-15A	Perchlorate	ND	1.00 µg/L	12/10/09 12:34	12/10/09 20:16	
Date Sampled 12/08/09 11:24						
Client ID: **MW-26-2**						
Lab ID : BMI09120901-17A	Perchlorate	ND	1.00 µg/L	12/10/09 12:34	12/10/09 20:34	
Date Sampled 12/08/09 12:52						
Client ID: **MW-26-1**						
Lab ID : BMI09120901-18A	Perchlorate	2.34	1.00 µg/L	12/10/09 12:34	12/10/09 20:53	
Date Sampled 12/08/09 13:29						

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/22/09
Report Date

Alpha Analytical, Inc.

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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 : 12/09/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-23-5**				
Lab ID : BMI09120901-01A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:19
Date Sampled 12/04/09 08:39				
Client ID: **MW-23-4**				
Lab ID : BMI09120901-02A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:35
Date Sampled 12/04/09 09:08				
Client ID: **MW-23-3**				
Lab ID : BMI09120901-03A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:41
Date Sampled 12/04/09 09:39				
Client ID: **MW-23-2**				
Lab ID : BMI09120901-04A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:47
Date Sampled 12/04/09 10:03				
Client ID: **MW-23-1**				
Lab ID : BMI09120901-05A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:52
Date Sampled 12/04/09 10:34				
Client ID: **EB-12-12/04/09**				
Lab ID : BMI09120901-06A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 13:58
Date Sampled 12/04/09 10:11				
Client ID: **MW-25-5**				
Lab ID : BMI09120901-09A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 14:04
Date Sampled 12/08/09 08:58				
Client ID: **MW-25-4**				
Lab ID : BMI09120901-10A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 14:09
Date Sampled 12/08/09 09:44				
Client ID: **MW-25-3**				
Lab ID : BMI09120901-11A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 14:15
Date Sampled 12/08/09 10:42				
Client ID: **MW-25-2**				
Lab ID : BMI09120901-12A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 14:21
Date Sampled 12/08/09 11:09				
Client ID: **MW-25-1**				
Lab ID : BMI09120901-13A Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 15:09
Date Sampled 12/08/09 11:40				

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Client ID: **DUPE-07-4Q09**						
Lab ID : BMI09120901-14A	Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 15:15
Date Sampled 12/08/09 00:00					
Client ID: **EB-13-12/08/09**						
Lab ID : BMI09120901-15A	Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 15:20
Date Sampled 12/08/09 11:24					
Client ID: **MW-26-2**						
Lab ID : BMI09120901-17A	Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 15:26
Date Sampled 12/08/09 12:52					
Client ID: **MW-26-1**						
Lab ID : BMI09120901-18A	Chromium (Cr)	ND	0.0050 mg/L	12/09/09 13:16	12/11/09 15:32
Date Sampled 12/08/09 13:29					

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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

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12/12/09

Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
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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-23-5** Lab ID : BMI09120901-01A Date Received : 12/09/09 Date Sampled : 12/04/09 08:39	Sulfur dioxide	17	2.0 µg/L	12/15/09	12/15/09
Client ID : **MW-23-4** Lab ID : BMI09120901-02A Date Received : 12/09/09 Date Sampled : 12/04/09 09:08	Sulfur dioxide	6.7	2.0 µg/L	12/15/09	12/15/09
Client ID : **MW-23-3** Lab ID : BMI09120901-03A Date Received : 12/09/09 Date Sampled : 12/04/09 09:39	Sulfur dioxide	6.6	2.0 µg/L	12/15/09	12/15/09
Client ID : **MW-23-2** Lab ID : BMI09120901-04A Date Received : 12/09/09 Date Sampled : 12/04/09 10:03	Sulfur dioxide	2.2	2.0 µg/L	12/15/09	12/15/09
Client ID : **MW-23-1** Lab ID : BMI09120901-05A Date Received : 12/09/09 Date Sampled : 12/04/09 10:34	*** None Found ***	ND	2.0 µg/L	12/15/09	12/15/09
Client ID : **EB-12-12/04/09** Lab ID : BMI09120901-06A Date Received : 12/09/09 Date Sampled : 12/04/09 10:11	*** None Found ***	ND	2.0 µg/L	12/15/09	12/15/09
Client ID : **TB-12-12/04/09** Lab ID : BMI09120901-07A Date Received : 12/09/09 Date Sampled : 12/04/09 00:00	*** None Found ***	ND	2.0 µg/L	12/15/09	12/15/09
Client ID : **SB-1-4Q09** Lab ID : BMI09120901-08A Date Received : 12/09/09 Date Sampled : 12/04/09 11:35	*** None Found ***	ND	2.0 µg/L	12/15/09	12/15/09
Client ID : **MW-25-5** Lab ID : BMI09120901-09A Date Received : 12/09/09 Date Sampled : 12/08/09 08:58	Sulfur dioxide	32	2.0 µg/L	12/15/09	12/15/09

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Client ID : **MW-25-4**						
Lab ID : BMI09120901-10A	Sulfur dioxide	6.5	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 09:44						
Client ID : **MW-25-3**						
Lab ID : BMI09120901-11A	Sulfur dioxide	6.0	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 10:42						
Client ID : **MW-25-2**						
Lab ID : BMI09120901-12A	Sulfur dioxide	3.1	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 11:09						
Client ID : **MW-25-1**						
Lab ID : BMI09120901-13A	Sulfur dioxide	2.5	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 11:40						
Client ID : **DUPE-07-4Q09**						
Lab ID : BMI09120901-14A	* * * None Found * * *	ND	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 00:00						
Client ID : **EB-13-12/08/09**						
Lab ID : BMI09120901-15A	2-Methyl-1-propene	2.3	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 11:24						
Client ID : **MW-26-2**						
Lab ID : BMI09120901-17A	* * * None Found * * *	ND	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 12:52						
Client ID : **MW-26-1**						
Lab ID : BMI09120901-18A	* * * None Found * * *	ND	2.0 µg/L	12/15/09	12/15/09
Date Received : 12/09/09						
Date Sampled : 12/08/09 13:29						

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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

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12/22/09

Report Date

Alpha Analytical, Inc.

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(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: BMI09120901-01A
Client I.D. Number: MW-23-5

Sampled: 12/04/09 08:39
Received: 12/09/09
Extracted: 12/15/09 13:57
Analyzed: 12/15/09 13:57

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	0.59	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	Q	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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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 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 / 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.

12/22/09
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: BMI09120901-02A
Client I.D. Number: MW-23-4

Sampled: 12/04/09 09:08
Received: 12/09/09
Extracted: 12/15/09 14:19
Analyzed: 12/15/09 14:19

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	Q	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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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 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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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.

12/22/09
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: BMI09120901-03A
Client I.D. Number: MW-23-3

Sampled: 12/04/09 09:39
Received: 12/09/09
Extracted: 12/15/09 14:41
Analyzed: 12/15/09 14:41

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	Q	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	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(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 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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12/22/09
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: BMI09120901-04A
Client I.D. Number: MW-23-2

Sampled: 12/04/09 10:03
Received: 12/09/09
Extracted: 12/15/09 15:03
Analyzed: 12/15/09 15:03

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	Q	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	0.51		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	1.4		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	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	92	(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	0.50		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 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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12/22/09
Report Date

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: BMI09120901-05A
Client I.D. Number: MW-23-1

Sampled: 12/04/09 10:34
Received: 12/09/09
Extracted: 12/15/09 15:25
Analyzed: 12/15/09 15:25

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	Q	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	2.6		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	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	91	(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	0.62		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 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 / info@alpha-analytical.com

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12/22/09
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: BMI09120901-06A
Client I.D. Number: EB-12-12/04/09

Sampled: 12/04/09 10:11
Received: 12/09/09
Extracted: 12/15/09 12:50
Analyzed: 12/15/09 12:50

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	Q	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	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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 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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12/22/09
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: BMI09120901-07A
Client I.D. Number: TB-12-12/04/09

Sampled: 12/04/09 00:00
Received: 12/09/09
Extracted: 12/15/09 12:28
Analyzed: 12/15/09 12:28

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	Q	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	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65 Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66 Surr: 4-Bromofluorobenzene	93	(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 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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12/22/09
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: BMI09120901-08A
Client I.D. Number: SB-1-4Q09

Sampled: 12/04/09 11:35
Received: 12/09/09
Extracted: 12/15/09 13:35
Analyzed: 12/15/09 13:35

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	Q	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	103	(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	94	(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 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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12/22/09
Report Date

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: BMI09120901-09A
Client I.D. Number: MW-25-5

Sampled: 12/08/09 08:58
Received: 12/09/09
Extracted: 12/15/09 15:47
Analyzed: 12/15/09 15:47

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	Q	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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65 Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66 Surr: 4-Bromofluorobenzene	93	(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 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 / 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.

12/22/09
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: BMI09120901-10A
Client I.D. Number: MW-25-4

Sampled: 12/08/09 09:44
Received: 12/09/09
Extracted: 12/15/09 16:10
Analyzed: 12/15/09 16:10

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	Q	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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	91	(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 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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12/22/09
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: BMI09120901-11A
Client I.D. Number: MW-25-3

Sampled: 12/08/09 10:42
Received: 12/09/09
Extracted: 12/15/09 16:32
Analyzed: 12/15/09 16:32

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	Q	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	0.52		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	102	(70-130)	%REC
30	1,1,2-Trichioroethane	ND		0.50	µg/L	65 Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66 Surr: 4-Bromofluorobenzene	95	(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	0.96		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 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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12/22/09
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: BMI09120901-12A
Client I.D. Number: MW-25-2

Sampled: 12/08/09 11:09
Received: 12/09/09
Extracted: 12/15/09 16:54
Analyzed: 12/15/09 16:54

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	Q	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	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(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 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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12/22/09
Report Date

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: BMI09120901-13A
Client I.D. Number: MW-25-1

Sampled: 12/08/09 11:40
Received: 12/09/09
Extracted: 12/15/09 17:16
Analyzed: 12/15/09 17:16

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	Q	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	0.63		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	3.3		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	105		(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	99		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	92		(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 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 / info@alpha-analytical.com

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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.

12/22/09
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: BMI09120901-14A
Client I.D. Number: DUPE-07-4Q09

Sampled: 12/08/09 00:00
Received: 12/09/09
Extracted: 12/15/09 17:39
Analyzed: 12/15/09 17:39

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	Q	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	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	90	(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 Scholl Randy Gardner Walter Hinchman

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12/22/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120901-15A
Client I.D. Number: EB-13-12/08/09

Sampled: 12/08/09 11:24
Received: 12/09/09
Extracted: 12/15/09 13:12
Analyzed: 12/15/09 13:12

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	Q	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	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	94	(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 Scholl Randy Gardner Walter Hinchman

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12/22/09
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: BMI09120901-17A
Client I.D. Number: MW-26-2

Sampled: 12/08/09 12:52
Received: 12/09/09
Extracted: 12/15/09 18:01
Analyzed: 12/15/09 18:01

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	Q	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	106	(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	92	(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 Scholl Randy Gardner Walter Hinchman

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12/22/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09120901-18A
Client I.D. Number: MW-26-1

Sampled: 12/08/09 13:29
Received: 12/09/09
Extracted: 12/15/09 18:23
Analyzed: 12/15/09 18:23

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	Q	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	104	(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	95	(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 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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12/22/09
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: BMI09120901 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09120901-01A	MW-23-5	Aqueous	2
09120901-02A	MW-23-4	Aqueous	2
09120901-03A	MW-23-3	Aqueous	2
09120901-04A	MW-23-2	Aqueous	2
09120901-05A	MW-23-1	Aqueous	2
09120901-06A	EB-12-12/04/09	Aqueous	2
09120901-07A	TB-12-12/04/09	Aqueous	2
09120901-08A	SB-1-4Q09	Aqueous	2
09120901-09A	MW-25-5	Aqueous	2
09120901-10A	MW-25-4	Aqueous	2
09120901-11A	MW-25-3	Aqueous	2
09120901-12A	MW-25-2	Aqueous	2
09120901-13A	MW-25-1	Aqueous	2
09120901-14A	DUPE-07-4Q09	Aqueous	2
09120901-15A	EB-13-12/08/09	Aqueous	2
09120901-17A	MW-26-2	Aqueous	2
09120901-18A	MW-26-1	Aqueous	2

12/22/09
Report Date

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Date: *22-Dec-09*

QC Summary Report

Work Order: 09120901

Method Blank

Type: **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23222** Analysis Date: **12/10/2009 13:31**

Sample ID: **MB-23222** Units : **µg/L** Run ID: **IC_3_091210A** Prep Date: **12/10/2009 12:34**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type: **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23222** Analysis Date: **12/10/2009 13:49**

Sample ID: **LFB-23222** Units : **µg/L** Run ID: **IC_3_091210A** Prep Date: **12/10/2009 12:34**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.1	2	25		96	85	115			

Sample Matrix Spike

Type: **LFM** Test Code: **EPA Method 314.0**

File ID: **27** Batch ID: **23222** Analysis Date: **12/10/2009 17:30**

Sample ID: **09120901-09ALFM** Units : **µg/L** Run ID: **IC_3_091210A** Prep Date: **12/10/2009 12:34**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	37	2	25	11.97	100	80	120			

Sample Matrix Spike Duplicate

Type: **LFMD** Test Code: **EPA Method 314.0**

File ID: **28** Batch ID: **23222** Analysis Date: **12/10/2009 17:49**

Sample ID: **09120901-09ALFMD** Units : **µg/L** Run ID: **IC_3_091210A** Prep Date: **12/10/2009 12:34**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	38.6	2	25	11.97	107	80	120	37.02	4.2(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: *22-Dec-09*

QC Summary Report

Work Order: 09120901

Method Blank

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

File ID: **121109.B\019SMPL.D** Batch ID: **23217K** Analysis Date: **12/11/2009 12:56**

Sample ID: **MB-23217** Units : **mg/L** Run ID: **ICP/MS_091211A** Prep Date: **12/09/2009 13:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **121109.B\020_LCS.D** Batch ID: **23217K** Analysis Date: **12/11/2009 13:02**

Sample ID: **LCS-23217** Units : **mg/L** Run ID: **ICP/MS_091211A** Prep Date: **12/09/2009 13:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0577	0.005	0.05		115	80	120			

Sample Matrix Spike

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

File ID: **121109.B\024SMPL.D** Batch ID: **23217K** Analysis Date: **12/11/2009 13:24**

Sample ID: **09120901-01AMS** Units : **mg/L** Run ID: **ICP/MS_091211A** Prep Date: **12/09/2009 13:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0611	0.005	0.05	0	122	80	120			M1

Sample Matrix Spike Duplicate

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

File ID: **121109.B\025SMPL.D** Batch ID: **23217K** Analysis Date: **12/11/2009 13:30**

Sample ID: **09120901-01AMSD** Units : **mg/L** Run ID: **ICP/MS_091211A** Prep Date: **12/09/2009 13:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0623	0.005	0.05	0	125	80	120	0.0611	1.9(20)	M1

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.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

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Date: 22-Dec-09

QC Summary Report

Work Order: 09120901

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

File ID: **09121507.D** Batch ID: **MS15W1215M** Analysis Date: **12/15/2009 09:52**

Sample ID: **MBLK MS15W1215M** Units : **µg/L** Run ID: **MSD_15_091215B** Prep Date: **12/15/2009 09:52**

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	10.3		10		103	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			

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QC Summary Report

Work Order: 09120901

Surr: 4-Bromofluorobenzene	9.61		10	96	70	130			

Laboratory Control Spike Type: **LCS** Test Code: **EPA Method SW8260B**

File ID: **09121505.D** Batch ID: **MS15W1215M** Analysis Date: **12/15/2009 08:58**

Sample ID: **LCS MS15W1215M** Units : **µg/L** Run ID: **MSD_15_091215B** Prep Date: **12/15/2009 08:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.13	1	10		81	70	130			
Chloromethane	6.37	2	10		64	70(70)	130			L50
Vinyl chloride	8.4	1	10		84	70	130			
Chloroethane	9.07	1	10		91	70	130			
Bromomethane	6.23	2	10		62	70(70)	130			L50
Trichlorofluoromethane	10.4	1	10		104	70	130			
1,1-Dichloroethene	11.3	1	10		113	70	130			
Dichloromethane	9.88	2	10		99	70	130			
trans-1,2-Dichloroethene	10.7	1	10		107	70	130			
Methyl tert-butyl ether (MTBE)	10.7	0.5	10		107	70	130			
1,1-Dichloroethane	10.6	1	10		106	70	130			
cis-1,2-Dichloroethene	10.9	1	10		109	70	130			
Bromochloromethane	9.92	1	10		99	70	130			
Chloroform	11	1	10		110	70	130			
2,2-Dichloropropane	12.1	1	10		121	70	130			
1,2-Dichloroethane	10.4	1	10		104	70	130			
1,1,1-Trichloroethane	11.5	1	10		115	70	130			
1,1-Dichloropropene	11.2	1	10		112	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.8	0.5	10		108	70	130			
Dibromomethane	10.3	1	10		103	70	130			
1,2-Dichloropropane	11.1	1	10		111	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	11.2	1	10		112	70	130			
cis-1,3-Dichloropropene	10.7	1	10		107	70	130			
trans-1,3-Dichloropropene	9.47	1	10		95	70	130			
1,1,2-Trichloroethane	10.3	1	10		103	70	130			
Toluene	10.3	0.5	10		103	70	130			
1,3-Dichloropropane	10.4	1	10		104	70	130			
Dibromochloromethane	10.1	1	10		101	70	130			
1,2-Dibromoethane (EDB)	21	2	20		105	70	130			
Tetrachloroethene	11.3	1	10		113	70	130			
1,1,1,2-Tetrachloroethane	10.8	1	10		108	70	130			
Chlorobenzene	10.3	1	10		103	70	130			
Ethylbenzene	10.5	0.5	10		105	70	130			
m,p-Xylene	10.7	0.5	10		107	70	130			
Bromoform	9.5	1	10		95	70	130			
Styrene	11.5	1	10		115	70	130			
o-Xylene	10.7	0.5	10		107	70	130			
1,1,2,2-Tetrachloroethane	9.76	1	10		98	70	130			
1,2,3-Trichloropropane	20.1	2	20		101	70	130			
Isopropylbenzene	10.8	1	10		108	70	130			
Bromobenzene	10.6	1	10		106	70	130			
n-Propylbenzene	10.7	1	10		107	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.6	1	10		106	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	130			
tert-Butylbenzene	10.2	1	10		102	70	130			
1,2,4-Trimethylbenzene	10.5	1	10		105	70	130			
sec-Butylbenzene	10.2	1	10		102	70	130			
1,3-Dichlorobenzene	10.7	1	10		107	70	130			
1,4-Dichlorobenzene	9.81	1	10		98	70	130			
4-Isopropyltoluene	10.2	1	10		102	70	130			
1,2-Dichlorobenzene	9.86	1	10		99	70	130			
n-Butylbenzene	10.5	1	10		105	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	49.5	3	50		99	70	130			
1,2,4-Trichlorobenzene	9.67	2	10		97	70	130			
Naphthalene	9.67	2	10		97	70	130			
Hexachlorobutadiene	17.8	2	20		89	70	130			
1,2,3-Trichlorobenzene	9.61	2	10		96	70	130			
Surr: 1,2-Dichloroethane-d4	9.73		10		97	70	130			
Surr: Toluene-d8	9.64		10		96	70	130			
Surr: 4-Bromofluorobenzene	9.82		10		98	70	130			

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Date: 22-Dec-09

QC Summary Report

Work Order: 09120901

Sample Matrix Spike Type: **MS** Test Code: **EPA Method SW8260B**

File ID: **09121509.D** Batch ID: **MS15W1215M** Analysis Date: **12/15/2009 10:37**

Sample ID: **09120901-09AMS** Units : **µg/L** Run ID: **MSD_15_091215B** Prep Date: **12/15/2009 10:37**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	38.6	2.5	50	0	77	13	167			
Chloromethane	33.9	10	50	0	68	28	145			
Vinyl chloride	44.6	2.5	50	0	89	43	134			
Chloroethane	42.9	2.5	50	0	86	39	154			
Bromomethane	21.4	10	50	0	43	19	176			
Trichlorofluoromethane	44.7	2.5	50	0	89	34	160			
1,1-Dichloroethene	51.5	2.5	50	0	103	60	130			
Dichloromethane	48.6	10	50	0	97	68	130			
trans-1,2-Dichloroethene	50.6	2.5	50	0	101	63	130			
Methyl tert-butyl ether (MTBE)	54.5	1.3	50	0	109	56	141			
1,1-Dichloroethane	50	2.5	50	0	99.9	61	130			
cis-1,2-Dichloroethene	52.6	2.5	50	0	105	70	130			
Bromochloromethane	48.5	2.5	50	0	97	70	130			
Chloroform	51.8	2.5	50	0	104	67	130			
2,2-Dichloropropane	56.2	2.5	50	0	112	30	152			
1,2-Dichloroethane	50.2	2.5	50	0	100	60	135			
1,1,1-Trichloroethane	51.7	2.5	50	0	103	59	137			
1,1-Dichloropropene	52.4	2.5	50	0	105	63	130			
Carbon tetrachloride	52	2.5	50	0	104	50	147			
Benzene	50.7	1.3	50	0	101	67	130			
Dibromomethane	49.9	2.5	50	0	99.8	69	133			
1,2-Dichloropropane	52.2	2.5	50	0	104	69	130			
Trichloroethene	49.7	2.5	50	0	99	69	130			
Bromodichloromethane	52.4	2.5	50	0	105	66	134			
cis-1,3-Dichloropropene	49.6	2.5	50	0	99	63	130			
trans-1,3-Dichloropropene	45	2.5	50	0	90	66	131			
1,1,2-Trichloroethane	50.3	2.5	50	0	101	68	130			
Toluene	47.3	1.3	50	0	95	66	130			
1,3-Dichloropropane	49.2	2.5	50	0	98	70	130			
Dibromochloromethane	46.5	2.5	50	0	93	70	130			
1,2-Dibromoethane (EDB)	101	5	100	0	101	70	130			
Tetrachloroethene	50.5	2.5	50	0	101	61	134			
1,1,1,2-Tetrachloroethane	50.1	2.5	50	0	100	70	130			
Chlorobenzene	47.5	2.5	50	0	95	70	130			
Ethylbenzene	47.9	1.3	50	0	96	68	130			
m,p-Xylene	48.2	1.3	50	0	96	64	130			
Bromoform	44.1	2.5	50	0	88	64	138			
Styrene	52.2	2.5	50	0	104	69	130			
o-Xylene	48.7	1.3	50	0	97	70	130			
1,1,2,2-Tetrachloroethane	47.6	2.5	50	0	95	65	131			
1,2,3-Trichloropropane	97.8	10	100	0	98	70	130			
Isopropylbenzene	48.3	2.5	50	0	97	64	138			
Bromobenzene	48.2	2.5	50	0	96	70	130			
n-Propylbenzene	47.2	2.5	50	0	94	66	132			
4-Chlorotoluene	48.4	2.5	50	0	97	70	130			
2-Chlorotoluene	48.1	2.5	50	0	96	70	130			
1,3,5-Trimethylbenzene	47.1	2.5	50	0	94	66	136			
tert-Butylbenzene	45	2.5	50	0	90	65	137			
1,2,4-Trimethylbenzene	47.6	2.5	50	0	95	65	137			
sec-Butylbenzene	44.8	2.5	50	0	90	66	134			
1,3-Dichlorobenzene	48.2	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	44.6	2.5	50	0	89	70	130			
4-Isopropyltoluene	45.4	2.5	50	0	91	66	137			
1,2-Dichlorobenzene	45.5	2.5	50	0	91	70	130			
n-Butylbenzene	46.2	2.5	50	0	92	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	239	15	250	0	96	67	130			
1,2,4-Trichlorobenzene	42.6	10	50	0	85	61	137			
Naphthalene	43.9	10	50	0	88	40	167			
Hexachlorobutadiene	74.6	10	100	0	75	61	130			
1,2,3-Trichlorobenzene	41.3	10	50	0	83	51	144			
Surr: 1,2-Dichloroethane-d4	49.6		50		99	70	130			
Surr: Toluene-d8	48		50		96	70	130			
Surr: 4-Bromofluorobenzene	48.7		50		97	70	130			

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Date: 22-Dec-09

QC Summary Report

Work Order: 09120901

Sample Matrix Spike Duplicate Type: **MSD** Test Code: **EPA Method SW8260B**

File ID: **09121510.D** Batch ID: **MS15W1215M** Analysis Date: **12/15/2009 10:59**

Sample ID: **09120901-09AMSD** Units : **µg/L** Run ID: **MSD_15_091215B** Prep Date: **12/15/2009 10:59**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.4	2.5	50	0	67	13	167	38.61	14.4(20)	
Chloromethane	28.9	10	50	0	58	28	145	33.89	16.0(20)	
Vinyl chloride	35.2	2.5	50	0	70	43	134	44.61	23.7(20)	R5
Chloroethane	38.4	2.5	50	0	77	39	154	42.9	11.1(20)	
Bromomethane	26.3	10	50	0	53	19	176	21.35	20.8(20)	R58
Trichlorofluoromethane	42.8	2.5	50	0	86	34	160	44.71	4.5(20)	
1,1-Dichloroethene	45.4	2.5	50	0	91	60	130	51.54	12.7(20)	
Dichloromethane	43	10	50	0	86	68	130	48.6	12.3(20)	
trans-1,2-Dichloroethene	43.8	2.5	50	0	88	63	130	50.64	14.5(20)	
Methyl tert-butyl ether (MTBE)	50.7	1.3	50	0	101	56	141	54.54	7.4(20)	
1,1-Dichloroethane	43.7	2.5	50	0	87	61	130	49.95	13.3(20)	
cis-1,2-Dichloroethene	45.5	2.5	50	0	91	70	130	52.64	14.5(20)	
Bromochloromethane	44.5	2.5	50	0	89	70	130	48.54	8.7(20)	
Chloroform	46	2.5	50	0	92	67	130	51.75	11.8(20)	
2,2-Dichloropropane	48.7	2.5	50	0	97	30	152	56.18	14.3(20)	
1,2-Dichloroethane	46.9	2.5	50	0	94	60	135	50.16	6.8(20)	
1,1,1-Trichloroethane	46.3	2.5	50	0	93	59	137	51.71	11.0(20)	
1,1-Dichloropropene	45.4	2.5	50	0	91	63	130	52.42	14.3(20)	
Carbon tetrachloride	45.6	2.5	50	0	91	50	147	52.03	13.3(20)	
Benzene	44.6	1.3	50	0	89	67	130	50.72	12.8(20)	
Dibromomethane	46.6	2.5	50	0	93	69	133	49.91	6.9(20)	
1,2-Dichloropropane	46.3	2.5	50	0	93	69	130	52.24	12.2(20)	
Trichloroethene	43.8	2.5	50	0	88	69	130	49.65	12.5(20)	
Bromodichloromethane	47.7	2.5	50	0	95	66	134	52.37	9.4(20)	
cis-1,3-Dichloropropene	45.8	2.5	50	0	92	63	130	49.64	8.0(20)	
trans-1,3-Dichloropropene	41.6	2.5	50	0	83	66	131	44.95	7.7(20)	
1,1,2-Trichloroethane	46.7	2.5	50	0	93	68	130	50.33	7.4(20)	
Toluene	41.6	1.3	50	0	83	66	130	47.28	12.8(20)	
1,3-Dichloropropane	46.7	2.5	50	0	93	70	130	49.24	5.3(20)	
Dibromochloromethane	44	2.5	50	0	88	70	130	46.51	5.5(20)	
1,2-Dibromoethane (EDB)	95.5	5	100	0	96	70	130	101.1	5.7(20)	
Tetrachloroethene	44.5	2.5	50	0	89	61	134	50.54	12.7(20)	
1,1,1,2-Tetrachloroethane	45.6	2.5	50	0	91	70	130	50.12	9.4(20)	
Chlorobenzene	42.9	2.5	50	0	86	70	130	47.49	10.1(20)	
Ethylbenzene	42.5	1.3	50	0	85	68	130	47.92	12.1(20)	
m,p-Xylene	43.3	1.3	50	0	87	64	130	48.19	10.6(20)	
Bromoform	42.8	2.5	50	0	86	64	138	44.05	2.9(20)	
Styrene	48.3	2.5	50	0	97	69	130	52.19	7.7(20)	
o-Xylene	44.4	1.3	50	0	89	70	130	48.69	9.2(20)	
1,1,2,2-Tetrachloroethane	46.3	2.5	50	0	93	65	131	47.6	2.8(20)	
1,2,3-Trichloropropane	95	10	100	0	95	70	130	97.82	3.0(20)	
Isopropylbenzene	43.8	2.5	50	0	88	64	138	48.3	9.8(20)	
Bromobenzene	45.4	2.5	50	0	91	70	130	48.18	6.1(20)	
n-Propylbenzene	42.8	2.5	50	0	86	66	132	47.21	9.8(20)	
4-Chlorotoluene	45.1	2.5	50	0	90	70	130	48.43	7.2(20)	
2-Chlorotoluene	43.8	2.5	50	0	88	70	130	48.12	9.3(20)	
1,3,5-Trimethylbenzene	43.4	2.5	50	0	87	66	136	47.14	8.3(20)	
tert-Butylbenzene	41.8	2.5	50	0	84	65	137	44.99	7.5(20)	
1,2,4-Trimethylbenzene	43.9	2.5	50	0	88	65	137	47.62	8.0(20)	
sec-Butylbenzene	41.8	2.5	50	0	84	66	134	44.75	6.9(20)	
1,3-Dichlorobenzene	44.8	2.5	50	0	90	70	130	48.19	7.2(20)	
1,4-Dichlorobenzene	42.6	2.5	50	0	85	70	130	44.58	4.6(20)	
4-Isopropyltoluene	41.9	2.5	50	0	84	66	137	45.36	8.0(20)	
1,2-Dichlorobenzene	43.5	2.5	50	0	87	70	130	45.5	4.5(20)	
n-Butylbenzene	43.1	2.5	50	0	86	60	142	46.21	7.0(20)	
1,2-Dibromo-3-chloropropane (DBCP)	238	15	250	0	95	67	130	238.8	0.4(20)	
1,2,4-Trichlorobenzene	42.6	10	50	0	85	61	137	42.55	0.0(20)	
Naphthalene	44.8	10	50	0	90	40	167	43.93	1.9(20)	
Hexachlorobutadiene	73.6	10	100	0	74	61	130	74.56	1.3(20)	
1,2,3-Trichlorobenzene	41.8	10	50	0	84	51	144	41.28	1.4(20)	
Surr: 1,2-Dichloroethane-d4	49.8		50		99.6	70	130			
Surr: Toluene-d8	48.1		50		96	70	130			
Surr: 4-Bromofluorobenzene	49.4		50		99	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: *22-Dec-09*

QC Summary Report

Work Order: 09120901

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.

R5 = MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

R58 = MS/MSD RPD exceeded the laboratory control limit.

Billing Information :

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 : BMIS09120901

Report Due By : 5:00 PM On : 23-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 28890, 24118 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	09-Dec-2009	**09-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W				Sample Remarks
BMI09120901-01A	MW-23-5	AQ	12/04/09 08:39	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-02A	MW-23-4	AQ	12/04/09 09:08	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-03A	MW-23-3	AQ	12/04/09 09:39	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-04A	MW-23-2	AQ	12/04/09 10:03	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-05A	MW-23-1	AQ	12/04/09 10:34	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-06A	EB-12-12/04/09	AQ	12/04/09 10:11	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-07A	TB-12-12/04/09	AQ	12/04/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria				Reno Trip Blank 8/25/09
BMI09120901-08A	SB-1-4Q09	AQ	12/04/09 11:35	3	0	10			VOC by 524 Criteria	VOC by 524 Criteria				
BMI09120901-09A	MW-25-5	AQ	12/08/09 08:58	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				Level IV QC
BMI09120901-10A	MW-25-4	AQ	12/08/09 09:44	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria				

Comments: No security seals. Frozen ice. Temp Blank #8842 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12-9-09 1032

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 :

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 : BMIS09120901

Report Due By : 5:00 PM On : 23-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 28890, 24118 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	09-Dec-2009	**09-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09120901-11A	MW-25-3	AQ	12/08/09 10:42	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-12A	MW-25-2	AQ	12/08/09 11:09	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-13A	MW-25-1	AQ	12/08/09 11:40	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-14A	DUPE-07-4Q09	AQ	12/08/09 00:00	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-15A	EB-13-12/08/09	AQ	12/08/09 11:24	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-16A	TB-13-12/08/09	AQ	12/08/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno Trip Blank 8/25/09
BMI09120901-17A	MW-26-2	AQ	12/08/09 12:52	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09120901-18A	MW-26-1	AQ	12/08/09 13:29	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					

Comments: No security seals. Frozen ice. Temp Blank #8842 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12-9-09 1032

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 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? 28890
AZ ___ **CA** X **NV** ___ **WA** ___
ID ___ **OR** ___ **OTHER** ___
Page # 1 **of** 1

Client Name BATTELLE / DAVID CONNER
Address 3990 OLD TOWN AVE. C-205
City, State, Zip SAN DIEGO CA 92110
P.O. # 218013
Job # G005862
EMail Address
Phone # (619) 726-7311
Fax #
Sampled by
Report Attention

Required QC Level? I II (III) IV
EDD / EDF? YES ___ NO ___
Global ID # ______

Analyses Required

Time Sampled	Date Sampled	Matrix* See Key Below	Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524.2)	TOTAL Cr (200.8)	ClO4- (314.0)	Cl-, SO4-, NO3-, NO2-, PO4-3 (300.0)				REMARKS
0839	12/04/09	AQ	BMI09120901 .01	MW-23-5	NORM		V/P 5	X	X	X					
0908	↓	↓	.02	MW-23-4	↓		↓	X	X	X					
0939	↓	↓	.03	MW-23-3	↓		↓	X	X	X					
1003	↓	↓	.04	MW-23-2	↓		↓	X	X	X					SAMPLE TIME: 1003
1034	↓	↓	.05	MW-23-1	↓		↓	X	X	X					
1011	↓	↓	.06	EB-12-12/04/09	↓		V/P 5	X	X	X					EQUIPMENT BLANK
—	↓	↓	.07	TB-12-12/04/09	↓		V 1	X							TRIP BLANK
	12/04/09	AQ (EB)													
1135	12/04/09	AQ	.08	SB-1-4209	NORM		V 3	X							SOURCE BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BROGDON	INSIGHT EEC INC	12/04/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	12.9.09	1032
Relinquished by					
Received by					
Relinquished by					
Received by					

*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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

24118

Page # 1 of 1

Client Name BATTELLE / DAVID CONNER	P.O. # 218013	Job # G005862
Address 5990 OLD TOWN AVE. C-205	EMail Address	
City, State, Zip SAN DIEGO CA 92110	Phone # (619) 726-7311	Fax #

Required QC Level? I II (III) IV
EDD / EDF? YES ___ NO ___
Global ID # ______

Analyses Required

DATE Sampled	TIME 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	VOC (524.2)	TOTAL Cr (200.8)	ClO_4^- (314.0)	Cl^-, SO_4^-, NO_3^-, NO_2^-, PO_4^{-3} (300.0)	REMARKS
12/08/09	0858	AQ	.09	MW-25-5	NORM		1/P 5	X	X	X		LEVEL III QC
↓	0944	↓	.10	MW-25-4	↓		↓	X	X	X		
	1042		.11	MW-25-3				X	X	X		
	1109		.12	MW-25-2				X	X	X		
12/08/09	1140		.13	MW-25-1				X	X	X		
~~ ~~	"		.14	DUPE-07-4Q09			1/P 5	X	X	X		DUPLICATE
~~ ~~	1124		.15	EB-13-12/08/09			1/P 5	X	X	X		EQUIPMENT BLANK
~~ ~~	"		.16	TB-13-12/08/09			V 1	X				TRIP BLANK
↓												
12/08/09	1252		.17	MW-26-2			1/P 5	X	X	X		
12/08/09	1329	↓	.18	MW-26-1	↓		1/P 5	X	X	X		

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BUGTON	INSIGHT ETC INC	12/08/09	1300
Received by	Elizabeth Adcox	Elizabeth AdCox	Alpha	12-9-09	1032
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

Alpha Analytical, Inc.

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

Date: *23-Dec-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring
Work Order: BMI09121005 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09121005-01A	MW-18-5	Aqueous
09121005-02A	MW-18-4	Aqueous
09121005-03A	MW-18-3	Aqueous
09121005-04A	MW-18-2	Aqueous
09121005-05A	MW-18-1	Aqueous
09121005-06A	EB-14-12/09/09	Aqueous
09121005-07A	TB-14-12/09/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09121005-01A	EPA Method 314.0	Perchlorate
09121005-02A	EPA Method 314.0	Perchlorate
09121005-03A	EPA Method 314.0	Perchlorate

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.

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/10/09

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-18-5**				
Lab ID : BMI09121005-01A Perchlorate	2.68	1.00 µg/L	12/11/09 11:22	12/11/09 17:34
Date Sampled 12/09/09 08:53				
Client ID: **MW-18-4**				
Lab ID : BMI09121005-02A Perchlorate	52.9	2.00 µg/L	12/11/09 11:22	12/11/09 17:52
Date Sampled 12/09/09 09:22				
Client ID: **MW-18-3**				
Lab ID : BMI09121005-03A Perchlorate	43.0	1.00 µg/L	12/11/09 11:22	12/11/09 18:11
Date Sampled 12/09/09 10:22				
Client ID: **MW-18-2**				
Lab ID : BMI09121005-04A Perchlorate	6.66	1.00 µg/L	12/11/09 11:22	12/11/09 19:06
Date Sampled 12/09/09 10:50				
Client ID: **MW-18-1**				
Lab ID : BMI09121005-05A Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 19:24
Date Sampled 12/09/09 11:18				
Client ID: **EB-14-12/09/09**				
Lab ID : BMI09121005-06A Perchlorate	ND	1.00 µg/L	12/11/09 11:22	12/11/09 19:43
Date Sampled 12/09/09 11:07				

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/23/09
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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 12/10/09

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-18-5**				
Lab ID : BMI09121005-01A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 17:07
Date Sampled 12/09/09 08:53				
Client ID: **MW-18-4**				
Lab ID : BMI09121005-02A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 17:13
Date Sampled 12/09/09 09:22				
Client ID: **MW-18-3**				
Lab ID : BMI09121005-03A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 16:50
Date Sampled 12/09/09 10:22				
Client ID: **MW-18-2**				
Lab ID : BMI09121005-04A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 17:18
Date Sampled 12/09/09 10:50				
Client ID: **MW-18-1**				
Lab ID : BMI09121005-05A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 17:24
Date Sampled 12/09/09 11:18				
Client ID: **EB-14-12/09/09**				
Lab ID : BMI09121005-06A Chromium (Cr)	ND	0.0050 mg/L	12/11/09 11:33	12/11/09 17:30
Date Sampled 12/09/09 11:07				

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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/23/09
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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : **MW-18-5**					
Lab ID : BMI09121005-01A	Sulfur dioxide	9.1	2.0 µg/L	12/11/09 17:57	12/11/09 17:57
Date Received : 12/10/09					
Date Sampled : 12/09/09 08:53					
Client ID : **MW-18-4**					
Lab ID : BMI09121005-02A	Sulfur dioxide	6.5	2.0 µg/L	12/11/09 18:19	12/11/09 18:19
Date Received : 12/10/09					
Date Sampled : 12/09/09 09:22					
Client ID : **MW-18-3**					
Lab ID : BMI09121005-03A	* * * None Found * * *	ND	2.0 µg/L	12/11/09 18:41	12/11/09 18:41
Date Received : 12/10/09					
Date Sampled : 12/09/09 10:22					
Client ID : **MW-18-2**					
Lab ID : BMI09121005-04A	* * * None Found * * *	ND	2.0 µg/L	12/11/09 19:04	12/11/09 19:04
Date Received : 12/10/09					
Date Sampled : 12/09/09 10:50					
Client ID : **MW-18-1**					
Lab ID : BMI09121005-05A	* * * None Found * * *	ND	2.0 µg/L	12/11/09 19:26	12/11/09 19:26
Date Received : 12/10/09					
Date Sampled : 12/09/09 11:18					
Client ID : **EB-14-12/09/09**					
Lab ID : BMI09121005-06A	2-Methyl-1-propene	2.9	2.0 µg/L	12/11/09 19:48	12/11/09 19:48
Date Received : 12/10/09					
Date Sampled : 12/09/09 11:07					
Client ID : **TB-14-12/09/09**					
Lab ID : BMI09121005-07A	* * * None Found * * *	ND	2.0 µg/L	12/11/09 12:02	12/11/09 12:02
Date Received : 12/10/09					
Date Sampled : 12/09/09 00:00					

Alpha Analytical, Inc.

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

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Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

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12/24/09

Report Date

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: BMI09121005-01A
Client I.D. Number: MW-18-5

Sampled: 12/09/09 08:53
Received: 12/10/09
Extracted: 12/11/09 17:57
Analyzed: 12/11/09 17:57

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	102	(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	101	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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Report Date

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: BMI09121005-02A
Client I.D. Number: MW-18-4

Sampled: 12/09/09 09:22
Received: 12/10/09
Extracted: 12/11/09 18:19
Analyzed: 12/11/09 18:19

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	2.8	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	16	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	1.5	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	102	(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	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/24/09
Report Date

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: BMI09121005-03A
Client I.D. Number: MW-18-3

Sampled: 12/09/09 10:22
Received: 12/10/09
Extracted: 12/11/09 18:41
Analyzed: 12/11/09 18:41

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	1.4	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	4.7	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	0.55	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	104	(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	101	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/24/09
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

Alpha Analytical Number: BMI09121005-04A
Client I.D. Number: MW-18-2

Sampled: 12/09/09 10:50
Received: 12/10/09
Extracted: 12/11/09 19:04
Analyzed: 12/11/09 19:04

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	103	(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	101	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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Report Date

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(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: BMI09121005-05A
Client I.D. Number: MW-18-1

Sampled: 12/09/09 11:18
Received: 12/10/09
Extracted: 12/11/09 19:26
Analyzed: 12/11/09 19:26

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	104	(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	101	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / 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.

12/24/09
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: BMI09121005-06A
Client I.D. Number: EB-14-12/09/09

Sampled: 12/09/09 11:07
Received: 12/10/09
Extracted: 12/11/09 19:48
Analyzed: 12/11/09 19:48

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	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/24/09
Report Date

Alpha Analytical, Inc.

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(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: BMI09121005-07A
Client I.D. Number: TB-14-12/09/09

Sampled: 12/09/09 00:00
Received: 12/10/09
Extracted: 12/11/09 12:02
Analyzed: 12/11/09 12:02

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	101	(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	95	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

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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12/24/09
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: BMI09121005 **Job:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09121005-01A	MW-18-5	Aqueous	2
09121005-02A	MW-18-4	Aqueous	2
09121005-03A	MW-18-3	Aqueous	2
09121005-04A	MW-18-2	Aqueous	2
09121005-05A	MW-18-1	Aqueous	2
09121005-06A	EB-14-12/09/09	Aqueous	2
09121005-07A	TB-14-12/09/09	Aqueous	2

12/24/09

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

Date: *23-Dec-09*

QC Summary Report

Work Order: 09121005

Method Blank

Type: **MBLK** Test Code: **EPA Method 314.0**

File ID: **14** Batch ID: **23231** Analysis Date: **12/11/2009 12:21**

Sample ID: **MB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

Type: **LFB** Test Code: **EPA Method 314.0**

File ID: **15** Batch ID: **23231** Analysis Date: **12/11/2009 12:40**

Sample ID: **LFB-23231** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25		99	85	115			

Sample Matrix Spike

Type: **LFM** Test Code: **EPA Method 314.0**

File ID: **34** Batch ID: **23231** Analysis Date: **12/11/2009 18:29**

Sample ID: **09121005-03ALFM** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	72.6	2	25	42.21	122	80	120			M1

Sample Matrix Spike Duplicate

Type: **LFMD** Test Code: **EPA Method 314.0**

File ID: **35** Batch ID: **23231** Analysis Date: **12/11/2009 18:48**

Sample ID: **09121005-03ALFMD** Units : **µg/L** Run ID: **IC_3_091211A** Prep Date: **12/11/2009 11:22**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	73.4	2	25	42.21	125	80	120	72.65	1.0(15)	M1

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.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

Alpha Analytical, Inc.

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Date: *23-Dec-09*

QC Summary Report

Work Order: 09121005

Method Blank

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

File ID: **121109.B\053SMPL.D** Batch ID: **23232K** Analysis Date: **12/11/2009 16:28**

Sample ID: **MB-23232** Units : **mg/L** Run ID: **ICP/MS_091211D** Prep Date: **12/11/2009 11:33**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

Laboratory Control Spike

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

File ID: **121109.B\054_LCS.D** Batch ID: **23232K** Analysis Date: **12/11/2009 16:34**

Sample ID: **LCS-23232** Units : **mg/L** Run ID: **ICP/MS_091211D** Prep Date: **12/11/2009 11:33**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0469	0.005	0.05		94	80	120			

Sample Matrix Spike

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

File ID: **121109.B\058SMPL.D** Batch ID: **23232K** Analysis Date: **12/11/2009 16:56**

Sample ID: **09121005-03AMS** Units : **mg/L** Run ID: **ICP/MS_091211D** Prep Date: **12/11/2009 11:33**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.045	0.005	0.05	0	90	80	120			

Sample Matrix Spike Duplicate

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

File ID: **121109.B\059SMPL.D** Batch ID: **23232K** Analysis Date: **12/11/2009 17:01**

Sample ID: **09121005-03AMSD** Units : **mg/L** Run ID: **ICP/MS_091211D** Prep Date: **12/11/2009 11:33**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.046	0.005	0.05	0	92	80	120	0.04498	2.2(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.

Alpha Analytical, Inc.

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

Date: *24-Dec-09*

QC Summary Report

Work Order: 09121005

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

File ID: **09121107.D** Batch ID: **MS15W1211M** Analysis Date: **12/11/2009 11:40**

Sample ID: **MBLK MS15W1211M** Units : **µg/L** Run ID: **MSD_15_091211B** Prep Date: **12/11/2009 11:40**

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	10		10		100	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			

Alpha Analytical, Inc.

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

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Date: 24-Dec-09

QC Summary Report

Work Order: 09121005

Surr: 4-Bromofluorobenzene	9.65		10	97	70	130			

Laboratory Control Spike Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **09121105.D** Batch ID: **MS15W1211M** Analysis Date: **12/11/2009 10:55**

Sample ID: **LCS MS15W1211M** Units : **µg/L** Run ID: **MSD_15_091211B** Prep Date: **12/11/2009 10:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.37	1	10		84	70	130			
Chloromethane	7.63	2	10		76	70	130			
Vinyl chloride	8.58	1	10		86	70	130			
Chloroethane	9.93	1	10		99	70	130			
Bromomethane	11.7	2	10		117	70	130			
Trichlorofluoromethane	10.4	1	10		104	70	130			
1,1-Dichloroethene	11.4	1	10		114	70	130			
Dichloromethane	10.2	2	10		102	70	130			
trans-1,2-Dichloroethene	11.2	1	10		112	70	130			
Methyl tert-butyl ether (MTBE)	11	0.5	10		110	70	130			
1,1-Dichloroethane	10.8	1	10		108	70	130			
cis-1,2-Dichloroethene	11.2	1	10		112	70	130			
Bromochloromethane	11.1	1	10		111	70	130			
Chloroform	11.1	1	10		111	70	130			
2,2-Dichloropropane	12.2	1	10		122	70	130			
1,2-Dichloroethane	10.6	1	10		106	70	130			
1,1,1-Trichloroethane	11.5	1	10		115	70	130			
1,1-Dichloropropene	11.4	1	10		114	70	130			
Carbon tetrachloride	11.8	1	10		118	70	130			
Benzene	10.9	0.5	10		109	70	130			
Dibromomethane	10.7	1	10		107	70	130			
1,2-Dichloropropane	11.1	1	10		111	70	130			
Trichloroethene	11.1	1	10		111	70	130			
Bromodichloromethane	11	1	10		110	70	130			
cis-1,3-Dichloropropene	10.9	1	10		109	70	130			
trans-1,3-Dichloropropene	9.75	1	10		98	70	130			
1,1,2-Trichloroethane	10.1	1	10		101	70	130			
Toluene	10.7	0.5	10		107	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
Dibromochloromethane	10.1	1	10		101	70	130			
1,2-Dibromoethane (EDB)	21.6	2	20		108	70	130			
Tetrachloroethene	11.6	1	10		116	70	130			
1,1,1,2-Tetrachloroethane	10.9	1	10		109	70	130			
Chlorobenzene	10.4	1	10		104	70	130			
Ethylbenzene	10.6	0.5	10		106	70	130			
m,p-Xylene	10.6	0.5	10		106	70	130			
Bromoform	9.04	1	10		90	70	130			
Styrene	11.5	1	10		115	70	130			
o-Xylene	10.8	0.5	10		108	70	130			
1,1,2,2-Tetrachloroethane	9.62	1	10		96	70	130			
1,2,3-Trichloropropane	19.7	2	20		99	70	130			
Isopropylbenzene	10.7	1	10		107	70	130			
Bromobenzene	10.3	1	10		103	70	130			
n-Propylbenzene	10.7	1	10		107	70	130			
4-Chlorotoluene	10.8	1	10		108	70	130			
2-Chlorotoluene	10.6	1	10		106	70	130			
1,3,5-Trimethylbenzene	10.7	1	10		107	70	130			
tert-Butylbenzene	10.5	1	10		105	70	130			
1,2,4-Trimethylbenzene	10.7	1	10		107	70	130			
sec-Butylbenzene	10.6	1	10		106	70	130			
1,3-Dichlorobenzene	10.7	1	10		107	70	130			
1,4-Dichlorobenzene	9.96	1	10		99.6	70	130			
4-Isopropyltoluene	10.7	1	10		107	70	130			
1,2-Dichlorobenzene	10	1	10		100	70	130			
n-Butylbenzene	11.4	1	10		114	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	49.1	3	50		98	70	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	10	2	10		100	70	130			
Hexachlorobutadiene	21.3	2	20		106	70	130			
1,2,3-Trichlorobenzene	10.4	2	10		104	70	130			
Surr: 1,2-Dichloroethane-d4	9.99		10		99.9	70	130			
Surr: Toluene-d8	9.97		10		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10		97	70	130			

Alpha Analytical, Inc.

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Date: 24-Dec-09

QC Summary Report

Work Order: 09121005

Sample Matrix Spike Type **MS** Test Code: **EPA Method SW8260B**

File ID: **09121109.D** Batch ID: **MS15W1211M** Analysis Date: **12/11/2009 12:24**

Sample ID: **09121005-03AMS** Units : **µg/L** Run ID: **MSD_15_091211B** Prep Date: **12/11/2009 12:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	41.1	2.5	50	0	82	13	167			
Chloromethane	38.5	10	50	0	77	28	145			
Vinyl chloride	42.5	2.5	50	0	85	43	134			
Chloroethane	44.1	2.5	50	0	88	39	154			
Bromomethane	49.4	10	50	0	99	19	176			
Trichlorofluoromethane	46.5	2.5	50	0	93	34	160			
1,1-Dichloroethene	52.6	2.5	50	0	105	60	130			
Dichloromethane	48.5	10	50	0	97	68	130			
trans-1,2-Dichloroethene	52	2.5	50	0	104	63	130			
Methyl tert-butyl ether (MTBE)	52	1.3	50	0	104	56	141			
1,1-Dichloroethane	50.2	2.5	50	0	100	61	130			
cis-1,2-Dichloroethene	52.9	2.5	50	0	106	70	130			
Bromochloromethane	51.6	2.5	50	0	103	70	130			
Chloroform	53.1	2.5	50	1.44	103	67	130			
2,2-Dichloropropane	56	2.5	50	0	112	30	152			
1,2-Dichloroethane	50.4	2.5	50	0	101	60	135			
1,1,1-Trichloroethane	52.9	2.5	50	0	106	59	137			
1,1-Dichloropropene	52.7	2.5	50	0	105	63	130			
Carbon tetrachloride	59	2.5	50	4.73	109	50	147			
Benzene	50.7	1.3	50	0	101	67	130			
Dibromomethane	49.7	2.5	50	0	99	69	133			
1,2-Dichloropropane	52.3	2.5	50	0	105	69	130			
Trichloroethene	51.3	2.5	50	0.55	101	69	130			
Bromodichloromethane	51.3	2.5	50	0	103	66	134			
cis-1,3-Dichloropropene	49.1	2.5	50	0	98	63	130			
trans-1,3-Dichloropropene	45.2	2.5	50	0	90	66	131			
1,1,2-Trichloroethane	48	2.5	50	0	96	68	130			
Toluene	48	1.3	50	0	96	66	130			
1,3-Dichloropropane	49.5	2.5	50	0	99	70	130			
Dibromochloromethane	46.3	2.5	50	0	93	70	130			
1,2-Dibromoethane (EDB)	98	5	100	0	98	70	130			
Tetrachloroethene	52.1	2.5	50	0	104	61	134			
1,1,1,2-Tetrachloroethane	49.8	2.5	50	0	99.7	70	130			
Chlorobenzene	47.7	2.5	50	0	95	70	130			
Ethylbenzene	48.1	1.3	50	0	96	68	130			
m,p-Xylene	47.9	1.3	50	0	96	64	130			
Bromoform	40.6	2.5	50	0	81	64	138			
Styrene	51.7	2.5	50	0	103	69	130			
o-Xylene	48.4	1.3	50	0	97	70	130			
1,1,2,2-Tetrachloroethane	44.5	2.5	50	0	89	65	131			
1,2,3-Trichloropropane	91.6	10	100	0	92	70	130			
Isopropylbenzene	48.7	2.5	50	0	97	64	138			
Bromobenzene	47.9	2.5	50	0	96	70	130			
n-Propylbenzene	48.6	2.5	50	0	97	66	132			
4-Chlorotoluene	49.4	2.5	50	0	99	70	130			
2-Chlorotoluene	48.7	2.5	50	0	97	70	130			
1,3,5-Trimethylbenzene	48.6	2.5	50	0	97	66	136			
tert-Butylbenzene	46.9	2.5	50	0	94	65	137			
1,2,4-Trimethylbenzene	48.3	2.5	50	0	97	65	137			
sec-Butylbenzene	47.5	2.5	50	0	95	66	134			
1,3-Dichlorobenzene	48.4	2.5	50	0	97	70	130			
1,4-Dichlorobenzene	45	2.5	50	0	90	70	130			
4-Isopropyltoluene	48.1	2.5	50	0	96	66	137			
1,2-Dichlorobenzene	45.7	2.5	50	0	91	70	130			
n-Butylbenzene	50.2	2.5	50	0	100	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	220	15	250	0	88	67	130			
1,2,4-Trichlorobenzene	47.5	10	50	0	95	61	137			
Naphthalene	44.4	10	50	0	89	40	167			
Hexachlorobutadiene	89.2	10	100	0	89	61	130			
1,2,3-Trichlorobenzene	44.5	10	50	0	89	51	144			
Surr: 1,2-Dichloroethane-d4	49.4		50		99	70	130			
Surr: Toluene-d8	48.8		50		98	70	130			
Surr: 4-Bromofluorobenzene	48.5		50		97	70	130			

Alpha Analytical, Inc.

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Date: 24-Dec-09

QC Summary Report

Work Order: 09121005

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **09121110.D** Batch ID: **MS15W1211M** Analysis Date: **12/11/2009 12:46**

Sample ID: **09121005-03AMSD** Units : **µg/L** Run ID: **MSD_15_091211B** Prep Date: **12/11/2009 12:46**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45.1	2.5	50	0	90	13	167	41.11	9.2(20)	
Chloromethane	40.5	10	50	0	81	28	145	38.45	5.2(20)	
Vinyl chloride	44.3	2.5	50	0	89	43	134	42.49	4.3(20)	
Chloroethane	47.7	2.5	50	0	95	39	154	44.06	7.8(20)	
Bromomethane	55.9	10	50	0	112	19	176	49.4	12.4(20)	
Trichlorofluoromethane	51.3	2.5	50	0	103	34	160	46.52	9.8(20)	
1,1-Dichloroethene	53.6	2.5	50	0	107	60	130	52.6	1.9(20)	
Dichloromethane	48.6	10	50	0	97	68	130	48.53	0.1(20)	
trans-1,2-Dichloroethene	53.4	2.5	50	0	107	63	130	51.98	2.7(20)	
Methyl tert-butyl ether (MTBE)	51.5	1.3	50	0	103	56	141	51.95	0.9(20)	
1,1-Dichloroethane	51.4	2.5	50	0	103	61	130	50.18	2.4(20)	
cis-1,2-Dichloroethene	53.7	2.5	50	0	107	70	130	52.86	1.5(20)	
Bromochloromethane	51.8	2.5	50	0	104	70	130	51.6	0.5(20)	
Chloroform	53.9	2.5	50	1.44	105	67	130	53.05	1.6(20)	
2,2-Dichloropropane	57.4	2.5	50	0	115	30	152	55.96	2.5(20)	
1,2-Dichloroethane	50.1	2.5	50	0	100	60	135	50.38	0.5(20)	
1,1,1-Trichloroethane	54.1	2.5	50	0	108	59	137	52.88	2.2(20)	
1,1-Dichloropropene	53	2.5	50	0	106	63	130	52.66	0.7(20)	
Carbon tetrachloride	61.3	2.5	50	4.73	113	50	147	59.04	3.8(20)	
Benzene	51.5	1.3	50	0	103	67	130	50.71	1.5(20)	
Dibromomethane	49.7	2.5	50	0	99	69	133	49.73	0.2(20)	
1,2-Dichloropropane	53	2.5	50	0	106	69	130	52.26	1.4(20)	
Trichloroethene	51.7	2.5	50	0.55	102	69	130	51.28	0.8(20)	
Bromodichloromethane	53	2.5	50	0	106	66	134	51.26	3.3(20)	
cis-1,3-Dichloropropene	50	2.5	50	0	99.9	63	130	49.11	1.7(20)	
trans-1,3-Dichloropropene	45.3	2.5	50	0	91	66	131	45.19	0.2(20)	
1,1,2-Trichloroethane	47.6	2.5	50	0	95	68	130	47.95	0.7(20)	
Toluene	48.5	1.3	50	0	97	66	130	48.04	1.0(20)	
1,3-Dichloropropane	49.4	2.5	50	0	99	70	130	49.49	0.3(20)	
Dibromochloromethane	46	2.5	50	0	92	70	130	46.32	0.7(20)	
1,2-Dibromoethane (EDB)	99.2	5	100	0	99	70	130	98.02	1.2(20)	
Tetrachloroethene	53	2.5	50	0	106	61	134	52.06	1.8(20)	
1,1,1,2-Tetrachloroethane	51	2.5	50	0	102	70	130	49.84	2.3(20)	
Chlorobenzene	49.1	2.5	50	0	98	70	130	47.68	2.9(20)	
Ethylbenzene	49.5	1.3	50	0	99	68	130	48.12	2.8(20)	
m,p-Xylene	49.4	1.3	50	0	99	64	130	47.91	3.1(20)	
Bromoform	41.7	2.5	50	0	83	64	138	40.62	2.7(20)	
Styrene	52.7	2.5	50	0	105	69	130	51.7	1.8(20)	
o-Xylene	50.4	1.3	50	0	101	70	130	48.38	4.1(20)	
1,1,2,2-Tetrachloroethane	43.9	2.5	50	0	88	65	131	44.52	1.3(20)	
1,2,3-Trichloropropane	91.4	10	100	0	91	70	130	91.56	0.2(20)	
Isopropylbenzene	51.9	2.5	50	0	104	64	138	48.7	6.4(20)	
Bromobenzene	50.1	2.5	50	0	100	70	130	47.89	4.5(20)	
n-Propylbenzene	51.3	2.5	50	0	103	66	132	48.57	5.5(20)	
4-Chlorotoluene	51.8	2.5	50	0	104	70	130	49.42	4.7(20)	
2-Chlorotoluene	50.7	2.5	50	0	101	70	130	48.74	4.0(20)	
1,3,5-Trimethylbenzene	50.8	2.5	50	0	102	66	136	48.61	4.5(20)	
tert-Butylbenzene	49.1	2.5	50	0	98	65	137	46.91	4.6(20)	
1,2,4-Trimethylbenzene	50.8	2.5	50	0	102	65	137	48.26	5.1(20)	
sec-Butylbenzene	50.2	2.5	50	0	100	66	134	47.53	5.5(20)	
1,3-Dichlorobenzene	50.3	2.5	50	0	101	70	130	48.43	3.9(20)	
1,4-Dichlorobenzene	47.2	2.5	50	0	94	70	130	45	4.8(20)	
4-Isopropyltoluene	50.5	2.5	50	0	101	66	137	48.13	4.9(20)	
1,2-Dichlorobenzene	47.5	2.5	50	0	95	70	130	45.74	3.8(20)	
n-Butylbenzene	52.1	2.5	50	0	104	60	142	50.17	3.7(20)	
1,2-Dibromo-3-chloropropane (DBCP)	228	15	250	0	91	67	130	220.2	3.5(20)	
1,2,4-Trichlorobenzene	49.7	10	50	0	99	61	137	47.53	4.5(20)	
Naphthalene	47.3	10	50	0	95	40	167	44.43	6.2(20)	
Hexachlorobutadiene	94.8	10	100	0	95	61	130	89.16	6.1(20)	
1,2,3-Trichlorobenzene	47.6	10	50	0	95	51	144	44.51	6.7(20)	
Surr: 1,2-Dichloroethane-d4	49.7		50		99	70	130			
Surr: Toluene-d8	48.2		50		96	70	130			
Surr: 4-Bromofluorobenzene	49.1		50		98	70	130			

Alpha Analytical, Inc.

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Date: *24-Dec-09*

QC Summary Report

Work Order: 09121005

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.

Billing Information :

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 : BMIS09121005

Report Due By : 5:00 PM On : 24-Dec-2009

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

Report Attention	Phone Number	EMail 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 : Client

PO : 218013

Client's COC # : 26623 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	10-Dec-2009	**10-Dec-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 314_W	METALS_DW	VOC_TIC_W	VOC_W					Sample Remarks
BMI09121005-01A	MW-18-5	AQ	12/09/09 08:53	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09121005-02A	MW-18-4	AQ	12/09/09 09:22	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09121005-03A	MW-18-3	AQ	12/09/09 10:22	10	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					MS/MSD
BMI09121005-04A	MW-18-2	AQ	12/09/09 10:50	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09121005-05A	MW-18-1	AQ	12/09/09 11:18	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					Level IV QC
BMI09121005-06A	EB-14-12/09/09	AQ	12/09/09 11:07	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI09121005-07A	TB-14-12/09/09	AQ	12/09/09 00:00	1	0	10			VOC by 524 Criteria	VOC by 524 Criteria					Reno Trip Blank 8/25/09

Comments: No security seals. Frozen ice. Temp Blank #7848 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
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	12-10-09 1144

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 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? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

26623

Page # 1 of 1

Client Name: BATTELLE / DAVID CONNER
Address: 3990 OLD TOWN AVE, C-205
City, State, Zip: SAN DIEGO CA 92110
P.O. # 218013
Job # 60058G2
EMail Address
Phone # (619) 726-7311
Fax #

Analyses Required

Required QC Level? I II III IV

EDD / EDF? YES ___ NO ___

Global ID # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOA (624.2)	TOTAL cr (200.8)	CLO4 (314.0)	Cl, SO4, NO3, NO2 PO4-3 (300.0)	REMARKS
0853	12/09/09	AQ	BMI0912I005-01	MW-18-5	NORM		V/P 5	X	X	X		
0922			-02	MW-18-4			V/P 5	X	X	X		
1022			-03	MW-18-3			V/P 10	X	X	X		MS/MSD
1050			-04	MW-18-2			V/P 5	X	X	X		
1118			-05	MW-18-1			V/P 5	X	X	X		LEVEL IV QC
1107	12/09/09		-06	EB-14-12/09/09			V/P 5	X	X	X		EQUIPMENT BLANK
—	12/09/09		-07	TB-14-12/09/09			V1	X				TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BROOKS	BATTELLE	12/09/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	12-10-09	1144
Relinquished by					
Received by					
Relinquished by					
Received by					

*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.

CAS SR #P0903920

Table of Contents

Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

LABORATORY REPORT

November 17, 2009

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

RE: JPL GW Mon 4Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on November 13, 2009. For your reference, these analyses have been assigned our service request number P0903920.

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 26 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 4Q09 / G486090

CAS Project No: P0903920

CASE NARRATIVE

The samples were received intact under chain of custody on November 13, 2009 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 Cheromium by EPA 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.

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0903920-001	MW-21-5	11/13/09	08:26
P0903920-002	MW-21-4	11/13/09	08:54
P0903920-003	MW-21-3	11/13/09	09:21
P0903920-004	MW-21-2	11/13/09	09:47
P0903920-005	MW-21-1	11/13/09	10:33
P0903920-006	EB-01-11/13/09	11/13/09	10:21

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 *tert*-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	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, 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.

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

Page 1 of 1

Columbia Analytical Services INC.
An Employee - Owned Company

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. P903920

CAS Contact:

Company Name & Address (Reporting Information)	Project Name
BATTELLE 3990 OLD TOWN AVE. C-205 SAN DIEGO CA 92110	JPL GW MON 4Q09
Project Manager	**Project Number**
DAVID CONNER	G48690
Phone / **Fax**	**P.O. # / Billing Information**
(619) 726-7311	214319 / BATTELLE ATTN: GERHARD TOMPKINS 505 KING AVE. COLUMBUS OH 43201
Email Address for Result Reporting	**Sampler (Print & Sign)**

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted)	TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0	Cr VI (7196)	Remarks
MW-21-5	1	11/13/09	0826	W	1							X		
MW-21-4	2		0854		1							X		
MW-21-3	3		0921		1							X		
MW-21-2	4		0947		1							X		
MW-21-1	5		1033		2							X		MS/MSD
EB-01-11/13/09	6	11/13/09	1021		1							X		EQUIPMENT BLANK

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

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:	Time:	Received by: (Signature)	Date:	Time:
[signature]	11/13/09	1200	[signature]	11/13/09	12:00
[signature]	11/13/09	1240	[signature]	11/13/09	1245
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank / Ice / No Ice

Temperature 3.0C °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 4Q09/G486090

Service Request: P0903920

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0903920-001.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-002.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-003.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-004.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-005.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-005.02					
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	
P0903920-006.01					
	7196A				
		11/13/09	1305	SMO / MZAMORA	
		11/13/09	1305	P-37 / MZAMORA	
		11/13/09	1344	In Lab / SANDERSON	
		11/16/09	0825	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0903920

Project: JPL GW Mon 4Q09 / G486090

Sample(s) received on: 11/13/09 Date opened: 11/13/09 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?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature 3 °C Blank Temperature _____ °C			
10	Was a **trip blank** received?	☐	☐	☒
	Trip blank supplied by CAS: _____			
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?	☐	☐	☒
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 if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903920-001.01	125mL Plastic NP					
P0903920-002.01	125mL Plastic NP					
P0903920-003.01	125mL Plastic NP					
P0903920-004.01	125mL Plastic NP					
P0903920-005.01	125mL Plastic NP					
P0903920-005.02	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) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0903920

Project: JPL GW Mon 4Q09 / G486090

Sample(s) received on: 11/13/09 Date opened: 11/13/09 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903920-006.01	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);
Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) 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 4Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0903920
Date Collected : 11/13/09
Date Received : 11/13/09

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	P0903920-001	0.010	0.003	1	NA	11/13/09 15:00	ND	
MW-21-4	P0903920-002	0.010	0.003	1	NA	11/13/09 15:00	ND	
MW-21-3	P0903920-003	0.010	0.003	1	NA	11/13/09 15:00	ND	
MW-21-2	P0903920-004	0.010	0.003	1	NA	11/13/09 15:00	ND	
MW-21-1	P0903920-005	0.010	0.003	1	NA	11/13/09 15:00	ND	
EB-01-11/13/09	P0903920-006	0.010	0.003	1	NA	11/13/09 15:00	ND	
Method Blank	P0903920-MB	0.010	0.003	1	NA	11/13/09 15:00	ND	

Approved By Karen Ryan Date : 11/16/09

Report By:SAnderson

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 4Q09 / G486090

Service Request: P0903920
Date Analyzed: 11/13/09

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: Karen Rya Date: 11/16/09

ICCBMDL120594

11

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 4Q09 / G486090

Service Request: P0903920
Date Analyzed: 11/13/09

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	0.0559	97	90-110
CCV1	0.0579	0.0559	97	90-110
CCV2	0.0579	0.0559	97	90-110

Approved By: Karen Rya Date: 11/16/09

CCV1A/120594

QA/QC Report

Client :	Battelle	**Service Request :**	P0903920
Project Name :	JPL GW Mon 4Q09	**Date Collected :**	NA
Project Number :	G486090	**Date Received :**	NA
Sample Matrix :	WATER	**Date Extracted :**	NA
		Date Analyzed :	11/13/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L (ppm)
Lab Code :	P0903920-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	None	7196A	0.0400	0.0415	104	86-114	

Approved By Karen Ryan Date : 11/16/09

Report By:SAnderson

QA/QC Report

Client :	Battelle	**Service Request :**	P0903920
Project Name :	JPL GW Mon 4Q09	**Date Collected :**	11/13/09
Project Number :	G486090	**Date Received :**	11/13/09
Sample Matrix :	WATER	**Date Extracted :**	NA
		Date Analyzed :	11/13/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : MW-21-1 Units : mg/L (ppm)
Lab Code : P0903920-005MS P0903920-005DMS Basis : NA
Test Notes :

Analyte	Prep Method	Analysis Method	PQL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Chromium, Hexavalent	None	7196A	0.010	0.0500	0.0500	ND	0.0477	0.0477	95	95	80-120	<1	

Approved By Karen Ryan Date : 11/16/09

Report By:SAnderson

CAS SR #P0903941

Table of Contents

LABORATORY REPORT

November 17, 2009

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

RE: JPL GW Mon 4Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on November 16, 2009. For your reference, these analyses have been assigned our service request number P0903941.

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 26 pages.

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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 4Q09 / G486090

CAS Project No: P0903941

CASE NARRATIVE

The samples were received intact under chain of custody on November 16, 2009 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 Cheromium by EPA 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.

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0903941-001	MW-19-5	11/16/09	09:00
P0903941-002	MW-19-4	11/16/09	09:24
P0903941-003	MW-19-3	11/16/09	10:01
P0903941-004	MW-19-2	11/16/09	10:24
P0903941-005	MW-19-1	11/16/09	10:48
P0903941-006	EB-02-11/16/09	11/16/09	10:40

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 *tert*-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	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* 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.

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

Page 1 of 1

Columbia Analytical Services INC.
An Employee - Owned Company

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.: P091039411

CAS Contact:

Company Name & Address (Reporting Information)	Project Name
BATTELLE 3990 OLD TOWN AVE., C-205 SAN DIEGO CA 92110	JRL GW MON 4Q09
Project Number	64860 90
Project Manager	DAVID CONNER
P.O. # / Billing Information	214319 / BATTELLE ATTN: GERALD TOMPKINS 505 KING AVE. COLUMBUS OH 43201
Phone	(614) 726-7311
Fax	
Email Address for Result Reporting	
Sampler (Print & Sign)	

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted) TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0	Cr III (7199)	Remarks
MW-19-5	1	11/16/09	0900	W	1						X		
MW-19-4	2		0924								X		
MW-19-3	3		1001								X		
MW-19-2	4		1024								X		
MW-19-1	5		1046								X		LEVEL ~~III~~ IV QC
EB-02-11/16/09	E		1040								X		EQUIPMENT BLANK

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

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:	Time:	Received by: (Signature)	Date:	Time:
	11/16/09	1400		11/16/09	1400
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11/16/09	1902		11/16/09	1940
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11/16/09	2150		11/16/09	1450

Cooler / Blank / Ice / No Ice

Temperature 3 °C ____ °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 4Q09/G486090

Service Request: P0903941

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0903941-001.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	
P0903941-002.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	
P0903941-003.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	
P0903941-004.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	
P0903941-005.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	
P0903941-006.01					
	7196A				
		11/16/09	1503	SMO / MZAMORA	
		11/16/09	1503	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0903941

Project: JPL GW Mon 4Q09 / G486090

Sample(s) received on: 11/16/09 Date opened: 11/16/09 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?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☐	☒
	Trip blank supplied by CAS: _____			
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?	☐	☐	☒
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 if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903941-001.01	125mL Plastic NP					
P0903941-002.01	125mL Plastic NP					
P0903941-003.01	125mL Plastic NP					
P0903941-004.01	125mL Plastic NP					
P0903941-005.01	125mL Plastic NP					
P0903941-006.01	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); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12); 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 4Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0903941
Date Collected : 11/16/09
Date Received : 11/16/09

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-19-5	P0903941-001	0.010	0.003	1	NA	11/16/09 16:50	ND	
MW-19-4	P0903941-002	0.010	0.003	1	NA	11/16/09 16:50	ND	
MW-19-3	P0903941-003	0.010	0.003	1	NA	11/16/09 16:50	ND	
MW-19-2	P0903941-004	0.010	0.003	1	NA	11/16/09 16:50	ND	
MW-19-1	P0903941-005	0.010	0.003	1	NA	11/16/09 16:50	ND	
EB-02-11/16/09	P0903941-006	0.010	0.003	1	NA	11/16/09 16:50	ND	
Method Blank	P0903941-MB	0.010	0.003	1	NA	11/16/09 16:50	ND	

Approved By Karen Ryan Date : 11/17/09

Report By:SAnderson

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 4Q09 / G486090

Service Request: P0903941
Date Analyzed: 11/16/09

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: Karen Rya Date: 11/17/09

ICCBMDL 120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL GW Mon 4Q09 / G486090

Service Request: P0903941
Date Analyzed: 11/16/09

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	0.0590	102	90-110
CCV1	0.0579	0.0580	100	90-110
CCV2	0.0579	0.0580	100	90-110

Approved By: Karen Rya Date: 11/17/09

CCV1A-120504

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle	**Service Request :**	P0903941
Project Name :	JPL GW Mon 4Q09	**Date Collected :**	NA
Project Number :	G486090	**Date Received :**	NA
Sample Matrix :	WATER	**Date Extracted :**	NA
		Date Analyzed :	11/16/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L (ppm)
Lab Code :	P0903941-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chromium, Hexavalent	None	7196A	0.0400	0.0400	100	86-114	

Approved By Karen Ryan Date : 11/17/09

Report By:SAnderson

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle
Project Name : JPL GW Mon 4Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0903941
Date Collected : 11/16/09
Date Received : 11/16/09
Date Extracted : NA
Date Analyzed : 11/16/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : MW-19-5
Lab Code : P0903941-001MS P0903941-001DMS
Test Notes :

Units : mg/L (ppm)
Basis : NA

Analyte	Prep Method	Analysis Method	PQL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Chromium, Hexavalent	None	7196A	0.010	0.0500	0.0500	ND	0.0506	0.0506	101	101	80-120	<1	

Approved By Karen Ryan Date : 11/17/09

Report By:SAnderson

Columbia Analytical Services
2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

CAS SR #P0903942

Table of Contents

Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805 526 7161 | 805 526 7270 fax | www.caslab.com

LABORATORY REPORT

November 17, 2009

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

RE: JPL-GW-4Q09

Dear David:

Enclosed are the results of the sample submitted to our laboratory on November 16, 2009. For your reference, this analysis has been assigned our service request number P0903942.

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 26 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-4Q09

CAS Project No: P0903942

CASE NARRATIVE

The sample was received intact under chain of custody on November 16, 2009 and was 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 sample at the time of sample receipt.

Hexavalent Chromium by EPA 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.

Client: Battelle
Project: JPL-GW-4Q09

Service Request: P0903942

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0903942-001	MW-15	11/16/09	09:05

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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 *tert* -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	*Standard Methods for the Examination of Water and Wastewater,* 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* 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.

P0903942

Billing Information:
Name Gerald Tompkins
Address 505 King Avenue
City, State, Zip Columbus, OH 43201
Phone Number 614-424-4849 Fax 614-424-3667

LABORATORY

Name Columbia Analytical
Address 2655 Park Center Drive
Suite A, Simi Valley, CA 93065
Phone 805 526-7161

Page # ________ of ________

Client Name	Battelle Memorial Institute	P.O. # 214375	D.O. ITL-GW-4Q09
Address	505 King Avenue	PWS #: email: conner d @	DWR #: battelle.org
City, State, Zip	Columbus, OH 43201	Phone # ~~318 393-2808~~	Fax # 614 458-6641

Sampled by GH/DB
Report Attention: DAVID CONNER

DATA REPORT
NEDTS FORMAT ☐
EDD EDF FORMAT ☒

Analyses Required

Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only Lab ID Number	Sample Description	Total and type of containers **See below	TPH/E	TPH/P	NO_2, NO_3, SO_4	Pb, Mn^{+2}, Fe^{+2}	TDS, AIK	TOC	VOC* see below	Other: Cr VI	Other: (7196)	REMARKS
0905	16NOV	AQ		MW-15	1								X		
															3°C

ADDITIONAL INSTRUCTIONS: Specific VOC Requirements (please specify)

D. CONNER PHONE # 619-726-7311 QC Level III

Signature	Print Name	Company	Date	Time
Relinquished by [signature]	GREG HEADINGTON	BATTELLE	16NOV09	1300
Received by [signature]	MARCO MENDOZA	INSIGHT EEC	11/16/09	1312
Relinquished by [signature]	MARCO MENDOZA	INSIGHT EEC	11/16/09	1402
Received by [signature]	Erica Cerca	CAS	11/16/09	14:02
Relinquished by [signature]	Erica Cerca	CAS	11/16/09	14:50
Received by				

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

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL-GW-4Q09

Service Request: P0903942

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0903942-001.01					
	7196A				
		11/16/09	1509	SMO / MZAMORA	
		11/16/09	1510	P-37 / MZAMORA	
		11/16/09	1540	In Lab / SANDERSON	
		11/16/09	1725	P-37 / SANDERSON	

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Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0903942

Project: JPL-GW-4Q09

Sample(s) received on: 11/16/09 Date opened: 11/16/09 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?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☐	☒
	Trip blank supplied by CAS: _____			
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?	☐	☐	☒
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 if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903942-001.01	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) 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-4Q09
Project Number : NA
Sample Matrix : WATER

Service Request : P0903942
Date Collected : 11/16/09
Date Received : 11/16/09

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-15	P0903942-001	0.010	0.003	1	NA	11/16/09 16:50	ND	
Method Blank	P0903942-MB	0.010	0.003	1	NA	11/16/09 16:50	ND	

Approved By Karen Ryan Date : 11/17/09

Report By:SAnderson

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle
Project: JPL-GW-4Q09

Service Request: P0903942
Date Analyzed: 11/16/09

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: Karen Ryan Date: 11/17/09

ICCBMDL 120594