ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

This attachment contains the laboratory analytical reports prepared by Alpha Analytical Inc. of Sparks, Nevada and Columbia Analytical Services (CAS) of Simi Valley, California.



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

Date: 28-Oct-10 David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102003

Cooler Temp:

 $0^{\circ}C$

Alpha's Sample ID	Client's Sample ID	Matrix
10102003-01A	MW-7	Aqueous
10102003-02A	MW-16	Aqueous
10102003-03A	MW-13	Aqueous
10102003-04A	Trip Blank	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulner

Walter Finhour



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

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/20/10

Job:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0

	Parameter	Concentration	Reporting	Date	Date
			Limit	Extracted	Analyzed
Client ID: MW-7					
Lab ID: BMI10102003-01A	Chloride	150	50 mg/L	10/20/10 10:22	10/20/10 13:55
Date Sampled 10/19/10 11:08	Nitrite (NO2) - N	ND	0.25 mg/L	10/20/10 10:22	10/20/10 13:55
•	Nitrate (NO3) - N	2.7	0.25 mg/L	10/20/10 10:22	10/20/10 13:55
	Phosphate, ortho - P	ND	0.50 mg/L	10/20/10 10:22	10/20/10 13:55
	Sulfate (SO4)	110	75 mg/L	10/20/10 10:22	10/20/10 13:55
Client ID: MW-16					
Lab ID: BMI10102003-02A	Chloride	170	50 mg/L	10/20/10 10:22	10/20/10 14:14
Date Sampled 10/19/10 13:45	Nitrite (NO2) - N	ND	0.25 mg/L	10/20/10 10:22	10/20/10 14:14
	Nitrate (NO3) - N	2.0	0.25 mg/L	10/20/10 10:22	10/20/10 14:14
	Phosphate, ortho - P	ND	0.50 mg/L	10/20/10 10:22	10/20/10 14:14
	Sulfate (SO4)	110	75 mg/L	10/20/10 10:22	10/20/10 14:14
Client ID: MW-13					
Lab ID: BMI10102003-03A	Chloride	55	50 mg/L	10/20/10 10:22	10/20/10 14:32
Date Sampled 10/19/10 16:42	Nitrite (NO2) - N	ND	0.25 mg/L	10/20/10 10:22	10/20/10 14:32
	Nitrate (NO3) - N	5.9	0.25 mg/L	10/20/10 10:22	10/20/10 14:32
	Phosphate, ortho - P	ND	0.50 mg/L	10/20/10 10:22	10/20/10 14:32
	Sulfate (SO4)	56	0.50 mg/L	10/20/10 10:22	10/20/10 14:32

ND = Not Detected

Roger L. Scholl. Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/20/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-7 Lab ID: BMI10102003-01A Date Sampled 10/19/10 11:08	Perchlorate	9.68	1.00 μg/L	10/27/10 12:35	10/27/10 14:27
Client ID: MW-16 Lab ID: BMI10102003-02A Date Sampled 10/19/10 13:45	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 14:45
Client ID: MW-13 Lab ID: BMI10102003-03A Date Sampled 10/19/10 16:42	Perchlorate	823	50.0 μg/L	10/27/10 12:35	10/28/10 11:54

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/20/10

Job:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-7 Lab ID: BMI10102003-01A Date Sampled 10/19/10 11:08	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 17:37
Client ID: MW-16 Lab ID: BMI10102003-02A Date Sampled 10/19/10 13:45	Chromium (Cr)	0.032	0.0050 mg/L	10/26/10 09:21	10/27/10 17:42
Client ID: MW-13 Lab ID: BMI10102003-03A Date Sampled 10/19/10 16:42	Chromium (Cr)	0.0081	0.0050 mg/L	10/26/10 09:21	10/27/10 17:06

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Attn: David Conner Phone: (619) 726-7311 Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring Job:

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID: MW-7 Lab ID: BMI10102003-01A Date Received: 10/20/10 Date Sampled: 10/19/10 11:08	*** None Found ***	ND	2.0 μg/L	10/27/10 15:05	10/27/10 15:05
Client ID: MW-16 Lab ID: BMI10102003-02A Date Received: 10/20/10 Date Sampled: 10/19/10 13:45	*** None Found ***	ND	2.0 μg/L	10/27/10 15:26	10/27/10 15:26
Client ID: MW-13 Lab ID: BM110102003-03A Date Received: 10/20/10 Date Sampled: 10/19/10 16:42	*** None Found ***	ND	2.0 μg/L	10/27/10 15:48	10/27/10 15:48
Client ID: Trip Blank Lab ID: BMI10102003-04A Date Received: 10/20/10 Date Sampled: 10/19/10 00:00	* * * None Found * * *	ND	2.0 μg/L	10/27/10 18:42	10/27/10 18:42

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102003-01A

Client I.D. Number: MW-7

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/19/10 11:08

Received: 10/20/10

Extracted: 10/27/10 15:05 Analyzed: 10/27/10 15:05

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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	Isopropyibenzene	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	5.7	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-chioropropane (DBCI	P) ND		2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	4.5	0.50	μg/L	61	Naphthalene	ND	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

2.0

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

Walter Hinkon

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

µg/L

μg/L

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11/1/10 Report Date



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 655 West Broadway

Client I.D. Number: MW-16

San Diego, CA 92101 Job:

G005862/JPL Groundwater Monitoring

Attn:

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10102003-02A

Sampled: 10/19/10 13:45

Received: 10/20/10

Extracted: 10/27/10 15:26 Analyzed: 10/27/10 15:26

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Reporting Limit		Compound	Concentration I		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	3.3		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	17	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 (DBC)	P) ND		2.5	μg/L	
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L	
26	Bromodichloromethane	20	0.50	μg/L	61	Naphthalene	ND	Q	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	104		(70-130)	%REC	
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%REC	
32	1,3-Dichloropropane	ND	0.50	μg/L			'		, ,		

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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µg/L

μg/L

11/1/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102003-03A

Client I.D. Number: MW-13

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/19/10 16:42

Received: 10/20/10

Extracted: 10/27/10 15:48 Analyzed: 10/27/10 15:48

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
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	0.78		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	5.8	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	0.86	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 (DBCI	P) ND		2.5	μg/L
25	Trichloroethene	1.6	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	1.6	0.50	μg/L	61	Naphthalene	ND	Q	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)	%RE
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	104		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,		. ,	

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

1.5

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kundy Studius

Walter Hinkows

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

μg/L

μg/L

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.

11/1/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102003-04A

Client I.D. Number: Trip Blank

Attn: David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/19/10 00:00

Received: 10/20/10

Extracted: 10/27/10 18:42 Analyzed: 10/27/10 18:42

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	Reporting Lim	
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	ug/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 (DBCI	P) 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	Q	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	104		(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	- •		1 .4.		()	
33	Dibromochloromethane	ND	0.50	μg/L						
24	1.2 Dibrono others (CDD)	1								

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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.

11/1/10

Report Date



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VOC Sample Preservation Report

Work Order: BMI10102003

Job:

G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
10102003-01A	MW-7	Aqueous	2	
10102003-02A	MW-16	Aqueous	2	
10102003-03A	MW-13	Aqueous	2	
10102003-04A	Trip Blank	Aqueous	2	

11/1/10



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Date: 25-Oct-10	(QC Sı	ımmar	y Repor	t				Work Orde 10102003	
Method Blank File ID: 25		Туре М		est Code: EF atch ID: 2529		hod 300.0	•		10/20/2010 12:23	
Sample ID: MB-25292	Units : mg/L			_1_1010204			Prep		10/20/2010 10:22	01
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDReft	/al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N	ND ND	0.5 0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P Sulfate (SO4)	ND ND	0.5 0.5								
Laboratory Fortified Blank		Type LI	FB Te	est Code: EF	A Met	hod 300.0				
File ID: 26		.,,		atch ID: 2529	92		Analy	sis Date:	10/20/2010 12:41	
Sample ID: LFB-25292	Units : mg/L		Run ID: IC	_1_101020 <i>A</i>	١		Prep	Date:	10/20/2010 10:22	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chloride	51.9	0.5	50		104	90	110			
Nitrite (NO2) - N Nitrate (NO3) - N	4.9 5.06	0.25 0.25	5 5		98 101	90 90	110 110			
Phosphate, ortho - P	5.06 5.3	0.25	5 5		106	90	110			
Sulfate (SO4)	100	0.5	100		100	90	110			
Sample Matrix Spike		Type LI	FM Te	est Code: EF	A Met	hod 300.0				
File ID: 33			Ва	atch ID: 252 9	92		,		10/20/2010 14:51	
Sample ID: 10102003-03ALFM	Units : mg/L			_1_101020 <i>A</i>			Prep		10/20/2010 10:22	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chloride	138	0.5	100	54.58	83	80	120			
Nitrite (NO2) - N Nitrate (NO3) - N	9.9 14.8	0.25 0.25	10	0 5.863	99 89	80 80	120 120			
Phosphate, ortho - P	14.6	0.25	10 10	0.003	108	80	120			
Sulfate (SO4)	234	0.5	200	56.16	89	80	120			
Sample Matrix Spike Duplicate		Type LI	FMD Te	est Code: Ef	A Met	hod 300.0				
File ID: 34			Ва	atch ID: 252 9	92		Analy	sis Date:	10/20/2010 15:09	
Sample ID: 10102003-03ALFMD	Units : mg/L		Run ID: IC	_1_101020 <i>A</i>	١.		Prep	Date:	10/20/2010 10:22	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chloride	141	0.5	100	54.58	86	80	120	137.8	` '	
Nitrite (NO2) - N	9.99	0.25	10	0		80	120	9.899	` '	
Nitrate (NO3) - N Phosphate, ortho - P	15.1 11.3	0.25 0.5	10 10	5.863 0	93 113	80 80	120 120	14.8 10.77	\ /	
Sulfate (SO4)	11.3 238	0.5 0.5	200	56.16	91	80 80	120	233.5	` ,	
	200	0.0	200	33.10	٠,				()	

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: θ1-Nov-1θ		(QC S	ummar	y Repor	t				Work Orde 10102003	
Method Bla File ID: 14	nk		Type I		est Code: El atch ID: 253		hod 314.0	Analys	sis Date:	10/27/2010 13:32	- · · · · · · · · · · · · · · · · · · ·
Sample ID:	MB-25339	Units : µg/L		Run ID: IC	_3_101027	\		Prep E	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Perchlorate		ND		1							
-	Fortified Blank		Type L	_FB T	est Code: El	PA Met	hod 314.0				
File ID: 15				В	atch ID: 253	39		Analys	sis Date:	10/27/2010 13:50	
Sample ID:	LFB-25339	Units : µg/L		Run ID: IC	_3_101027	١.		Prep D	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Perchlorate		27.3		2 25	• •	109	85	115		-	
Sample Mat	rix Spike		Type L	_FM T	est Code: El	PA Met	hod 314.0				
File ID: 18				В	atch ID: 253	39		Analys	is Date:	10/28/2010 12:12	
Sample ID:	10102003-03ALFM	Units : µg/L		Run ID: IC	_3_101027	4		Prep D	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Perchlorate		2160	100	1250	823	107	80	120			
Sample Mat	rix Spike Duplicate		Type L	FMD T	est Code: El	PA Met	hod 314.0				
File ID: 19				В	atch ID: 253	39		Analys	sis Date:	10/28/2010 12:31	
Sample ID:	10102003-03ALFMD	Units : µg/L		Run ID: IC	_3_101027	٠,		Prep D	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Perchlorate		2230	100	1250	823	112	80	120	2157	3.3(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: 29-Oct-10	Q	C S	ummar	y Repor	t	***************************************			Work Orde 10102003	
Method Blank	-	Гуре N	IBLK T	est Code: El	PA Met	hod 200.8				
File ID: 102710.B\025_M1.D\			В	atch ID: 253	22		Analysis D	Date:	10/27/2010 16:39	
Sample ID: MB-25322	Units : mg/L		Run ID: IC	CP/MS_1010	271		Prep Date	:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPI	DRef√	/al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	,							
Laboratory Control Spike	-	Type L	.cs T	est Code: El	PA Met	hod 200.8				
File ID: 102710.B\025_M2.D\			В	atch ID: 253	22		Analysis D	Date:	10/27/2010 16:44	
Sample ID: LCS-25322	Units: mg/L		Run ID: IC	CP/MS_1010	271		Prep Date	:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPE	DRef√	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0556	0.005	0.05		111	85	115			
Sample Matrix Spike	•	Type N	IS T	est Code: El	PA Met	hod 200.8				
File ID: 102710.B\026_M.D\			В	atch ID: 253	22		Analysis D	Date:	10/27/2010 17:14	
Sample ID: 10102003-03AMS	Units: mg/L		Run ID: IC	P/MS_1010	271		Prep Date	:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPI	DRef√	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0561	0.005	0.05	0.008073	96	70	130			
Sample Matrix Spike Duplicate	•	Type N	ISD T	est Code: El	PA Met	hod 200.8				
File ID: 102710.B\027_M.D\			В	atch ID: 253	22		Analysis E	Date:	10/27/2010 17:19	
Sample ID: 10102003-03AMSD	Units : mg/L		Run ID: IC	CP/MS_1010	271		Prep Date	:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPI	DRef√	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0571	0.005	0.05	0.008073	98	70	130 0	.0560	7 1.9(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.



Date:

Alpha Analytical, Inc.

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Work Order:

OC Summary Report 28-Oct-10 10102003 Type: MBLK Method Blank Test Code: EPA Method SW8260B File ID: 10102706.D Batch ID: MS15W1027M Analysis Date: 10/27/2010 09:38 Sample ID: MBLK MS15W1027M Prep Date: 10/27/2010 09:38 Units: µg/L Run ID: MSD 15 101027C Analyte **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result Qual Dichlorodifluoromethane ND 0.5 Chloromethane ND 1 Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND Trichlorofluoromethane ND 0.5 1,1-Dichloroethene ND 0.5 Dichloromethane ND Freon-113 0.5 ND 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 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 Surr: 1,2-Dichloroethane-d4 9.66 130 10 97 70 Surr: Toluene-d8 10.7 107 130



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Date: 28-Oct-10	QC Summary Report								
Surr: 4-Bromofluorobenzene	10.5	10	105	70	130				



1,1,1-Trichloroethane

1,1-Dichloropropene

Carbon tetrachloride

1,2-Dichloropropane

Bromodichloromethane

cis-1,3-Dichloropropene

1,1,2-Trichloroethane

1,3-Dichloropropane

Tetrachloroethene

Chlorobenzene

Ethylbenzene

m,p-Xylene

Bromoform

Styrene

o-Xvlene

Dibromochloromethane

1,2-Dibromoethane (EDB)

1,1,1,2-Tetrachloroethane

1,1,2,2-Tetrachloroethane

1,2,3-Trichloropropane

1.3.5-Trimethylbenzene

1,2,4-Trimethylbenzene

Isopropylbenzene

Bromobenzene

n-Propylbenzene

4-Chlorotoluene

2-Chlorotoluene

tert-Butylbenzene

sec-Butvlbenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

1.2-Dichlorobenzene

1,2,4-Trichlorobenzene

Hexachlorobutadiene

Surr: Toluene-d8

1.2.3-Trichlorobenzene

Surr: 1,2-Dichloroethane-d4

1,2-Dibromo-3-chloropropane (DBCP)

4-Isopropyltoluene

n-Butylbenzene

Naphthalene

trans-1,3-Dichloropropene

4-Methyl-2-pentanone (MIBK)

Dibromomethane

Trichloroethene

Benzene

Toluene

Alpha Analytical, Inc.

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

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183 Work Order: Date: **QC Summary Report** 28-Oct-10 Laboratory Control Spike Type: LCS Test Code: EPA Method SW8260B File ID: 10102703.D Analysis Date: 10/27/2010 08:24 Batch ID: MS15W1027M Sample ID: LCS MS15W1027M Prep Date: 10/27/2010 08:24 Units: µq/L Run ID: MSD_15_101027C Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result **PQL** Qual Dichlorodifluoromethane 9.3 Chloromethane 9.04 Vinvl chloride 11.7 Chloroethane 10.2 Bromomethane Trichlorofluoromethane 10.1 1.1-Dichloroethene 10.7 Dichloromethane 9.59 Freon-113 trans-1.2-Dichloroethene 10.7 Methyl tert-butyl ether (MTBE) 9.08 0.5 1,1-Dichloroethane 10.6 2-Butanone (MEK) cis-1,2-Dichloroethene 10.5 Bromochloromethane 9.88 Chloroform 10.3 2,2-Dichloropropane 1,2-Dichloroethane 9.97 99.7

0.5

2.5

0.5

0.5

0.5

0.5

11.1

10.6

9.59

10.3

10.8

10.8

21.2

10.3

9.23

9.2

10.4

9.69

9.33

19.1

10.9

10.8

10.4

10.7

10.7

8.83

10.5

10.5

8.71

17.5

10.8

11.3

10.9

10.8

10.9

11.1

10.3

9.64

11.3

45.3

8.76

6.9

20.1

8.2

9.14

9.98

99.8

70(70)

L50



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Date: 28-Oct-10_	QC Summary Report									
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130					



Surr: 1,2-Dichloroethane-d4

Surr: Toluene-d8

48.6

49.5

Alpha Analytical, Inc.

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

Date: Work Order: QC Summary Report 28-Oct-10 Sample Matrix Spike Type: MS Test Code: EPA Method SW8260B File ID: 10102707.D Batch ID: MS15W1027M Analysis Date: 10/27/2010 10:00 10102003-03AMS Sample ID: Units: µg/L Run ID: MSD 15 101027C Prep Date: 10/27/2010 10:00 Analyte Result **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Dichlorodifluoromethane 40.9 2.5 Chloromethane 40.5 Vinvl chloride 52.5 2.5 Chloroethane 46.9 2.5 Bromomethane 54.7 Trichlorofluoromethane 2.5 46.4 1,1-Dichloroethene 47.7 2.5 Dichloromethane 43.1 Freon-113 2.5 52.1 trans-1,2-Dichloroethene 47.7 2.5 Methyl tert-butyl ether (MTBE) 1.3 44.7 1.1-Dichloroethane 47.3 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 2.5 47.3 Bromochloromethane 45.9 2.5 Chloroform 45.8 5.84 2,2-Dichloropropane 48 1 2.5 1.2-Dichloroethane 46.7 2.5 1,1,1-Trichloroethane 47.5 2.5 1,1-Dichloropropene 2.5 Carbon tetrachloride 48.4 2.5 0.86 Benzene 1.3 Dibromomethane 44.4 2.5 1,2-Dichloropropane 46.3 2.5 Trichloroethene 46.8 2.5 1.57 Bromodichloromethane 49.3 2.5 1.61 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene 2.5 46.8 trans-1,3-Dichloropropene 42.9 2.5 1.1.2-Trichloroethane 43.9 2.5 Toluene 45.9 1.3 1,3-Dichloropropane 45.9 2.5 Dibromochloromethane 43.4 2.5 1.45 1,2-Dibromoethane (EDB) 89.8 Tetrachloroethene 47.1 2.5 1,1,1,2-Tetrachloroethane 48.5 2.5 Chlorobenzene 46.3 2.5 Ethylbenzene 47.4 1.3 m,p-Xylene 46.9 1.3 **Bromoform** 41.4 2.5 0.78 Styrene 47.1 2.5 o-Xylene 46.4 1.3 1.1.2.2-Tetrachloroethane 41.9 2.5 1,2,3-Trichloropropane 83.7 Isopropylbenzene 47.5 2.5 Bromobenzene 47.9 2.5 n-Propylbenzene 49.3 2.5 4-Chlorotoluene 48.9 2.5 2-Chlorotoluene 48.8 2.5 1,3,5-Trimethylbenzene 48.2 2.5 tert-Butylbenzene 46.7 2.5 1,2,4-Trimethylbenzene 48.3 2.5 sec-Butylbenzene 48.2 2.5 1.3-Dichlorobenzene 48.7 2.5 1,4-Dichlorobenzene 2.5 4-Isopropyltoluene 48.1 2.5 1,2-Dichlorobenzene 43.9 2.5 n-Butylbenzene 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene 37.9 Naphthalene 28.9 Hexachlorobutadiene 88.2 1,2,3-Trichlorobenzene



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Date: 28-Oct-10	QC Summary Report									
Surr: 4-Bromofluorobenzene	50.8	50	102	70	130					



Surr: Toluene-d8

Alpha Analytical, Inc.

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

Date: Work Order: QC Summary Report 28-Oct-10 10102003 Type: MSD Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate File ID: 10102708.D Analysis Date: 10/27/2010 10:22 Batch ID: MS15W1027M Sample ID: 10102003-03AMSD Units: µg/L Run ID: MSD_15_101027C Prep Date: 10/27/2010 10:22 Analyte Result **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Dichlorodifluoromethane 44.6 2.5 89 167 40.93 8.5(20) 50 0 13 Chloromethane 46.2 50 92 28 145 40.53 13.0(20) 10 0 Vinyl chloride 55.4 2.5 50 0 111 43 134 52.49 5.3(20) Chloroethane 48.5 2.5 50 0 97 39 154 46.89 3.4(20)Bromomethane 57.9 10 50 0 116 19 176 54.71 5.7(20) Trichlorofluoromethane 2.5 46.44 49.8 0 99.5 34 160 6.9(20)50 1,1-Dichloroethene 50.3 2.5 50 0 101 60 130 47.69 5.4(20)Dichloromethane 44.1 10 50 0 88 68 130 43.12 2.3(20)Freon-113 55.7 2.5 0 49 6.6(20) 50 141 52.14 111 trans-1,2-Dichloroethene 50.5 0 47.68 5.7(20) 2.5 50 101 63 130 Methyl tert-butyl ether (MTBE) 1.5(20) 56 447 45.4 1.3 50 0 91 141 1,1-Dichloroethane 48.9 2.5 50 0 98 61 130 47.26 3.5(20)2-Butanone (MEK) 685 50 1000 0 20 182 677.5 1.1(20)69 cis-1,2-Dichloroethene 46.7 2.5 0 93 70 130 47.28 1.3(20)50 Bromochloromethane 48 2.5 50 0 96 70 130 45.89 4.4(20)Chloroform 47.5 2.5 50 5.84 83 67 130 45.84 3.6(20)2,2-Dichloropropane 2.5 50.6 48.07 50 0 101 30 152 5.1(20) 1,2-Dichloroethane 47.4 2.5 50 0 95 60 135 46.72 1.4(20)1.1.1-Trichloroethane 49.8 2.5 50 0 99.5 59 137 47.49 4.7(20)1,1-Dichloropropene 4.1(20) 51.1 2.5 0 63 49.03 50 102 130 Carbon tetrachloride 52.6 2.5 50 0.86 103 50 147 48.4 8.3(20) Benzene 5.5(20) 49.7 1.3 67 130 47.03 50 0 99 Dibromomethane 45.3 2.5 50 0 91 69 133 44.41 2.0(20)1.2-Dichloropropane 47.7 2.5 50 0 95 69 130 46.25 3.1(20)Trichloroethene 95 69 46.82 493 2.5 50 1.57 130 5.1(20) Bromodichloromethane 51.5 2.5 50 1.61 99.7 66 134 49.31 4.3(20)4-Methyl-2-pentanone (MIBK) 103 13 125 82 20 182 102.7 0.1(20)0 cis-1,3-Dichloropropene 2.5 3.2(20) 48.4 50 0 97 63 130 46.84 trans-1,3-Dichloropropene 44.4 2.5 50 0 89 66 131 42.87 3.5(20)1.1.2-Trichloroethane 45 2.5 50 0 90 68 130 43.9 2.4(20)Toluene 47.9 1.3 50 0 96 66 130 45.91 4.3(20)1.3-Dichloropropane 0 94 45.94 2.0(20)46.9 2.5 50 70 130 Dibromochloromethane 130 46 2.5 89 70 43.4 5.8(20) 50 1.45 1,2-Dibromoethane (EDB) 91.9 5 100 0 92 70 130 89.75 2.4(20)Tetrachloroethene 50.4 2.5 50 0 101 61 134 47.05 6.8(20)1,1,1,2-Tetrachloroethane 2.5 0 70 130 48 54 4.9(20)51 50 102 Chlorobenzene 48.2 2.5 50 0 96 70 130 46.34 3.9(20)Ethylbenzene 49.8 1.3 50 0 99.6 68 130 47.43 4.9(20)m,p-Xylene 6.0(20)49.8 13 50 0 99.5 64 130 46.85 **Bromoform** 0.78 41.38 8.4(20) 45 2.5 50 88 138 Styrene 49.4 2.5 99 69 47.07 4.9(20)50 0 130 o-Xylene 48.4 1.3 50 0 97 70 130 46.43 4.1(20)1,1,2,2-Tetrachloroethane 42.9 2.5 50 0 86 65 131 41.94 2.2(20)1,2,3-Trichloropropane 86.6 10 100 0 87 70 130 83.73 3.4(20)Isopropylbenzene 49 2.5 50 0 98 64 138 47.46 3.1(20)Bromobenzene 48.5 2.5 50 0 97 70 130 47.86 1.3(20)n-Propylbenzene 5.1(20) 51.9 2.5 50 0 104 66 132 49.27 4-Chlorotoluene 50.2 2.5 50 0 100 70 130 48.92 2.5(20)2-Chlorotoluene 49.9 2.5 50 0 99.8 70 130 48.84 2.2(20)1,3,5-Trimethylbenzene 50.2 2.5 50 n 100 66 136 48.19 4.1(20)tert-Butylbenzene 2.5 49.2 5.2(20)50 0 98 137 46.7 1,2,4-Trimethylbenzene 48.3 3.7(20) 50.1 2.5 0 100 65 50 137 sec-Butylbenzene 51.1 2.5 50 0 102 66 134 48.19 5.8(20) 1.3-Dichlorobenzene 50.6 2.5 50 0 101 70 130 48.72 3.9(20)1,4-Dichlorobenzene 48 2.5 50 0 96 70 130 45.96 4.4(20)4-Isopropyltoluene 50.4 2.5 50 0 101 66 137 48.14 4.5(20)1,2-Dichlorobenzene 45.2 2.5 50 0 90 70 130 43.94 2.9(20)n-Butylbenzene 52.2 2.5 50 n 104 60 142 49.02 6.3(20)1,2-Dibromo-3-chloropropane (DBCP) 217 15 250 0 87 67 130 205.8 5.4(20)1,2,4-Trichlorobenzene 41.2 10 50 0 82 61 137 37.91 8.2(20)Naphthalene 32.5 65 40 28.85 12.0(20) 10 50 n 167 Hexachlorobutadiene 97.3 97 61 9.9(20)10 100 0 130 88.16 1,2,3-Trichlorobenzene 7.1(20) 38.6 77 10 50 0 51 144 35.95 Surr: 1,2-Dichloroethane-d4 47.3 50 95 70 130

50

99

70

130

49.6



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

Date: 28-Oct-10	QC	Work Order: 10102003				
Surr: 4-Bromofluorobenzene	49.8	50	99.7	70	130	

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

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 02-Nov-2010

WorkOrder: BMIS10102003

SA

AMENDED

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

Report Attention David Conner Phone Number (614) 424-4899 x (619) 726-7311 x cutiee@batelle.org connerd@battelle.org EMail Address

EDD Required: No Sampled by: David Loera

Cooler Temp

Samples Received

20-Oct-2010

22-Oct-2010 Date Printed

QC Level: DS4 Client's COC #: 31908, 31913 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job : G005862/JPL Groundwater Monitoring PO: 218013

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

Suite 1420

Battelle Memorial Institute

655 West Broadway

Sample ID BMI10102003-01A MW-7 BMI10102003-04A Trip Blank BMI10102003-02A MW-16 BMI10102003-03A MW-13 Sample ID Client ð å Matrix Date ð Š 10/19/10 16:42 10/19/10 13:45 10/19/10 11:08 Collection No. of Bottles 10/19/10 00:00 Alpha Sub 9 8 9 0 0 0 0 ΤAΤ 9 ဖ 9 9 NO2, NO3, SO4, Cl, PO4 NO2, NO3, Perchlorate SO4, Cl, PO4 NO2, NO3, Perchlorate SO4, CI, PO4 300_0_W 314_W METALS_D VOC_TIC_ VOC_W Perchlorate Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria Requested Tests Reno Trip Blank 9/27/10 Sample Remarks MS/MSD

Comments:

Security seals intact. Frozen ice. Temp Blank #7917 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Trip Blank received and placed on hold by lab. Amended 10/22/10: Per phone conversation w/: David Conner 10/22/10 @ 11:13 took trip blank off hold and added VOCs. EA

Logged in by:	
Compath (Idox	Signature
Elizabeth Adcox	Print Name
Alpha Analytical, Inc.	Сотрапу
10-22-10	Date/Time

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) 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. 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

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 02-Nov-2010

WorkOrder: BMIS10102003

Page: 1 of 1

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

Report Attention **Betsy Cutie** Phone Number (619) 726-7311 x (614) 424-4899 x cutice@batelle.org connerd@battelle.org EMail Address

EDD Required: Yes

Sampled by : David Loera

Cooler Temp Samples Received 20-Oct-2010

Client's COC #: 31908, 31913 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

PO: 218013

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

Suite 1420

Battelle Memorial Institute 655 West Broadway

QC Level: DS4

20-Oct-2010 Date Printed

Sample ID BMI10102003-04A Trip Blank BMI10102003-03A BMI10102003-02A MW-16 BMI10102003-01A MW-13 MW-7 Sample ID Client å å å Š Matrix Date 10/19/10 00:00 10/19/10 16:42 10/19/10 13:45 10/19/10 11:08 Collection No. of Bottles Alpha 8 ဖ 9 Sub 0 0 0 0 TAT ဖ ဖ ဖ 9 NO2, NO3, SO4, Cl. PO4 NO2, NO3, Perchlorate SO4, Cl, PO4 NO2, NO3, Perchlorate SO4, Cl, PO4 300_0_W Perchlorate 314_W HOLD Hold METALS_D VOC_TIC_ Requested Tests Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria M_DOA Reno Trip Blank 9/27/10 Sample Remarks MS/MSD

Comments:

Security seals intact. Frozen ice. Temp Blank #7917 received @ .0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Trip Blank received and placed on hold by lab.:

Logged in by:	
Conjabeth (Ideax	Signature
x Elizabeth Adox	Print Name
Alpha Analytical, Inc.	Company
10:20-101030	Date/Time

Samples Collected From Which State?

AZ ____ CA __X NV ___ WA ____ 31908

Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21

ō

OTHER

Page #__

of this led B	77.		10(0,2003:01	2 1 80 13 Lab ID Number (Use Only)	avid Conner	Ave OH 4320 Fax
I, (field sampler), attest to the validity and authenticity of this sample I am aware that tampering with or intentionally mislabel grounds for legal action (NAC 445.0636 (c) (2)). Sampled By:	hloride, Nitrate, Nitrite, Orthophospha		19 01 01 01 01 01 01 01 01 01 01 01 01 01	Sample Description Sample Description Sample Description TAT Field Fiel	Soos862 SPL GWM SML-6W-4010 Name: DAVId Conner Name: DAVId Conner	Phone (775) 355-1044 Fax (775) 355-0406
beling the sample location, date or time of collection is considered fraud and may be Amage Date: Date:	te, Suffate		XX	# Containers" Containers C	(20.8)	nalyses Required

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.

*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

**: L-Liter

V-Voa

S-Soil Jar

0-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

Billing Information; Company Name Battelle

Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778

D

Samples Collected From Which State?

AZ ____ CA ___ NV ___ WA ____

OTHER_

Page # _____ of __

Relinquished by: (Signature/Affiliation)	Relinquished by: (Signature/Affiliation)	I, (field sampler), attest to the validity and authenticity of this sample. I an aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By:	ADDITIONAL INSTRUCTIONS: * Chloride, 10: trate,		The second secon	1	st day departure	1R12 B	1642 196 AQ - 1 - 3 M W - 1	11642 196 AB S MW-1	Der (Use Only)	P.O.# 2180/3 Phone: 614			Consultant / Client Name Dovid Conner 500 5862	Phone Number Fax	olumbus	Address 505 Kins Auc
Received by: (Signature/Affiliation)	Received by: (Signature/Affiliation) Received by: (Signature/Affiliation)	y aware that tampering with or intentionally mislabeling the	Nitrite, Ortho phosphate, Sulta					1	13-MS/MSD 10 W 3F	6V 31	Sample Description TAT $\begin{bmatrix} F_{ield} \\ F_{illered} \end{bmatrix}$ # Containers**	8-6641 Mobile: 419 726-7311	Conce that con	Report Attention / Project Manager	^{Job} 5862/3PL 6ωΑ SPL-6ω-4Q10		Fax (775) 355-0406	Phone (775) 355-1044
x / Wha 10/25/1	Date:	sample location, date or time of collection is con	te							×XXXX	I VO Total Rook !	C's Collection of the collecti	152 (2) le	31-	(2) 8) (3) / /	/ Analyses Hequired	•	
() 1030 Time:	Time:	sidered fraud and may be							-		REMARKS		FOR VERE X NO	_	Level: (III) or IV			,

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.

*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

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



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

Date 27-Oct-10

David Conner

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102004

Cooler Temp:

0°C

	The state of the s	
Alpha's Sample ID	Client's Sample ID	Matrix
10102004-01A	MW-21-5	Aqueous
10102004-02A	MW-21-4	Aqueous
10102004-03A	MW-21-3	Aqueous
10102004-04A	MW-21-2	Aqueous
10102004-05A	MW-21-1	Aqueous
10102004-06A	DUPE-01-4Q10	Aqueous
10102004-07A	EB-01-10/19/10	Aqueous
10102004-08A	TB-01-10/19/10	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/Chainof-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.



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

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/20/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-21-5 Lab ID: BMI10102004-01A Date Sampled 10/19/10 09:21	Perchlorate	4.26	1.00 μg/L	10/27/10 12:35	10/27/10 15:59
Client ID: MW-21-4 Lab ID: BMI10102004-02A Date Sampled 10/19/10 09:45	Perchlorate	3.04	1.00 μg/L	10/27/10 12:35	10/27/10 16:17
Client ID: MW-21-3 Lab ID: BMII 0102004-03 A Date Sampled 10/19/10 10:10	Perchlorate	2.92	1.00 μg/L	10/27/10 12:35	10/27/10 16:36
Client ID: MW-21-2 Lab ID: BMI10102004-04A Date Sampled 10/19/10 10:49	Perchlorate	2.53	1.00 µg/L	10/27/10 12:35	10/27/10 16:54
Client ID: MW-21-1 Lab ID: BMI10102004-05A Date Sampled 10/19/10 11:20	Perchlorate	2.43	1.00 µg/L	10/27/10 12:35	10/27/10 17:13
Client ID: DUPE-01-4Q10 Lab ID: BMI10102004-06A Date Sampled 10/19/10 00:00	Perchlorate	2.59	1.00 μg/L	10/27/10 12:35	10/27/10 17:31
Client ID: EB-01-10/19/10 Lab ID: BMI10102004-07A Date Sampled 10/19/10 11:08	Perchlorate	ND	1.00 μg/L	10/27/10 12:35	10/27/10 17:49

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas, NV \bullet (702)\ 736-7522\ /\ Carson, CA \bullet (714)\ 386-2901\ /\ info(\omega alpha-analytical.com)$

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/20/10

Job:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-21-5 Lab ID: BMI10102004-01A Date Sampled 10/19/10 09:21	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 17:48
Client ID: MW-21-4 Lab ID: BMI10102004-02A Date Sampled 10/19/10 09:45	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 17:53
Client ID: MW-21-3 Lab ID: BMI10102004-03A Date Sampled 10/19/10 10:10	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 17:59
Client ID: MW-21-2 Lab ID: BMI10102004-04A Date Sampled 10/19/10 10:49	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:04
Client ID: MW-21-1 Lab ID: BMI10102004-05A Date Sampled 10/19/10 11:20	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:10
Client ID: DUPE-01-4Q10 Lab ID: BMI10102004-06A Date Sampled 10/19/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:15
Client ID: EB-01-10/19/10 Lab ID: BMI10102004-07A Date Sampled 10/19/10 11:08	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:21

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.



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 655 West Broadway San Diego, CA 92101 Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Job: G005862/JPL C

G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-21-5 Lab ID: BMI10102004-01A Date Received: 10/20/10 Date Sampled: 10/19/10 09:21	*** None Found ***	ND	2.0 μg/L	10/26/10 14:17	10/26/10 14:17
Client ID: MW-21-4 Lab ID: BMI10102004-02A Date Received: 10/20/10 Date Sampled: 10/19/10 09:45	*** None Found ***	ND	2.0 μg/L	10/26/10 14:39	10/26/10 14:39
Client ID : MW-21-3 Lab ID : BMI10102004-03A Date Received : 10/20/10 Date Sampled : 10/19/10 10:10	*** None Found ***	ND	2.0 μg/L	10/26/10 15:01	10/26/10 15:01
Client ID : MW-21-2 Lab ID : BMI10102004-04A Date Received : 10/20/10 Date Sampled : 10/19/10 10:49	*** None Found ***	ND	2.0 μg/L	10/26/10 15:22	10/26/10 15:22
Client ID: MW-21-1 Lab ID: BMI10102004-05A Date Received: 10/20/10 Date Sampled: 10/19/10 11:20	*** None Found ***	ND	2.0 μg/L	10/26/10 15:44	10/26/10 15:44
Client ID : DUPE-01-4Q10 Lab ID : BMI10102004-06A Date Received : 10/20/10 Date Sampled : 10/19/10 00:00	*** None Found ***	ND	2.0 μg/L	10/26/10 16:06	10/26/10 16:06
Client ID : EB-01-10/19/10 Lab ID : BMI10102004-07A Date Received : 10/20/10 Date Sampled : 10/19/10 11:08	Acetone Tertiary Butyl Alcohol (TBA) 3,3-Dimethyl-2-butanone	72 72 2.2	10 μg/L 10 μg/L 2.0 μg/L	10/26/10 13:56 10/26/10 13:56 10/26/10 13:56	10/26/10 13:56 10/26/10 13:56 10/26/10 13:56
Client ID : TB-01-10/19/10 Lab ID : BMI10102004-08A Date Received : 10/20/10 Date Sampled : 10/19/10 07:00	*** None Found ***	ND	2.0 μg/L	10/26/10 13:34	10/26/10 13:34



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Hirihon

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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.

11/1/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102004-01A

Client I.D. Number: MW-21-5

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/19/10 09:21

Received: 10/20/10

Extracted: 10/26/10 14:17 Analyzed: 10/26/10 14:17

Volatile Organics by GC/MS EPA Method SW8260B

Compound		Concentration	Reporting Limit			Compound	Concentration	R	Reporting Limit		
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,2-Tetrachioroethane	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	3.7	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 (DBC	P) ND		2.5	μg/L	
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L	
26	Bromodichloromethane	¹ ND	0.50	μg/L	61	Naphthalene	ND	Q	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	105		(70-130)	%REC	
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%REC	
32	1,3-Dichloropropane	ND	0.50	μg/L			•				

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulan

Dalter Findows

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μg/L

μg/L

µg/L

0.50

1.0

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

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Alpha Analytical Number: BMI10102004-02A

Client I.D. Number: MW-21-4

Sampled: 10/19/10 09:45

Received: 10/20/10 Extracted: 10/26/10 14:39

Analyzed: 10/26/10 14:39

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	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	6.9	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 (DBCI	P) 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	Q	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	i 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	105		(70-130)	%REC	
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC	
32	1,3-Dichloropropane	ND	0.50	µg/L							

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulur

Walter Findens

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μg/L

μg/L

μg/L

1.0

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.

11/1/10

Report Date



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ANALYTICAL REPORT

David Conner

(619) 726-7311

Attn:

Phone:

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102004-03A

Client I.D. Number: MW-21-3

Fax: (614) 458-6641

Sampled: 10/19/10 10:10

Received: 10/20/10

Extracted: 10/26/10 15:01 Analyzed: 10/26/10 15:01

Volatile Organics by GC/MS EPA Method SW8260B

Compound		ompound 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	0.94	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	4.7	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 (DBCI	P) 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	Q	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	103		(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							

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

ND

6.2

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

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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.

μg/L

µg/L

1.0



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10102004-04A

Client I.D. Number: MW-21-2

Sampled: 10/19/10 10:49

Received: 10/20/10

Extracted: 10/26/10 15:22 Analyzed: 10/26/10 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	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	0.78	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	4.0	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 (DBCI	P) 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	Q	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	105		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

µg/L

μg/L

1.0

11/1/10 Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102004-05A

Client I.D. Number: MW-21-1

Attn: **David Conner** Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/19/10 11:20

Received: 10/20/10 Extracted: 10/26/10 15:44

Analyzed: 10/26/10 15:44

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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	Bromochioromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	1.3	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 (DBCI	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	105		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

µg/L

μg/L

1.0

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102004-06A

Client I.D. Number: DUPE-01-4Q10

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/19/10 00:00

Received: 10/20/10

Extracted: 10/26/10 16:06 Analyzed: 10/26/10 16:06

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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	0.77	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	4.0	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 (DBC)	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	ug/L	66	Surr: 4-Bromofluorobenzene	103		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					. ,	

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

Walter Hinkow

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento. CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

µg/L

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.

11/1/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102004-07A

Client I.D. Number: EB-01-10/19/10

David Conner Attn: (619) 726-7311 Phone:

Fax: (614) 458-6641

Sampled: 10/19/10 11:08

Received: 10/20/10

Extracted: 10/26/10 13:56 Analyzed: 10/26/10 13:56

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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)	41	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 (DBC)	P) 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	Q	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	102		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director . Randy Gardner, Laboratory Manager . Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

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.

Report Date Page 1 of 1



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

ANALYTICAL REPORT

Attn:

Phone:

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring Job:

Alpha Analytical Number: BMI10102004-08A

Client I.D. Number: TB-01-10/19/10

(619) 726-7311 Fax: (614) 458-6641

David Conner

Sampled: 10/19/10 07:00 Received: 10/20/10

Extracted: 10/26/10 13:34 Analyzed: 10/26/10 13:34

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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
,	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND		0.50	μg/l
3	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/
)	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/l
0	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/l
1	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND		0.50	μg/
2	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/
3	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/
4	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/
5	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/
6	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/
7	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/
8	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND		0.50	µg/
9	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/
0	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/
1	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/
2	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/
3	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND		0.50	µg/
4	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND		2.5	μg/
5	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg
6	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	Q	1.0	μg/
7	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND		1.0	μg/
8	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND		1.0	μg/
9	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	99		(70-130)	%RI
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	105		(70-130)	%RI
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%RI
32	1.3-Dichloropropane	ND	0.50	ua/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

μg/L

μg/L

μg/L

1.0

Report Date



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: BMI10102004

Job:

		•	
Alpha's Sample ID	Client's Sample ID	Matrix	рН
10102004-01A	MW-21-5	Aqueous	2
10102004-02A	MW-21-4	Aqueous	2
10102004-03A	MW-21-3	Aqueous	2
10102004-04A	MW-21-2	Aqueous	2
10102004-05A	MW-21-1	Aqueous	2
10102004-06A	DUPE-01-4Q10	Aqueous	2
10102004-07A	EB-01-10/19/10	Aqueous	2
10102004-08A	TB-01-10/19/10	Aqueous	2

11/1/10



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

Date: 01-Nov-10		QC Summary Report							Work Order: 10102004		
Method Bla	nk		Type N	IBLK T	est Code: EF	PA Met	hod 314.0				
File ID: 14				Ва	atch ID: 253 3	39		Analys	is Date:	10/27/2010 13:32	
Sample ID:	MB-25339	Units : µg/L		Run ID: IC	_3_101027 <i>A</i>	١.		Prep D	ate:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Perchlorate		ND	1								
Laboratory	Fortified Blank		Type L	.FB Te	est Code: Ef	PA Met	hod 314.0		,		
File ID: 15				Ва	atch ID: 253 3	39		Analys	is Date:	10/27/2010 13:50	
Sample ID:	LFB-25339	Units : µg/L		Run ID: IC	_3_101027 <i>A</i>	١.		Prep D	ate:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Perchlorate		27.3	2	25		109	85	115			
Sample Mat	rix Spike		Type L	.FM Te	est Code: El	PA Met	hod 314.0				
File ID: 18				Ва	atch ID: 253 3	39		Analys	is Date:	10/28/2010 12:12	
Sample ID:	10102003-03ALFM	Units : µg/L		Run ID: IC	_3_101027#	١.		Prep D	ate:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Perchlorate		2160	100	1250	823	107	80	120			
Sample Mat	rix Spike Duplicate		Type L	FMD Te	est Code: El	PA Met	hod 314.0				
File ID: 19				Ва	atch ID: 253 :	39		Analys	is Date:	10/28/2010 12:31	
Sample ID:	10102003-03ALFMD	Units : µg/L		Run ID: IC	_3_101027 <i>A</i>	A		Prep D	ate:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Perchlorate		2230	100	1250	823	112	80	120	2157	3.3(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: 29-Oct-10	QC Summary Report					Work Order: 10102004				
Method Blank		Type N	MBLK Te	est Code: EP	A Met	hod 200.8				
File ID: 102710.B\025_M1.D\			Ва	atch ID: 2532	2		Analy	sis Date:	10/27/2010 16:39	
Sample ID: MB-25322	Units : mg/L		Run ID: IC	P/MS_10102	271		Prep	Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike		Type L	_CS Te	est Code: EP	A Met	hod 200.8				
File ID: 102710.B\025_M2.D\			Ва	atch ID: 2532	2		Analy	sis Date:	10/27/2010 16:44	
Sample ID: LCS-25322	Units : mg/L		Run ID: IC	P/MS_10102	271		Prep	Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0556	0.00	5 0.05		111	85	115			
Sample Matrix Spike		Type I	VIS Te	est Code: EF	A Met	hod 200.8				
File ID: 102710.B\026_M.D\			Ba	atch ID: 2532	22		Analy	sis Date:	10/27/2010 17:14	
Sample ID: 10102003-03AMS	Units : mg/L		Run ID: IC	P/MS_10102	271		Prep	Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0561	0.00	5 0.05	0.008073	96	70	130			
Sample Matrix Spike Duplicate		Type I	MSD Te	est Code: EF	A Met	hod 200.8			,	
File ID: 102710.B\027_M.D\			Ba	atch ID: 2532	22		Analy	sis Date:	10/27/2010 17:19	
Sample ID: 10102003-03AMSD	Units : mg/L		Run ID: IC	P/MS_10102	271		Prep	Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0571	0.00	5 0.05	0.008073	98	70	130	0.056	07 1.9(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.



Date:

Alpha Analytical, Inc.

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Work Order:

QC Summary Report 10102004 27-Oct-10 Type MBLK Test Code: EPA Method SW8260B Method Blank File ID: 10102606.D Batch ID: MS15W1026M Analysis Date: 10/26/2010 10:41 10/26/2010 10:41 Sample ID: Prep Date: MBLK MS15W1026M Units: µa/L Run ID: MSD 15 101015D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte **PQL** Result 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 0.5 ND 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-Butvlbenzene 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 Hexachlorobutadiene ND 1.2.3-Trichlorobenzene ND Surr: 1,2-Dichloroethane-d4 9.87 10 99 70 130 106 130 Surr: Toluene-d8 10 10.6



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Date: 27-Oct-10	QC	Work Order: 10102004				
Surr: 4-Bromofluorobenzene	10.8	10	108	70	130	



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Work Order: Date: **QC Summary Report** 27-Oct-10 Type LCS Test Code: EPA Method SW8260B **Laboratory Control Spike** Analysis Date: 10/26/2010 09:25 File ID: 10102603.D Batch ID: MS15W1026M 10/26/2010 09:25 Sample ID: LCS MS15W1026M Prep Date: Units: µg/L Run ID: MSD_15_101015D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result PQL Qual Dichlorodifluoromethane 9.51 Chloromethane 9.36 Vinyl chloride 9.94 Chloroethane 9.8 Bromomethane 11.2 Trichlorofluoromethane 9 64 1.1-Dichloroethene 10.5 Dichloromethane 9.11 Freon-113 11.2 trans-1,2-Dichloroethene 10.5 Methyl tert-butyl ether (MTBE) 0.5 8.78 1.1-Dichloroethane 10.2 2-Butanone (MEK) cis-1,2-Dichloroethene 9.61 Bromochloromethane 9.53 Chloroform 9.75 2,2-Dichloropropane 10.7 1,2-Dichloroethane 9.29 1.1.1-Trichloroethane 10.5 1,1-Dichloropropene 10.6 Carbon tetrachloride 10.9 Benzene 10.2 0.5 Dibromomethane 8.92 1,2-Dichloropropane 9.9 Trichloroethene 10.1 Bromodichloromethane 10.3 4-Methyl-2-pentanone (MIBK) 2.5 20.7 cis-1,3-Dichloropropene 9.91 trans-1,3-Dichloropropene 8.88 1.1.2-Trichloroethane 8.83 Toluene 0.5 1,3-Dichloropropane 9.25 Dibromochloromethane 8.91 1,2-Dibromoethane (EDB) 18.1 Tetrachloroethene 10.3 1,1,1,2-Tetrachloroethane 10.4 Chlorobenzene 9.84 0.5 Ethylbenzene 10.4 m,p-Xylene 10.4 0.5 Bromoform 8.51 Styrene 10.2 o-Xylene 9.95 0.5 1.1.2.2-Tetrachloroethane 8.59 1,2,3-Trichloropropane Isopropylbenzene 10.6 Bromobenzene 10 1 n-Propylbenzene 4-Chlorotoluene 10.6 2-Chlorotoluene 10.5 1,3,5-Trimethylbenzene 10.7 tert-Butylbenzene 10.5 1,2,4-Trimethylbenzene 10.6 sec-Butylbenzene 10.8 1.3-Dichlorobenzene 10.5 1,4-Dichlorobenzene 9.99 99.9 4-Isopropyltoluene 10.7 1,2-Dichlorobenzene 9.3 n-Butylbenzene 1,2-Dibromo-3-chloropropane (DBCP) 43.7 1,2,4-Trichlorobenzene 8.2 Naphthalene L50 6.75 70(70) Hexachlorobutadiene 19.3 1,2,3-Trichlorobenzene 7.81 Surr: 1,2-Dichloroethane-d4 9.43 Surr: Toluene-d8 99.9 9.99



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Date: 27-Oct-10	QC	Work Order: 10102004				
Surr: 4-Bromofluorobenzene	10.3	10	103	70	130	



Surr: Toluene-d8

Alpha Analytical, Inc.

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Work Order: Date: QC Summary Report 27-Oct-10 Sample Matrix Spike Type MS Test Code: EPA Method SW8260B File ID: 10102607.D Batch ID: MS15W1026M Analysis Date: 10/26/2010 11:03 10102004-01AMS Prep Date: 10/26/2010 11:03 Sample ID: Units: ua/L Run ID: MSD 15 101015D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte **PQL** Qual Result Dichlorodifluoromethane 42.9 2.5 Chloromethane Vinvl chloride 55.6 2.5 Chloroethane 47.9 2.5 **Bromomethane** 52.5 Trichlorofluoromethane 2.5 1.1-Dichloroethene 2.5 Dichloromethane 42.8 Freon-113 52.9 2.5 trans-1,2-Dichloroethene 48.3 2.5 Methyl tert-butyl ether (MTBE) 43.9 1.3 1,1-Dichloroethane 47.1 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 46.9 2.5 Bromochloromethane 46.2 2.5 Chloroform 2.5 3.68 2,2-Dichloropropane 48.6 2.5 1,2-Dichloroethane 44.9 2.5 1,1,1-Trichloroethane 2.5 1,1-Dichloropropene 49.1 2.5 Carbon tetrachloride 2.5 99.8 49.9 Benzene 47.4 1.3 Dibromomethane 2.5 42.9 1,2-Dichloropropane 46.3 2.5 Trichloroethene 47.2 2.5 Bromodichloromethane 48.5 2.5 4-Methyl-2-pentanone (MIBK) 97.2 cis-1,3-Dichloropropene 44.8 2.5 trans-1,3-Dichloropropene 41.2 2.5 1,1,2-Trichloroethane 42.2 2.5 Toluene 45.7 1.3 1,3-Dichloropropane 44.5 2.5 Dibromochloromethane 42.2 2.5 1.2-Dibromoethane (EDB) 85.4 Tetrachloroethene 2.5 1.46 49.3 1,1,1,2-Tetrachloroethane 47.4 2.5 Chlorobenzene 2.5 45.3 Ethylbenzene 47.6 1.3 m,p-Xylene 47.1 1.3 Bromoform 39.2 2.5 Styrene 46.6 2.5 o-Xvlene 46.4 1.3 1,1,2,2-Tetrachloroethane 40.4 2.5 1,2,3-Trichloropropane 80.1 Isopropylbenzene 2.5 Bromobenzene 2.5 n-Propylbenzene 50.9 2.5 4-Chlorotoluene 49.3 2.5 2-Chlorotoluene 49.4 2.5 1,3,5-Trimethylbenzene 49.4 2.5 tert-Butylbenzene 48.4 2.5 1,2,4-Trimethylbenzene 49.2 2.5 sec-Butylbenzene 49.5 2.5 1,3-Dichlorobenzene 2.5 1.4-Dichlorobenzene 2.5 4-Isopropyltoluene 49.2 2.5 1,2-Dichlorobenzene 2.5 n-Butylbenzene 50.7 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene Naphthalene 30.4 Hexachlorobutadiene 91.4 1.2.3-Trichlorobenzene 35.3 Surr: 1,2-Dichloroethane-d4 46.1

49.3



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Date: 27-Oct-10	QC		Work Order: 10102004			
Surr: 4-Bromofluorobenzene	51.5	50	103	70	130	



Surr: Toluene-d8

Alpha Analytical, Inc.

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Work Order: Date: OC Summary Report 27-Oct-10 10102004 Type MSD Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate File ID: 10102608.D Analysis Date: 10/26/2010 11:25 Batch ID: MS15W1026M Sample ID: 10102004-01AMSD Prep Date: 10/26/2010 11:25 Units: µg/L Run ID: MSD_15_101015D Analyte Result **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Dichlorodifluoromethane 167 42.87 1.6(20)43.6 2.5 50 13 Chloromethane 43.8 10 50 0 88 28 145 38.97 11.8(20) Vinvl chloride 55.9 2.5 50 Λ 112 43 134 55.59 0.5(20)Chloroethane 39 47.94 0.1(20)47.9 2.5 50 0 96 154 6.9(20)Bromomethane 56.3 10 50 0 113 19 176 52.52 Trichlorofluoromethane 34 160 48.03 0.1(20)48 2.5 O 96 50 1,1-Dichloroethene 49.3 2.5 50 99 60 130 48.03 2.5(20)Dichloromethane 42.78 50 87 68 130 1.2(20)43.3 10 0 Freon-113 54.5 2.5 50 0 109 49 141 52.91 2.9(20)trans-1,2-Dichloroethene 48.9 50 98 63 130 48.33 1.2(20)2.5 Methyl tert-butyl ether (MTBE) 141 43.85 2.3(20) 44.9 50 90 56 1.3 0 1,1-Dichloroethane 47.8 2.5 50 0 96 61 130 47.09 1.4(20)2-Butanone (MEK) 667 50 1000 67 20 182 660.9 1.0(20)70 cis-1.2-Dichloroethene 47.8 2.5 O 96 130 46.86 2.1(20) 50 Bromochloromethane 47 2.5 50 0 94 70 130 46.19 1.7(20)Chloroform 49.7 2.5 50 3.68 92 67 130 48.97 1.4(20)2,2-Dichloropropane 49.1 98 48.62 1.0(20) 2.5 30 152 50 O 1,2-Dichloroethane 91 60 44.85 1.9(20)45.7 2.5 50 135 1.1.1-Trichloroethane 2.5 99 59 48.96 1.0(20)49.4 50 0 137 1,1-Dichloropropene 49.8 2.5 50 0 99.6 63 130 49.14 1.4(20)Carbon tetrachloride 51.4 2.5 50 103 50 147 49.92 3.0(20)Benzene 47.38 47.8 50 96 67 130 0.9(20)1.3 0 Dibromomethane 44.3 2.5 50 0 89 69 133 42.91 3.1(20)1,2-Dichloropropane 69 46.4 2.5 50 0 93 130 46.33 0.1(20)Trichloroethene 47.9 2.5 50 n 96 69 130 47.17 1.6(20) Bromodichloromethane 98 66 134 48.52 0.6(20)48.8 2.5 50 4-Methyl-2-pentanone (MIBK) 97.8 13 125 0 78 20 182 97.19 0.6(20)cis-1,3-Dichloropropene 2.5 45.8 130 44.83 2.2(20)50 0 92 63 trans-1,3-Dichloropropene 41.8 2.5 0 66 131 41.16 1.5(20)50 84 1,1,2-Trichloroethane 43.4 2.5 50 0 87 68 130 42.23 2.8(20)Toluene 46.3 1.3 50 0 93 66 130 45.66 1.4(20)1,3-Dichloropropane 44.8 2.5 50 0 90 70 130 44.54 0.5(20)Dibromochloromethane 42.17 4.3(20) 0 88 70 130 44 2.5 50 1,2-Dibromoethane (EDB) 87.6 5 100 0 88 70 130 85.35 2.6(20)Tetrachloroethene 49.6 2.5 50 1.46 96 61 134 49.3 0.7(20)1,1,1,2-Tetrachloroethane 48.5 2.5 97 70 130 47.37 2.3(20)50 0 Chlorobenzene 46.2 2.5 92 70 130 45.34 1.9(20)50 0 Ethylbenzene 47.6 95 68 130 47 57 0.0(20)1.3 50 0 m,p-Xylene 1.3(20)47.7 1.3 50 0 95 64 130 47.06 **Bromoform** 5.7(20) 41.5 2.5 50 0 83 64 138 39.2 Styrene 47.3 0 95 69 130 46.55 1.6(20)2.5 50 o-Xylene 93 70 130 46.41 0.2(20)46.3 1.3 50 0 1.1.2.2-Tetrachloroethane 82 40.39 1.2(20)40.9 2.5 50 0 65 131 1,2,3-Trichloropropane 81.6 10 0 82 70 130 80.11 1.8(20) 100 Isopropylbenzene 2.5 0 64 138 48.99 2.1(20)50 96 Bromobenzene 0.1(20) 47 2.5 50 0 94 70 130 47 02 n-Propylbenzene 49.9 2.5 50 0 99.8 66 132 50.9 2.0(20)4-Chlorotoluene 48.9 2.5 50 0 98 70 130 49.29 0.8(20)2-Chlorotoluene 49.37 48.3 2.5 50 0 97 70 130 2.3(20) 1,3,5-Trimethylbenzene 48.7 2.5 50 0 97 136 49.39 1.5(20)tert-Butylbenzene 48.43 1.2(20) 47.9 2.5 50 0 65 96 137 1,2,4-Trimethylbenzene 48.9 2.5 50 0 98 65 137 49.22 0.6(20)sec-Butylbenzene 49.4 2.5 50 0 99 66 134 49.53 0.2(20)1,3-Dichlorobenzene 49.7 2.5 50 0 99 70 130 49.04 1.4(20)1,4-Dichlorobenzene 46.1 92 70 46.04 0.2(20)2.5 50 0 130 4-Isopropyltoluene 49.4 50 66 49.19 0.3(20)2.5 0 99 137 1,2-Dichlorobenzene 44.2 2.5 0 88 70 130 44.03 0.5(20)50 n-Butvlbenzene 51.5 2.5 50 0 103 60 142 50.73 1.5(20)1,2-Dibromo-3-chloropropane (DBCP) 1.4(20)205 15 250 O 82 67 130 202.5 1,2,4-Trichlorobenzene 40.4 10 50 0 81 61 137 37.96 6.2(20)Naphthalene 33.9 10 50 0 68 40 167 30.37 10.9(20) Hexachlorobutadiene 10 94 61 2.6(20) 93.8 100 0 130 91.41 1.2.3-Trichlorobenzene 38.3 10 50 0 77 51 144 35.28 8.1(20) Surr: 1,2-Dichloroethane-d4 47.3 50 95 70 130

50

99

70

130

49.3



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Date: 27-Oct-10	QC	Summary Re		Work Order: 10102004		
Surr: 4-Bromofluorobenzene	50.2	50	100	70	130	

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

Alpha Analytical, Inc.

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

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Suite 1420

218013

Client's COC #: 29188

Job: G005862/JPL Groundwater Monitoring

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

Report Attention **Betsy Cutie** Shane Walton David Conner Phone Number (619) 726-7311 x (614) 424-4117 x (614) 424-4899 x waltons@battelle.org connerd@battelle.org cutiee@batelle.org EMail Address

S

Page: 1 of 1

WorkOrder: BMIS10102004

Report Due By: 5:00 PM On: 02-Nov-2010

EDD Required: Yes

Sampled by: Chase Brogdon Cooler Temp Samples Received

20-Oct-2010 20-Oct-2010 Date Printed

Sample ID BMI10102004-08A BMI10102004-07A EB-01-10/19/10 BMI10102004-06A BMI10102004-04A MW-21-2 QC Level: DS4 BMI10102004-05A MW-21-1 BMI10102004-03A MW-21-3 BMI10102004-02A MW-21-4 BMI10102004-01A DUPE-01-4Q10 Client TB-01-10/19/10 MW-21-5 Sample ID = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates å ð à Š Š å Š Š Matrix Date 10/19/10 09:21 10/19/10 07:00 10/19/10 11:08 10/19/10 00:00 10/19/10 11:20 10/19/10 10:49 10/19/10 10:10 10/19/10 09:45 Collection No. of Bottles Alpha Ġ Ç S G 5 G G Sub 0 0 0 0 0 0 0 0 Ζ 9 9 9 9 9 ဖ 9 9 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç Ç Ç Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 6/29/10 Sample Remarks

Comments:

Security seals intact. Frozen ice. Temp Blank #7686 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Chyabith	Signature
Idox Elizabeth Adox	Print Name
Alpha Analytical, Inc.	Company
10:20-10 112°	Date/Time

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. 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.

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

City, State, Zip Columbus, OH Name COCALO Phone Number Address Billing Information: ADDITIONAL INSTRUCTIONS: 1010 Sampled Sampled Client Name Received by oote 640 24.60 097 1290 Received by Relinquished by Relinquished by Received by 13 Address PO POWN AVE Relinquished by Ü 10/19/10 205 10 See Key AQ Matrix* Below KING Signature TOUR CANKER TOMPKINS, Lab ID Number Fax C-205 20040 2 Do Bupe - 0 8 X73-01 -10 Phone #(6/9) 63-01 MW-21-5 Report Attention P.O. # MW-21-3 EMail Address CHASE Snowbo MW-21-2 MW-21-4 MW-21-1 218013 labe Sample Description -224 ó **Print Name** 4010 731 Sparks, Nevada 89431-5778 Phone (775) 355-1044 255 Glendale Avenue, Suite 21 Alpha Analytical, Inc. Fax (775) 355-0406 Fax # 7985000 # gor AT Field Filtered 30,20 Total and type of 30 ** See below containers 5 X X ō Samples Collected From Which State? 29188Company 9 R CA X NV_ Analyses Required OTHER 10/12/10 Ó 10/15/10 Date THIP BLANK EGNIPALENT BLANTS SUPTIONE Global ID #_ EDD / EDF? YES Page # Required QC Level? REMARKS 1201 1508 1006 Time € 9 ₹

₹

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.

*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

**: L-Liter

V-Voa

S-Soil Jar

O-Orbo

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



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

Date: 03-Nov-10 David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102203

Cooler Temp:

1°C

Alpha's Sample ID	Client's Sample ID	Matrix	
10102203-01A	MW-15	Aqueous	
10102203-02A	Trip Blank	Aqueous	
10102203-03A	MW-10	Aqueous	
10102203-04A	MW-5	Aqueous	
10102203-05A	MW-8	Aqueous	
10102203-06A	MW-18-5	Aqueous	
10102203-07A	MW-18-4	Aqueous	
10102203-08A	MW-18-3	Aqueous	
10102203-09A	MW-18-2	Aqueous	
10102203-10A	MW-18-1	Aqueous	
10102203-11A	EB-02-10/21/10	Aqueous	
10102203-12A	TB-02-10/21/10	Aqueous	

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	<u>Analyte</u>
10102203-03A 10102203-07A	EPA Method 314.0 EPA Method 314.0	Perchlorate 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.

Roger Scholl

Kandy Saulner

Walter Hirkman



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/22/10

Job:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-8					
Lab ID: BMI10102203-05A	Chloride	6.3	0.50 mg/L	10/22/10 09:28	10/22/10 18:14
Date Sampled 10/21/10 14:34	Nitrite (NO2) - N	ND	0.25 mg/L	10/22/10 09:28	10/22/10 18:14
•	Nitrate (NO3) - N	0.63	0.25 mg/L	10/22/10 09:28	10/22/10 18:14
	Phosphate, ortho - P	ND	0.50 mg/L	10/22/10 09:28	10/22/10 18:14
	Sulfate (SO4)	20	0.50 mg/L	10/22/10 09:28	10/22/10 18:14

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 10/22/10

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-15 Lab ID: BMI10102203-01A Date Sampled 10/21/10 16:47	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 18:45
Client ID: MW-10 Lab ID: BMI10102203-03A Date Sampled 10/21/10 10:00	Perchlorate	75.9	1.00 μg/L	10/27/10 12:35	10/27/10 19:03
Client ID: MW-5 Lab ID: BMI10102203-04A Date Sampled 10/21/10 12:04	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 19:21
Client ID: MW-8 Lab ID: BMI10102203-05A Date Sampled 10/21/10 14:34	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 19:40
Client ID: MW-18-5 Lab ID: BMI10102203-06A Date Sampled 10/21/10 09:48	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 19:58
Client ID: MW-18-4 Lab ID: BMI10102203-07A Date Sampled 10/21/10 10:40	Perchlorate	30.0	1.00 μg/L	10/27/10 12:35	10/27/10 20:17
Client ID: MW-18-3 Lab ID: BMI10102203-08A Date Sampled 10/21/10 11:27	Perchlorate	65.2	1.00 µg/L	10/27/10 12:35	10/27/10 20:35
Client ID: MW-18-2 Lab ID: BMI10102203-09A Date Sampled 10/21/10 12:00	Perchlorate	1.87	1.00 µg/L	10/27/10 12:35	10/27/10 20:53
Client ID: MW-18-1 Lab ID: BMI10102203-10A Date Sampled 10/21/10 12:31	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 21:12
Client ID: EB-02-10/21/10 Lab ID: BMI10102203-11A Date Sampled 10/21/10 12:19	Perchlorate	ND	1.00 µg/L	10/27/10 12:35	10/27/10 21:30



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ND = Not Detected

Roger Scholl

Roger Scholl Kandy Saulner Walter Hinchman, Quality Assurance Officer

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas,\ NV \bullet (702)\ 736-7522\ /\ Carson,\ CA \bullet (714)\ 386-2901\ /\ info@alpha-analytical.com$

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Date Received: 10/22/10

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		EPA Method 200.8			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-15 Lab ID: BMI10102203-01A Date Sampled 10/21/10 16:47	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:48
Client ID: MW-10 Lab ID: BMI10102203-03A Date Sampled 10/21/10 10:00	Chromium (Cr)	0.0057	0.0050 mg/L	10/26/10 09:21	10/27/10 18:54
Client ID: MW-5 Lab ID: BMI10102203-04A Date Sampled 10/21/10 12:04	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 18:59
Client ID: MW-8 Lab ID: BMI10102203-05A Date Sampled 10/21/10 14:34	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:05
Client ID: MW-18-5 Lab ID: BMI10102203-06A Date Sampled 10/21/10 09:48	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:10
Client ID: MW-18-4 Lab ID: BMI10102203-07A Date Sampled 10/21/10 10:40	Chromium (Cr)	0.0071	0.0050 mg/L	10/26/10 09:21	10/27/10 19:16
Client ID: MW-18-3 Lab ID: BMI10102203-08A Date Sampled 10/21/10 11:27	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:22
Client ID: MW-18-2 Lab ID: BMI10102203-09A Date Sampled 10/21/10 12:00	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:27
Client ID: MW-18-1 Lab ID: BMI10102203-10A Date Sampled 10/21/10 12:31	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:33
Client ID: EB-02-10/21/10 Lab ID: BMI10102203-11A Date Sampled 10/21/10 12:19	Chromium (Cr)	ND	0.0050 mg/L	10/26/10 09:21	10/27/10 19:38



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ND = Not Detected

Roger Scholl

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Job: G00586

G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated	Estimated Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID : MW-15 Lab ID : BMI10102203-01A Date Received : 10/22/10 Date Sampled : 10/21/10 16:47	*** None Found ***	ND	2.0 μg/L	10/28/10 13:14	10/28/10 13:14
Client ID : Trip Blank Lab ID : BMI10102203-02A Date Received : 10/22/10 Date Sampled : 10/21/10 00:00	*** None Found ***	ND	2.0 μg/L	10/28/10 12:08	10/28/10 12:08
Client ID : MW-10 Lab ID : BMI10102203-03A Date Received : 10/22/10 Date Sampled : 10/21/10 10:00	*** None Found ***	ND	2.0 μg/L	10/28/10 13:35	10/28/10 13:35
Client ID: MW-5 Lab ID: BMI10102203-04A Date Received: 10/22/10 Date Sampled: 10/21/10 12:04	*** None Found ***	ND	2.0 μg/L	10/28/10 13:57	10/28/10 13:57
Client ID : MW-8 Lab ID : BMI10102203-05A Date Received : 10/22/10 Date Sampled : 10/21/10 14:34	*** None Found ***	ND	2.0 μg/L	10/28/10 14:19	10/28/10 14:19
Client ID: MW-18-5 Lab ID: BMI10102203-06A Date Received: 10/22/10 Date Sampled: 10/21/10 09:48	* * * None Found * * *	ND	2.0 μg/L	10/28/10 14:41	10/28/10 14:41
Client ID : MW-18-4 Lab ID : BMI10102203-07A Date Received : 10/22/10 Date Sampled : 10/21/10 10:40	*** None Found ***	ND O	4.0 μg/L	10/28/10 15:03	10/28/10 15:03
Client ID: MW-18-3 Lab ID: BMI10102203-08A Date Received: 10/22/10 Date Sampled: 10/21/10 11:27	*** None Found ***	ND	2.0 μg/L	10/28/10 15:25	10/28/10 15:25
Client ID: MW-18-2 Lab ID: BMI10102203-09A Date Received: 10/22/10 Date Sampled: 10/21/10 12:00	*** None Found ***	ND	2.0 μg/L	10/28/10 15:46	10/28/10 15:46



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Client ID:

MW-18-1

Lab ID:

BMI10102203-10A

* * * None Found * * *

* * * None Found * * *

ND

ND

 $2.0 \mu g/L$

 $2.0 \mu g/L$

10/28/10 16:08 10/28/10 16:08

Date Received: 10/22/10

Date Sampled: 10/21/10 12:31

Client ID:

EB-02-10/21/10

Lab ID:

BMI10102203-11A

Date Received: 10/22/10

Date Sampled: 10/21/10 12:19

Client ID:

TB-02-10/21/10

Lab ID:

BMI10102203-12A

Date Received: 10/22/10

* * * None Found * * *

ND

2.0 μg/L

10/28/10 12:30 10/28/10 12:30

10/28/10 12:52 10/28/10 12:52

Date Sampled: 10/21/10 07:00

Note: Analysis conducted using EPA Method 524.2 criteria.

O = Reporting Limits were increased due to sample foaming.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-01A

Client I.D. Number: MW-15

David Conner (619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 10/21/10 16:47

Received: 10/22/10

Extracted: 10/28/10 13:14 Analyzed: 10/28/10 13:14

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting L	imit
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 (DBCI	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			1		. ,	
33	Dibromochloromethane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

1.0

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11/4/10 **Report Date**

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-02A

Client I.D. Number: Trip Blank

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/21/10 00:00

Received: 10/22/10

Extracted: 10/28/10 12:08 Analyzed: 10/28/10 12:08

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
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-Tetrachioroethane	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 (DBC)	P) 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	Q	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	104		(70-130)	%RE0
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%RE0
32	1,3-Dichloropropane	ND	0.50	μg/L			'			
~~	5 0 11 0			. •						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

Walter Hirkon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

ua/L

μg/L

1.0

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.

11/4/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-03A Client I.D. Number: MW-10

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/21/10 10:00

Received: 10/22/10

Extracted: 10/28/10 13:35 Analyzed: 10/28/10 13:35

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting L	imit
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-Xyiene	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	1.2	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-Isopropyltoiuene	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 (DBCI			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	Q	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	105		(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	ua/L		Jan. Somondoroponeono	1 100		(10 100)	,01120

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

µg/L

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.

11/4/10 **Report Date**

Page 1 of 1



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

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone: Fax:

(619) 726-7311 (614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-04A

Client I.D. Number: MW-5

Sampled: 10/21/10 12:04

Received: 10/22/10

Extracted: 10/28/10 13:57 Analyzed: 10/28/10 13:57

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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-!sopropyltoluene	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 (DBC	P) 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	Q	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	104		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•			
33	Dibromochloromethane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas, NV \bullet (702)\ 736-7522\ /\ Carson, CA \bullet (714)\ 386-2901\ /\ info@alpha-analytical.com$

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.

1.0

µg/L

μg/L

11/4/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-05A Client I.D. Number: MW-8

David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/21/10 14:34

Received: 10/22/10

Extracted: 10/28/10 14:19 Analyzed: 10/28/10 14:19

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	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-Trìchloropropane	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	cís-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-chioropropane (DBCI	P) 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	Q	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	104		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

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.

11/4/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101 Job: G005862/JPL

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-06A

Client I.D. Number: MW-18-5

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/21/10 09:48

Received: 10/22/10

Extracted: 10/28/10 14:41 Analyzed: 10/28/10 14:41

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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-Xvlene	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-Xviene	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 (DBC)	P) 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	Q	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	103		(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	ua/L			,			

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulun

Walter Heritan

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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.

11/4/10 Report Date

Page 1 of 1



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 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-07A

Client I.D. Number: MW-18-4

Attn: **David Conner** Phone: (619) 726-7311

Fax:

(614) 458-6641

Sampled: 10/21/10 10:40

Received: 10/22/10

Extracted: 10/28/10 15:03 Analyzed: 10/28/10 15:03

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
Dichlorodifluoromethane	ND	1.0	µg/L	36	1,1,1,2-Tetrachloroethane	ND		1.0	μg/L
Chloromethane	ND	2.0	. •	37	Chlorobenzene	ND		1.0	μg/L
Vinyl chloride	ND	1.0	. •	38	Ethylbenzene	ND		1.0	μg/L
Chloroethane	ND	1.0	. •	39	m,p-Xylene	ND		1.0	μg/L
Bromomethane	ND	2.0	. •	40	Bromoform	ND		1.0	μg/L
Trichlorofluoromethane	ND	1.0	. •	41	Styrene	2.7		1.0	μg/L
1,1-Dichloroethene	ND	1.0		42	o-Xvlene	ND		1.0	µg/L
Dichloromethane	ND	2.0	. •	43	1,1,2,2-Tetrachloroethane	ND		1.0	μg/L
Freon-113	ND	1.0	. •	44	1,2,3-Trichloropropane	ND		2.0	μg/L
trans-1,2-Dichloroethene	ND	1.0		45	Isopropylbenzene	ND		1.0	μg/L
Methyl tert-butyl ether (MTBE)	2.0	1.0	. •	46	Bromobenzene	ND		1.0	µg/L
1,1-Dichloroethane	ND	1.0	. •	47	n-Propylbenzene	ND		1.0	µg/L
2-Butanone (MEK)	ND	20	. •	48	4-Chlorotoluene	ND		1.0	μg/L
cis-1,2-Dichloroethene	ND	1.0		49	2-Chlorotoluene	ND		1.0	μg/L
Bromochloromethane	ND	1.0		50	1.3.5-Trimethylbenzene	ND		1.0	μg/L
Chloroform	ND	1.0		51		ND		1.0	μg/L
2,2-Dichloropropane	ND		. •		•	ND		1.0	μg/L
1,2-Dichloroethane	ND				• •	ND		1.0	μg/L
1,1,1-Trichloroethane	ND				•	ND		1.0	μg/L
1,1-Dichloropropene	ND	1.0		55	1.4-Dichlorobenzene	ND		1.0	µg/L
Carbon tetrachloride	ND		. •		•	ND		1.0	μg/L
Benzene	ND		. •	57	1.2-Dichlorobenzene	ND		1.0	μg/L
Dibromomethane	ND		. •	58	n-Butvlbenzene	ND		1.0	μg/L
1,2-Dichloropropane	ND				•	P) ND		5.0	μg/L
Trichloroethene	ND					ND		2.0	μg/L
Bromodichloromethane	ND				• •	ND	Q	2.0	μg/L
4-Methyl-2-pentanone (MIBK)	ND				•	ND			μg/L
cis-1,3-Dichloropropene	ND			-		1			µg/L
	ND					í			%REC
1,1,2-Trichloroethane	ND		. •		•			, ,	%REC
Toluene	ND		. •		******			, , ,	%REC
1,3-Dichloropropane	ND				Commission of the control of the con	1 00		()	
Dibromoobloromothono	ND	1.0	μg/L						
	Dichlorodifluoromethane Chloromethane Vinyl chloride Chloroethane Bromomethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane Freon-113 trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane 2-Butanone (MEK) cis-1,2-Dichloroethene Bromochloromethane Chloroform 2,2-Dichloropropane 1,2-Dichloroethane 1,1,1-Trichloroethane 1,1,1-Trichloroethane 1,1-Dichloropropane 1,2-Dichloropropane Tichloropropane Tichloroethane 1,2-Dichloropropane Trichloroethane 4,2-Dichloropropane Trichloroethane 4,2-Dichloropropane Trichloroethane 4,3-Dichloropropane trans-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Toluene	Dichlorodifluoromethane Chloromethane ND Chloromethane ND Vinyl chloride Chloroethane ND Bromomethane ND Trichlorofluoromethane ND Trichlorofluoromethane ND I,1-Dichloroethene ND Dichloromethane ND Freon-113 ND Trans-1,2-Dichloroethene ND Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane ND Cis-1,2-Dichloroethene ND Bromochloromethane ND Cis-1,2-Dichloroethene ND Chloroform ND Chloroform ND I,2-Dichloroethane ND Chloroform ND Chloroform ND I,1-Trichloroethane ND I,1-Trichloroethane ND I,1-Dichloropropene ND Carbon tetrachloride ND Dibromomethane ND Dibromomethane ND Trichloroethene ND Dibromomethane ND Dibromomethane ND Dibromomethane ND Trichloropropane ND Trichloropropane ND Trichloropropane ND Trichloroethene ND Dibromomethane ND Trichloropropane ND Trichloropropane ND Trichloropropane ND Trichloropropane ND Trichloropropene ND Toluene ND Toluene ND	Dichlorodifluoromethane ND 1.0 Chloromethane ND 2.0 Vinyl chloride ND 1.0 Chloroethane ND 1.0 Bromomethane ND 1.0 Trichlorofluoromethane ND 1.0 1,1-Dichloroethene ND 1.0 Dichloromethane ND 1.0 Freon-113 ND 1.0 trans-1,2-Dichloroethene ND 1.0 Methyl tert-butyl ether (MTBE) 2.0 1.0 1,1-Dichloroethane ND 1.0 1,1-Dichloroethane ND 1.0 2-Butanone (MEK) ND 20 cis-1,2-Dichloroethane ND 1.0 Bromochloromethane ND 1.0 1,2-Dichloropropane ND 1.0 1,2-Dichloroethane ND 1.0 1,1-Trichloroethane ND 1.0 1,1-Dichloropropene ND 1.0 1,1-Dichloropropane ND 1.0 1,2-Dic	Dichlorodifluoromethane ND 1.0 µg/L Chloromethane ND 2.0 µg/L Vinyl chloride ND 1.0 µg/L Chloroethane ND 1.0 µg/L Bromomethane ND 1.0 µg/L Bromomethane ND 1.0 µg/L Trichlorofluoromethane ND 1.0 µg/L 1,1-Dichloroethane ND 1.0 µg/L Freon-113 ND 1.0 µg/L Freon-113 ND 1.0 µg/L Kans-1,2-Dichloroethene ND 1.0 µg/L Methyl tert-butyl ether (MTBE) 2.0 1.0 µg/L 1,1-Dichloroethane ND 1.0 µg/L 1,1-Dichloroethane ND 1.0 µg/L 2-Butanone (MEK) ND 1.0 µg/L Bromochloromethane ND 1.0 µg/L Chloroform ND 1.0 µg/L 1,1-Dichloroptopane ND	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifiluoromethane

μg/L

μg/L

2.0

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

Reporting Limits were increased due to sample foaming.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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11/4/10 Report Date



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

ANALYTICAL REPORT

David Conner

(619) 726-7311

(614) 458-6641

Attn:

Fax:

Phone:

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-08A

Client I.D. Number: MW-18-3

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Sampled: 10/21/10 11:27 Received: 10/22/10

Extracted: 10/28/10 15:25 Analyzed: 10/28/10 15:25

Volatile Organics by GC/MS EPA Method SW8260B

**************************************	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
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	2.1	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	20	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 (DBCI	P) ND		2.5	μg/L
25	Trichloroethene	1.3	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	Q	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	104		(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			•			

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulan

Walter Hinkow

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

ua/L

1.0

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11/4/10

Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-09A

Client I.D. Number: MW-18-2

Attn: **David Conner** Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/21/10 12:00

Received: 10/22/10

Extracted: 10/28/10 15:46 Analyzed: 10/28/10 15:46

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
Bromomethane	ND	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND		0.50	μg/L
1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
Dichloromethane	ND	1.0	. •	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
Freon-113	ND	0.50		44	1,2,3-Trichloropropane	ND		1.0	µg/L
trans-1,2-Dichloroethene	ND	0.50		45	Isopropylbenzene	ND		0.50	μg/L
Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND		0.50	μg/L
2-Butanone (MEK)	ND	10	ug/L	48	4-Chlorotoluene	ND		0.50	μg/L
cis-1,2-Dichloroethene	ND	0.50		49	2-Chlorotoluene	ND		0.50	μg/L
Bromochloromethane	ND	0.50		50	1.3.5-Trimethylbenzene	ND		0.50	μg/L
Chloroform	ND	0.50		51	tert-Butylbenzene	ND		0.50	μg/L
2,2-Dichloropropane	ND	0.50	. •	52	•	ND		0.50	μg/L
1,2-Dichloroethane	ND	0.50	. •	53	sec-Butylbenzene	ND		0.50	μg/L
1,1,1-Trichloroethane	ND	0.50		54	1.3-Dichlorobenzene	ND		0.50	μg/L
1,1-Dichloropropene	ND	0.50	. •	55	1.4-Dichlorobenzene	ND		0.50	μg/L
Carbon tetrachloride	ND	0.50		56	4-Isopropyltoluene	ND		0.50	μg/L
Benzene	ND	0.50		57	1.2-Dichlorobenzene	ND		0.50	µg/L
Dibromomethane	ND	0.50		58	n-Butvibenzene	ND		0.50	µg/L
1,2-Dichloropropane	ND	0.50		59	•	P) ND		2.5	μg/L
Trichloroethene	ND	0.50		60		ND		1.0	µg/L
Bromodichloromethane	ND	0.50	. •	61		ND	Q	1.0	μg/L
4-Methyl-2-pentanone (MIBK)	ND			-	F	_	_	-	μg/L
cis-1,3-Dichloropropene	ND					1			μg/L
trans-1,3-Dichloropropene	ND		. •		.,.,.				%REC
1,1,2-Trichloroethane	ND							, ,	%REC
Toluene	ND		. •	66				, ,	%REC
1,3-Dichloropropane	ND	0.50	. •			1		()	
	Dichlorodifluoromethane Chloromethane Vinyl chloride Chloroethane Bromomethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane Freon-113 trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane 2-Butanone (MEK) cis-1,2-Dichloroethene Bromochloromethane Chloroform 2,2-Dichloropropane 1,2-Dichloropropane 1,1-Trichloroethane 1,1-Trichloroethane 1,1-Dichloropropane 1,2-Dichloropropane Trichloromethane 1,2-Dichloropropane Trichloroethene Bromodichloromethane 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Toluene	Dichlorodifluoromethane Chloromethane Vinyl chloride Chloroethane Bromomethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane ND Trans-1,2-Dichloroethene Mb Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane 2-Butanone (MEK) cis-1,2-Dichloroethene Bromochloromethane ND Chloroform ND 1,1-Dichloroethane ND Chloroform ND 1,2-Dichloroethane ND 1,1-Trichloroethane ND 1,1-Trichloroethane ND 1,2-Dichloroethane ND 1,1-Dichloropropane ND 1,2-Dichloropropane ND 1,2-Dichloropropane ND 1,1-Dichloropropane ND 1,1-Dichloropropane ND 1,1-Dichloropropane ND ND Carbon tetrachloride Benzene ND Dibromomethane ND Trichloroethene ND Trichloroethene ND ND Trichloroethene ND ND Trichloroethene ND ND Trichloropropane ND Trichloroethene ND ND Trichloroethene ND ND Trichloropropene ND Trichloroethane ND Toluene	Dichlorodifluoromethane ND 0.50 Chloromethane ND 1.0 Vinyl chloride ND 0.50 Chloroethane ND 0.50 Bromomethane ND 0.50 Bromomethane ND 0.50 Trichlorofluoromethane ND 0.50 1,1-Dichloroethene ND 0.50 Dichloromethane ND 0.50 Itans-1,2-Dichloroethene ND 0.50 Methyl tert-butyl ether (MTBE) ND 0.50 1,1-Dichloroethane ND 0.50 1,1-Dichloroethane ND 0.50 2-Butanone (MEK) ND 0.50 2-Butanone (MEK) ND 0.50 2-Butanone (MEK) ND 0.50 Bromochloromethane ND 0.50 1,2-Dichloroethane ND 0.50 1,2-Dichloropropane ND 0.50 1,1-Trichloroethane ND 0.50 1,1-Dichloropropane ND 0.50	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodiffuoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

μg/L

1.0

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11/4/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

Attn: David Conner Phone: (619) 726-7311

Fax:

San Diego, CA 92101

(614) 458-6641

Job: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-10A

Sampled: 10/21/10 12:31 Received: 10/22/10

Client I.D. Number: MW-18-1

Extracted: 10/28/10 16:08 Analyzed: 10/28/10 16:08

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachioroethane	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 (DBCI	P) 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	Q	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	104		(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			,			

μg/L

μg/L

1.0

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulun

Walter Hirihour

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/4/10 Report Date

Page 1 of 1



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 655 West Broadway San Diego, CA 92101

David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-11A

Client I.D. Number: EB-02-10/21/10

Sampled: 10/21/10 12:19

Received: 10/22/10 Extracted: 10/28/10 12:52 Analyzed: 10/28/10 12:52

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 (DBC	P) 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	Q	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	105		(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							

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

1.0

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.

11/4/10 **Report Date**



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 655 West Broadway San Diego, CA 92101

Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102203-12A

Client I.D. Number: TB-02-10/21/10

Sampled: 10/21/10 07:00

Received: 10/22/10 Extracted: 10/28/10 12:30

Analyzed: 10/28/10 12:30

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-Xvlene	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	ug/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-Isopropyłtoluene	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 (DBC	P) 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	Q	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	105		(70-130)	%REC	
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC	
32	1,3-Dichloropropane	ND	0.50	μg/L			,		/		

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulun

Walter Hinkon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

µg/L

μg/L

1.0

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.

11/4/10 Report Date



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: BMI10102203

Job:

G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
10102203-01A	MW-15	Aqueous	2
10102203-02A	Trip Blank	Aqueous	2
10102203-03A	MW-10	Aqueous	2
10102203-04A	MW-5	Aqueous	2
10102203-05A	MW-8	Aqueous	2
10102203-06A	MW-18-5	Aqueous	2
10102203-07A	MW-18-4	Aqueous	2
10102203-08A	MW-18-3	Aqueous	2
10102203-09A	MW-18-2	Aqueous	2
10102203-10A	MW-18-1	Aqueous	2
10102203-11A	EB-02-10/21/10	Aqueous	2
10102203-12A	TB-02-10/21/10	Aqueous	2

11/4/10



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

Date: 01-Nov-10	(QC Su	ımmar	y Repor	t				Work Orde 10102203	
Method Blank File ID: 38 Sample ID: MB-25303 Analyte	Units : mg/L Result	Type: M II	Ba Run ID: I C	est Code: EF atch ID: 2530 _1_101022A SpkRefVal)3 \		Prep I	Date:	10/22/2010 17:19 10/22/2010 09:28 /al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	ND ND ND ND ND	0.5 0.25 0.25 0.5 0.5					·			
Laboratory Fortified Blank		Type: LF		est Code: EF		thod 300.0				
File ID: 24 Sample ID: LFB-25303	Units : mg/L			atch ID: 253(_ 1_101022 A			Analy: Prep i		10/26/2010 18:28 10/22/2010 09:28	
Analyte	Result	PQL				C LCL(ME)	-		/al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	51.4 5.06 5.08 4.97 102	0.5 0.25 0.25 0.5 0.5	50 5 5 5 100		103 101 102 99 102	90 90 90 90 90	110 110 110 110 110			
Sample Matrix Spike		Type: LF	M T	est Code: EF	A Met	thod 300.0				
File ID: 29		•	Ва	atch ID: 253 ()3		Analy	sis Date:	10/22/2010 14:32	
Sample ID: 10102127-04ALFM	Units : mg/L			_1_101022A			Prep I		10/22/2010 09:28	
Analyte	Result	PQL					, ,	RPDRef	/al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	132 4.35 7.71 5.48 122	0.5 0.25 0.25 0.5 0.5	50 5 5 5 100	107.2 0 2.841 0 37.59	49 87 97 110 85	80 80 80 80 80	120 120 120 120 120			M2
Sample Matrix Spike Duplicate		Type: LF	MD T	est Code: EF	A Met	thod 300.0	-			
File ID: 30				atch ID: 2530			•		10/22/2010 14:51	
Sample ID: 10102127-04ALFMD Analyte	Units : mg/L			_1_101022A) (O) (NE)	Prep [10/22/2010 09:28	01
Chloride	Result 133	PQL 0.5	SpkVal 50	SpkRefVal 107.2	%REC 51	80	120	131.7	/al %RPD(Limit) 0.8(15)	Qual M2
Nitrite (NO2) - N	4.56	0.5	50	107.2	91	80 80	120	4.346		IVI∠
Nitrate (NO3) - N	7.78	0.25	5	2.841	99	80	120	7.713	0.9(15)	
Phosphate, ortho - P Sulfate (SO4)	5.81 123	0.5 0.5	5 100	0 3 7 .59	116 85	80 80	120 120	5.484 122.4		

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.

M2 = Matrix spike recovery was low, the method control sample recovery was acceptable.



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Date: θ1-Nov-1θ			QC S	ummar	y Repor	t				Work Ord e 10102203	
Method Bla File ID: 14	nk		Type N		est Code: El		hod 314.0	Analy	sis Date:	10/27/2010 13:32	
Sample ID:	MB-25339	Units : µg/L		Run ID: IC	_3_101027	4		Prep	Date:	10/27/2010 12:35	
Analyte		Result	PQL				LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND	1								
Laboratory	Fortified Blank		Type L	.FB T	est Code: El	PA Met	thod 314.0				
File ID: 15				В	atch ID: 253	39		Analy	sis Date:	10/27/2010 13:50	
Sample ID:	LFB-25339	Units : µg/L		Run ID: IC	_3_101027	4		Prep	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef*	Val %RPD(Limit)	Qual
Perchlorate		27.3	2	2 25		109	85	115			
Sample Mat	rix Spike		Type L	.FM T	est Code: El	PA Met	hod 314.0				
File ID: 18				В	atch ID: 253 :	39		Analy	sis Date:	10/28/2010 12:12	
Sample ID:	10102003-03ALFM	Units : µg/L		Run ID: IC	_3_101027	4		Prep	Date:	10/27/2010 12:35	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME) L	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		2160	100	1250	823	107	80	120			
Sample Mat	rix Spike Duplicate		Type L	FMD T	est Code: El	PA Met	hod 314.0				
File ID: 19	-			В	atch ID: 253 :	39		Analy	sis Date:	10/28/2010 12:31	
Sample ID:	10102003-03ALFMD	Units : µg/L		Run ID: IC	_3_101027	4		Prep	Date:	10/27/2010 12:35	
Analyte		Result	PQL				LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		2230	100	1250	823	112	80	120	2157	7 3.3(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: 29-Oct-10	(QC Summary Report						Work Order: 10102203	
Method Blank File ID: 102710.B\025_M1.D\		Type N		est Code: El		thod 200.8	Analysis Date	: 10/27/2010 16:39	
Sample ID: MB-25322	Units : mg/L		Run ID: IC	P/MS_1010	271		Prep Date:	10/26/2010 09:21	
Analyte	Result	PQL		_		LCL(ME)	JCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5						
Laboratory Control Spike		Type L	.cs T	est Code: El	PA Met	thod 200.8			
File ID: 102710.B\025_M2.D\			В	atch ID: 2532	22		Analysis Date	: 10/27/2010 16:44	
Sample ID: LCS-25322	Units : mg/L		Run ID: IC	P/MS_1010	271		Prep Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	JCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chromium (Cr)	0.0556	0.005	0.05		111	85	115		
Sample Matrix Spike		Type N	AS T	est Code: El	A Met	thod 200.8			
File ID: 102710.B\026_M.D\			В	atch ID: 2532	22		Analysis Date	10/27/2010 17:14	
Sample ID: 10102003-03AMS	Units : mg/L		Run ID: IC	P/MS_1010	271		Prep Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	JCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chromium (Cr)	0.0561	0.005	0.05	0.008073	96	70	130		
Sample Matrix Spike Duplicate		Type N	ISD T	est Code: EF	A Met	hod 200.8			
File ID: 102710.B\027_M.D\			В	atch ID: 2532	22		Analysis Date	: 10/27/2010 17:19	
Sample ID: 10102003-03AMSD	Units : mg/L		Run ID: IC	P/MS_1010	271		Prep Date:	10/26/2010 09:21	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	JCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chromium (Cr)	0.0571	0.005	0.05	0.008073	98	70	130 0.056	607 1.9(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.



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Date: 03-Nov-10	Work Order: 10102203					
Method Blank						
File ID: 10102806.D			Batch ID: MS15W1028M	Analysis Date:	10/28/2010 09:36	
Sample ID: MBLK MS15W1028M	Units : µg/L	Run II	D: MSD_15_101028B	Prep Date:	10/28/2010 09:36	
Analyte	Result	PQL Spl	Val SpkRefVal %REC LCL((ME) UCL(ME) RPDRef	Val %RPD(Limit)	Qua
Dichlorodifluoromethane	ND	0.5				_
Chloromethane	ND	1				
Vinyl chloride	ND	0.5				
Chloroethane	ND	0.5				
Bromomethane Trichlorofluoromethane	ND ND	1				
1,1-Dichloroethene	ND ND	0.5 0.5				
Dichloromethane	ND	1				
Freon-113	ND	0.5				
trans-1,2-Dichloroethene	ND	0.5				
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	ND	0.5				
2-Butanone (MEK)	ND ND	0.5 10				
cis-1,2-Dichloroethene	ND ND	0.5				
Bromochloromethane	ND	0.5				
Chloroform	ND	0.5				
2,2-Dichloropropane	ND	0.5				
1,2-Dichloroethane 1,1,1-Trichloroethane	ND ND	0.5				
1,1-Dichloropropene	ND ND	0.5 0.5				
Carbon tetrachloride	ND	0.5				
Benzene	ND	0.5				
Dibromomethane	ND	0.5				
1,2-Dichloropropane Trichloroethene	ND	0.5				
Bromodichloromethane	ND ND	0.5 0.5				
4-Methyl-2-pentanone (MIBK)	ND 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 1,3-Dichloropropane	ND	0.5				
Dibromochloromethane	ND ND	0.5 0.5				
1,2-Dibromoethane (EDB)	ND	0.5 1				
Tetrachloroethene	ND	0.5				
1,1,1,2-Tetrachloroethane	ND	0.5				
Chlorobenzene	ND	0.5				
Ethylbenzene m,p-Xylene	ND	0.5				
Bromoform	ND ND	0.5 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 Bromobenzene	ND ND	0.5				
n-Propylbenzene	ND ND	0.5 0.5				
4-Chlorotoluene	ND	0.5				
2-Chlorotoluene	ND	0.5				
1,3,5-Trimethylbenzene	ND	0.5				
tert-Butylbenzene 1,2,4-Trimethylbenzene	ND	0.5				
sec-Butylbenzene	ND ND	0.5 0.5				
1,3-Dichlorobenzene	ND ND	0.5 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) 1,2,4-Trichlorobenzene	ND	2.5				
Naphthalene	ND ND	1 1				
Hexachlorobutadiene	ND	1				
1,2,3-Trichlorobenzene	ND	1				
Surr: 1,2-Dichloroethane-d4	10		10 100 70			
Surr: Toluene-d8	10.5		10 105 70	0 130		



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Date: 03-Nov-10	QC :	Summary Re	port			Work Order: 10102203
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130	



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Date: 03-Nov-10	(Work Ord 10102203						
Laboratory Control Spike								
File ID: 10102803.D			Ва	tch ID: MS15W102	BM	Analysis Dat	e: 10/28/2010 08:23	
Sample ID: LCS MS15W1028M	Units : µg/L	. F	Run ID: MS	SD_15_101028B		Prep Date:	10/28/2010 08:23	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Dichlorodifluoromethane	9.47	1	10	95	70	130		
Chloromethane	9.79	2	10	98	70	130		
Vinyl chloride	11	1	10	110	70	130		
Chloroethane Bromomethane	10.2 11.4	1 2	10 10	102 114	70 70	130 130		
Trichlorofluoromethane	10.2	1	10	102	70	130		
1,1-Dichloroethene	10.6	i 1	10	106	70	130		
Dichloromethane	9.25	2	10	93	70	130		
Freon-113	11.3	1	10	113	67	141		
trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE)	10.4	1	10	104	70 70	130		
1,1-Dichloroethane	8.81 10.2	0.5 1	10 10	88 102	70 70	130 130		
2-Butanone (MEK)	167	10	200	83	70	130		
cis-1,2-Dichloroethene	10.1	1	10	101	70	130		
Bromochloromethane	9.64	1	10	96	70	130		
Chloroform	9.83	1	10	98	70 70	130		
2,2-Dichloropropane 1,2-Dichloroethane	10.4 9.55	1 1	10 10	104 96	70 70	130 130		
1,1,1-Trichloroethane	9.55 10.4	1	10 10	96 104	70 70	130		
1,1-Dichloropropene	10.6	1	10	104	70	130		
Carbon tetrachloride	10.7	1	10	107	70	130		
Benzene	10.1	0.5	10	101	70	130		
Dibromomethane	9.24	1	10	92	70	130		
1,2-Dichloropropane Trichloroethene	9.85 10.3	1 1	10 10	99 103	70 70	130 130		
Bromodichloromethane	10.5	1	10	105	70 70	130		
4-Methyl-2-pentanone (MIBK)	20.9	2.5	25	83	20	182		
cis-1,3-Dichloropropene	9.92	1	10	99	70	130		
trans-1,3-Dichloropropene	8.88	1	10	89	70	130		
1,1,2-Trichloroethane Toluene	9.09	1	10	91	70	130		
1,3-Dichloropropane	9.91 9.29	0.5 1	10 10	99 93	70 70	130 130		
Dibromochloromethane	9.18	1	10	93 92	70	130		
1,2-Dibromoethane (EDB)	18.5	2	20	93	70	130		
Tetrachloroethene	10.3	1	10	103	70	130		
1,1,1,2-Tetrachloroethane	10.5	1	10	105	70	130		
Chlorobenzene Ethylbenzene	10	1	10	100	70 70	130		
m,p-Xylene	10.4 10.2	0.5 0.5	10 10	104 102	70 70	130 130		
Bromoform	8.67	1	10	87	70	130		
Styrene	10.2	1	10	102	70	130		
o-Xylene	10.1	0.5	10	101	70	130		
1,1,2,2-Tetrachloroethane	8.49	1	10	85	70	130		
1,2,3-Trichloropropane Isopropylbenzene	17.1 10.4	2	20	86 104	70 70	130		
Bromobenzene	10.4	1	10 10	104 102	70 70	130 130		
n-Propylbenzene	11	1	10	110	70	130		
4-Chlorotoluene	10.5	1	10	105	70	130		
2-Chlorotoluene	10.5	1	10	105	70	130		
1,3,5-Trimethylbenzene	10.6	1	10	106	70	130		
tert-Butylbenzene 1,2,4-Trimethylbenzene	10.4 10.5	1	10	104 105	70 70	130		
sec-Butylbenzene	10.5 10.8	1 1	10 10	105 108	70 70	130 130		
1,3-Dichlorobenzene	10.5	1	10	105	70	130		
1,4-Dichlorobenzene	9.96	1	10	99.6	70	130		
4-Isopropyltoluene	10.6	1	10	106	70	130		
1,2-Dichlorobenzene n-Butylbenzene	9.4	1	10	94	70 70	130		
1,2-Dibromo-3-chloropropane (DBCP)	10.9 43.3	1	10 50	109 87	70 70	130 130		
1,2,4-Trichlorobenzene	43.3 8.29	3 2	50 10	87 83	70 70	130		
Naphthalene	5.92	2	10	59	70(70)	130		L50
Hexachlorobutadiene	19.1	2	20	95	70	130		•
1,2,3-Trichlorobenzene	7.72	2	10	77	70	130		
Surr: 1,2-Dichloroethane-d4	9.38		10	94	70	130		
Surr: Toluene-d8	9.89		10	99	70	130		



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Date: 03-Nov-10	QC	Summary Re	port		•	Work Order: 10102203
Surr: 4-Bromofluorobenzene	10	10	100	70	130	



Date:

Alpha Analytical, Inc.

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Work Order:



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Date: 03-Nov-10	QC	Summary Re	port			Work Order: 10102203
Surr: 4-Bromofluorobenzene	49.5	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: 03-Nov-10	QC Summary Report							Work Order: 10102203		
Sample Matrix Spike Duplicate		Type: N	ISD To	est Code: EF	A Met	hod SW82	60B		A	
File ID: 10102808.D			Ва	atch ID: MS1	5W102	28M	Analys	sis Date: 1	0/28/2010 10:19	
Sample ID: 10102203-09AMSD	Units : µg/L		Run ID: MS	SD_15_1010	28B		Prep [Date: 1	0/28/2010 10:19	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVa	I %RPD(Limit)	Qual
Dichlorodifluoromethane	42.7	2.5	5 50	0	85	13	167	40.83	4.4(20)	
Chloromethane	45.1	10		0	90	28	145	40.67	10.4(20)	
Vinyl chloride Chloroethane	55.6	2.5		0	111	43	134	51.86	7.0(20)	
Bromomethane	50.1 58.8	2.5 10		0	100 118	39 19	154 176	46.72 51.75	6.9(20) 12.7(20)	
Trichlorofluoromethane	49.9	2.5		0	99.8	34	160	47.37	5.2(20)	
1,1-Dichloroethene	49.9	2.5		ő	99.8	60	130	47.31	5.4(20)	
Dichloromethane	43.8	10	50	0	88	68	130	42.03	4.2(20)	
Freon-113 trans-1,2-Dichloroethene	54.2	2.5		0	108	49	141	53.24	1.8(20)	
Methyl tert-butyl ether (MTBE)	49.4 45.4	2.5 1.3		. 0	99 91	63 56	130	47.52 43.34	3.9(20)	
1,1-Dichloroethane	45.4	2.5		0	91 96	56 61	141 130	43.54 46.55	4.6(20) 3.2(20)	
2-Butanone (MEK)	665	50		Ö	67	20	182	654	1.7(20)	
cis-1,2-Dichloroethene	48.1	2.5		0	96	70	130	46.01	4.4(20)	
Bromochloromethane	48.1	2.5		0	96	70	130	46.25	3.9(20)	
Chloroform 2,2-Dichloropropane	46.7	2.5		0	93	67 30	130	43.66	6.8(20)	
1,2-Dichloroethane	49.9 47.1	2.5 2.5		0	99.7 94	30 60	152 135	47.63 45.1	4.6(20) 4.3(20)	
1,1,1-Trichloroethane	50.3	2.5		0	9 4 101	59	137	45.1 47.27	6.2(20)	
1,1-Dichloropropene	51	2.5		Ö	102	63	130	48.93	4.2(20)	
Carbon tetrachloride	52.5	2.5		0	105	50	147	48.46	7.9(20)	
Benzene	48.5	1.3		0	97	67	130	46.3	4.7(20)	
Dibromomethane 1,2-Dichloropropane	45.3 46.5	2.5 2.5		0	91 93	69	133 130	43.4	4.3(20)	
Trichloroethene	48.6	2.5		0	93 97	69 69	130	45.16 46.61	2.9(20) 4.2(20)	
Bromodichloromethane	50.9	2.5		0	102	66	134	47.31	7.3(20)	
4-Methyl-2-pentanone (MIBK)	98.3	13	125	0	79	20	182	95.49	2.9(20)	
cis-1,3-Dichloropropene	46.2	2.5		0	92	63	130	43.84	5.3(20)	
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	42.3 44.3	2.5 2.5		0	85 89	66 68	131	40.12	5.3(20)	
Toluene	44.3 46.5	1.3		0	93	68 66	130 130	42.28 45.19	4.6(20) 2.8(20)	
1,3-Dichloropropane	45.7	2.5		0	91	70	130	44.11	3.6(20)	
Dibromochloromethane	44.9	2.5		0	90	70	130	42.01	6.7(20)	
1,2-Dibromoethane (EDB)	89.1	5		0	89	70	130	86.11	3.4(20)	
Tetrachloroethene 1.1.1.2-Tetrachloroethane	49.4	2.5		0	99	61	134	47.01	4.9(20)	
Chlorobenzene	49.1 47.4	2.5 2.5		0	98 95	70 70	130 130	46.53 45.44	5.4(20) 4.2(20)	
Ethylbenzene	48.6	1.3		0	97	68	130	46.98	3.4(20)	
m,p-Xylene	48.2	1.3		. 0	96	64	130	46.05	4.5(20)	
Bromoform	43.7	2.5		0	87	64	138	40.67	7.3(20)	
Styrene o-Xylene	47.8	2.5		0	96	69	130	45.82	4.3(20)	
1,1,2,2-Tetrachloroethane	47.5 41.5	1.3 2.5		0	95 83	70 65	130 131	45.64 40.22	4.0(20) 3.2(20)	
1,2,3-Trichloropropane	85.7	10		0	86	70	130	83.63	2.4(20)	
Isopropylbenzene	47.3	2.5		Ö	95	64	138	46.21	2.4(20)	
Bromobenzene	46.9	2.5		0	94	70	130	46.17	1.5(20)	
n-Propylbenzene 4-Chlorotoluene	49.6	2.5		0	99	66	132	48.41	2.5(20)	
2-Chlorotoluene	48.4 48.3	2.5 2.5		0	97 97	70 70	130 130	47.01 46.88	3.0(20) 3.0(20)	
1,3,5-Trimethylbenzene	48.1	2.5		0	96	66	136	46.97	2.4(20)	
tert-Butylbenzene	47.3	2.5		0	95	65	137	46.03	2.8(20)	
1,2,4-Trimethylbenzene	48.2	2.5		0	96	65	137	46.49	3.5(20)	
sec-Butylbenzene	49.2	2.5		0	98	66	134	47.41	3.6(20)	
1,3-Dichlorobenzene 1,4-Dichlorobenzene	49.4	2.5		0	99	70 70	130	47.79	3.3(20)	
4-isopropyltoluene	46.5 48.6	2.5 2.5		0	93 97	70 66	130 137	44.77 47.34	3.8(20) 2.6(20)	
1,2-Dichlorobenzene	44.6	2.5		0	89	70	130	42.37	5.2(20)	
n-Butylbenzene	50.9	2.5	50	ŏ	102	60	142	48.44	5.0(20)	
1,2-Dibromo-3-chloropropane (DBCP)	212	15		0	85	67	130	196.5	7.7(20)	
1,2,4-Trichlorobenzene Naphthalene	41.2	10		0	82	61	137	36.82	11.2(20)	
Hexachlorobutadiene	30.4 94.8	10 10		0	61 95	40 61	167 130	26.78 86.55	12.7(20)	
1,2,3-Trichlorobenzene	94.6 39	10		0	95 78	51	144	34.01	9.1(20) 13.8(20)	
Surr: 1,2-Dichloroethane-d4	48.4	.0	50	3	97	70	130	, 5 1101	. 5.5(=5)	
Surr: Toluene-d8	49.2		50		98	70	130			



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Date: 03-Nov-10	QC	Work Order: 10102203				
Surr: 4-Bromofluorobenzene	48.7	50	97	70	130	

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

Alpha Analytical, Inc.

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

Report Attention Shane Walton David Conner Phone Number (614) 424-4117 x (619) 726-7311 x connerd@battelle.org waltons@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 05-Nov-2010

WorkOrder: BMIS10102203

Page: 1 of 2

Sampled by: David Loera, Chase Brogdon

Cooler Temp Samples Received 22-Oct-2010 22-Oct-2010 Date Printed

Client's COC #: 31911, 31912, 29185 PO: 218013 QC Level: DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

San Diego, CA 92101

Betsy Cutie

(614) 424-4899

cutiee@batelle.org

Battelle Memorial Institute 655 West Broadway

Sample ID BMI10102203-10A MW-18-1 BMI10102203-05A MW-8 BMI10102203-04A BMI10102203-01A MW-15 BMI10102203-09A BMI10102203-08A MW-18-3 BMI10102203-07A MW-18-4 BMI10102203-06A MW-18-5 BMI10102203-03A MW-10 BMI10102203-02A MW-18-2 MW-5 Trip Blank Sample ID Client Matrix Date à å å Š å å ğ ğ å AQ 10/21/10 16:47 10/21/10 11:27 10/21/10 12:04 Collection No. of Bottles 10/21/10 12:31 10/21/10 12:00 10/21/10 10:00 10/21/10 10:40 10/21/10 09:48 10/21/10 00:00 10/21/10 14:34 Alpha Sub G 6 S G S 9 0 0 0 0 0 0 0 0 0 0 TAT 5 6 6 ಕ 5 6 6 6 5 5 NO2, NO3. Perchlorate SO4, Cl, PO4 300_0_W 314_W METALS_D VOC_TIC_ VOC_W Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Ç Ç Ç Ç Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria Requested Tests Criteria Criteria Reno Trip Blank 9/27/10 Sample Remarks Level IV QC MS/MSD

Comments: Security seals intact. Frozen ice. Temp Blanks #8842 and #7570 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.; MS/MSD). Per phone conversation w/ David Conner 10/22/10 @ 11:13 lab is to always run: Trip Blanks.

	Logged in by:	
	Camp buth all cox	Signature
The state of the s	Elizabeth Adcox	Print Name
	Alpha Analytical, Inc.	Company
and the second s	10:22:10 1115	Date/Time

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. 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.

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

Alpha Analytical, Inc.

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

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

Report Attention Shane Walton David Conner (619) 726-7311 x Phone Number (614) 424-4117 x (614) 424-4899 x connerd@battelle.org waltons@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 05-Nov-2010

WorkOrder: BMIS10102203

Page: 2 of 2

Sampled by: David Loera, Chase Brogdon

Cooler Temp Samples Received 22-Oct-2010 22-Oct-2010 Date Printed

Client's COC #: 31911, 31912, 29185 QC Level: DS4 DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates . qo G005862/JPL Groundwater Monitoring PO: 218013

San Diego, CA 92101

Betsy Cutie

cutiee@batelle.org

Client:

Battelle Memorial Institute

655 West Broadway Suite 1420

Sample ID BMI10102203-12A BMI10102203-11A EB-02-10/21/10 TB-02-10/21/10 Sample ID Client Š Matrix Date 10/21/10 12:19 Collection No. of Bottles 10/21/10 07:00 Alpha Sub G TAT 5 5 300_0_W Perchlorate 314_W METALS_D VOC_TIC_ Ç VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria Requested Tests VOC_W Reno Trip Blank 6/29/10 Sample Remarks

Comments: conversation w/ David Conner 10/22/10 @ 11:13 lab is to always run: Trip Blanks. Security seals intact. Frozen ice. Temp Blanks #8842 and #7570 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Per phone

Logged in by:	
	Signature
Elizabeth Adcox	Print Name
Alpha Analytical, Inc.	Company
10:22:10 1115	Date/Time

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

31911

Time:	Date:	٤	// 0 //			イブー	Knakul							
Time:	Date:		5	3		filiation) filiation)	Received by: (Signature/Affiliation) Received by: (Signature/Affiliation)	Received by		Battelle	Dunt L	Relinquished by: (Signature/Affiliation) Relinquished by: (Signature/Affiliation)	ed by: (Sig	elinquish
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By:	ime of collection	on, date or t	nple location	ling the san	lly mislabe	intentional	ring with or i	that tampe	ample. I am aware	y of this s	validity and authenticity 445.0636 (c) (2)). San	attest to the action (NAC	ampler), for legal	(field s
			6	Sulfate		Drthophosphate,		Mitrite,	Mitrate,	oride,	ADDITIONAL INSTRUCTIONS: * Chlor: de	_ INSTRU	IONAL	DDIT
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REMARKS	η / /	Berly .	VOI To 1	# Containers**	Field Filtered # Co	ТАТ		scription	Sample Description		Lab ID Number (Use Only)	See Key Below Lat	ampled See Be	ŭ.
(EDD) EDF7 YES XNO	00	lente	C's (7311 /	726-7	219		bat 1064	Connerd D battelle		218012	P.O. #		Time Date
	<u></u>	200. (314	524,			Manager	Report Attention / Project Manager	eport Attenti	Name: David Co.	Name:			į	Address
Data Validation Level: Lor IV	1	(8)	<u>~</u>			Job Name	$\overline{}$	/SPL 6	JOD # 60058 62/5PL 6,WM)# dob	d Corner	Name $D_{\boldsymbol{w},\boldsymbol{A}}$	Consultant / Client Name	onsultar
	Analyses Required	Analy										Phone Number	e, Zip L Imber —	City, State, Zip. Phone Number
			; ר		1 8//8	ada 89431 355-1044 35-0406	Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406				Ave	King	Address 505	Attn: Address _
WA DOD Site	AZ CA X NV WA	OR X	AZ		N, Inc. Suite 21	nalytica Avenue,	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21		· · · · · · · · · · · · · · · · · · ·			Company Name Dattelle	Company Name	mpany

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.

*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

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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.

City, State, Zip Columbus, OH Address Name _ Billing Information: Phone Number ADDITIONAL INSTRUCTIONS: 040 0948 1/2/1/1/1/ NO Sampled Sampled Client Name ATTELLE / EMUID CONNER Relinquished by 1231 1/27 CIN Stake Zing Relinquished by Received by (Relinquished by 12/p 1200 Received by Received by 3990 OLD TOWN MIET, C-205 1200 10/21/10 AQ Time CIEMALS TOMPKINS/ BATTELLE SOS KING AVE See Key Below Matrix* Signature Sampled by Brohven CA 921/0 Lab ID Number .09 180 12-81-MM MW-18-3 MW-18-2 MW-18-5 Report Attention EMail Address 73-02-10, - BI-MH HUSE BLOGSDAN Phone # 53-07-218013 60 Sample Description 152-254 **Print Name** Sparks, Nevada 89431-5778 255 Glendale Avenue, Suite 21 Alpha Analytical, Inc. Phone (775) 355-1044 Fax # Job # TAT G005862 DUSILAT CEC TO ** See below Total and type of 30,20 30,20 30,20 30,20× 85.79 30,2p × 5 containers Samples Collected From Which State? 29185ō Company X X OR R CA X NV Analyses Required OTHER O Date TRIP BLANK BUIDHENT BLANK OCLEVEL IV 12/200 Global ID # EDD / EDF? YES Page # Required QC Level? REMARKS 1037 530 \equiv Time Š ₹

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.

*Key: AQ - Aqueous

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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



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

Date: 04-Nov-10

David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102703

Cooler Temp:

0 °C

Billioloz/03		Cooler Temp.	
Alpha's Sample ID	Client's Sample ID	Matrix	
10102703-01A	MW-6	Aqueous	
10102703-02A	MW-17-5	Aqueous	
10102703-03A	MW-17-4	Aqueous	
10102703-04A	MW-17-3	Aqueous	
10102703-05A	MW-17-2	Aqueous	
10102703-06A	MW-17-1	Aqueous	
10102703-07A	EB-03-10/22/10	Aqueous	
10102703-08A	TB-03-10/22/10	Aqueous	
10102703-09A	MW-20-5	Aqueous	
10102703-10A	MW-20-4	Aqueous	
10102703-11A	MW-20-3	Aqueous	
10102703-12A	MW-20-2	Aqueous	
10102703-13A	MW-20-1	Aqueous	
10102703-14A	EB-04-10/25/10	Aqueous	
10102703-15A	TB-04-10/25/10	Aqueous	
10102703-16A	MW-1	Aqueous	
10102703-17A	MW-9	Aqueous	
10102703-18A	TRIP BLANK	Aqueous	
10102703-19A	MW-14-5	Aqueous	
10102703-20A	MW-14-4	Aqueous	
10102703-21A	MW-14-3	Aqueous	
10102703-22A	MW-14-2	Aqueous	
10102703-23A	MW-14-1	Aqueous	
10102703-24A	DUPE-02-4Q10	Aqueous	
10102703-25A	EB-05-10/26/10	Aqueous	
10102703-26A	TB-05-10/26/10	Aqueous	

Manually Integrated Analytes

Alpha's Sample ID Test Reference Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulner

Walter Hirihour

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento. CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/27/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6 Lab ID: BMI10102703-01A Date Sampled 10/22/10 10:42	Perchlorate	3.29	1.00 μg/L	10/28/10 09:46	10/28/10 13:44
Client ID: MW-17-5 Lab ID: BMI10102703-02A Date Sampled 10/22/10 09:35	Perchlorate	ND	1.00 µg/L	10/28/10 09:46	10/28/10 14:03
Client ID: MW-17-4 Lab ID: BMI10102703-03A Date Sampled 10/22/10 10:07	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 14:21
Client ID: MW-17-3 Lab ID: BMI10102703-04A Date Sampled 10/22/10 10:34	Perchlorate	9.21	1.00 μg/L	10/28/10 09:46	10/28/10 15:16
Client ID: MW-17-2 Lab ID: BMI10102703-05A Date Sampled 10/22/10 10:57	Perchlorate	5.31	1.00 μg/L	10/28/10 09:46	10/28/10 15:35
Client ID: MW-17-1 Lab ID: BMI10102703-06A Date Sampled 10/22/10 11:39	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 15:53
Client ID: EB-03-10/22/10 Lab ID: BMI10102703-07A Date Sampled 10/22/10 11:11	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 16:48
Client ID: MW-20-5 Lab ID: BMI10102703-09A Date Sampled 10/25/10 09:14	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 17:07
Client ID: MW-20-4 Lab ID: BMI10102703-10A Date Sampled 10/25/10 09:43	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 17:25
Client ID: MW-20-3 Lab ID: BMI10102703-11A Date Sampled 10/25/10 10:09	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 17:44
Client ID: MW-20-2 Lab ID: BMI10102703-12A Date Sampled 10/25/10 10:34	Perchlorate	2.70	1.00 μg/L	10/28/10 09:46	10/28/10 18:02



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Client ID: MW-20-1 Lab ID: BMI10102703-13A Date Sampled 10/25/10 11:01	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 18:20
Client ID: EB-04-10/25/10 Lab ID: BMI10102703-14A Date Sampled 10/25/10 10:50	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 18:39
Client ID: MW-1 Lab ID: BMI10102703-16A Date Sampled 10/26/10 13:14	Perchlorate	ND	1.00 µg/L	10/28/10 09:46	10/28/10 18:57
Client ID: MW-9 Lab ID: BMI10102703-17A Date Sampled 10/26/10 16:46	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 19:16
Client ID: MW-14-5 Lab ID: BMI10102703-19A Date Sampled 10/26/10 09:15	Perchlorate	ND	1.00 μg/L	10/28/10 09:46	10/28/10 19:34
Client ID: MW-14-4 Lab ID: BMI10102703-20A Date Sampled 10/26/10 10:05	Perchlorate	4.45	1.00 μg/L	10/28/10 09:46	10/28/10 20:29
Client ID: MW-14-3 Lab ID: BMI10102703-21A Date Sampled 10/26/10 10:36	Perchlorate	5.98	1.00 μg/L	10/29/10 09:13	10/29/10 11:12
Client ID: MW-14-2 Lab ID: BMI10102703-22A Date Sampled 10/26/10 11:11	Perchlorate	ND	1.00 μg/L	10/29/10 09:13	10/29/10 12:07
Client ID: MW-14-1 Lab ID: BMI10102703-23A Date Sampled 10/26/10 11:44	Perchlorate	2.72	1.00 μg/L	10/29/10 09:13	10/29/10 12:25
Client ID: DUPE-02-4Q10 Lab ID: BMI10102703-24A Date Sampled 10/26/10 00:00	Perchlorate	2.83	1.00 μg/L	10/29/10 09:13	10/29/10 12:44
Client ID: EB-05-10/26/10 Lab ID: BMI10102703-25A Date Sampled 10/26/10 11:28	Perchlorate	ND	1.00 μg/L	10/29/10 09:13	10/29/10 13:02

ND = Not Detected

Roger Scholl Kandy Santur Walter Atrihun

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 10/27/10

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 00:52
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 00:57
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 00:24
Chromium (Cr)	ND	0.0050 mg/L	10/29/10 05:52	10/29/10 05:52
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:03
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:09
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:14
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:20
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:26
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:31
Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 01:37
	Chromium (Cr) Chromium (Cr)	Chromium (Cr) ND Chromium (Cr) ND	Chromium (Cr) ND 0.0050 mg/L Chromium (Cr) ND 0.0050 mg/L	Chromium (Cr) ND 0.0050 mg/L 10/28/10 13:51 Chromium (Cr) ND 0.0050 mg/L 10/28/10 13:51 Chromium (Cr) ND 0.0050 mg/L 10/28/10 13:51 Chromium (Cr) ND 0.0050 mg/L 10/29/10 05:52 Chromium (Cr) ND 0.0050 mg/L 10/28/10 13:51 Chromium (Cr) ND 0.0050 mg/L 10/28/10 13:51



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Client ID: MW-20-1 Lab ID: BMI10102703-13A Date Sampled 10/25/10 11:01	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:05
Client ID: EB-04-10/25/10 Lab ID: BMI10102703-14A Date Sampled 10/25/10 10:50	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:11
Client ID: MW-1 Lab ID: BMI10102703-16A Date Sampled 10/26/10 13:14	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:16
Client ID: MW-9 Lab ID: BMI10102703-17A Date Sampled 10/26/10 16:46	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:22
Client ID: MW-14-5 Lab ID: BMI10102703-19A Date Sampled 10/26/10 09:15	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:27
Client ID: MW-14-4 Lab ID: BMII 0102703-20A Date Sampled 10/26/10 10:05	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:33
Client ID: MW-14-3 Lab ID: BMI10102703-21A Date Sampled 10/26/10 10:36	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:39
Client ID: MW-14-2 Lab ID: BMI10102703-22A Date Sampled 10/26/10 11:11	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 13:51	10/29/10 02:44
Client ID: MW-14-1 Lab ID: BMI10102703-23A Date Sampled 10/26/10 11:44	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 06:25
Client ID: DUPE-02-4Q10 Lab ID: BMI10102703-24A Date Sampled 10/26/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 06:31
Client ID: EB-05-10/26/10 Lab ID: BMI10102703-25A Date Sampled 10/26/10 11:28	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 06:37

ND = Not Detected

Roger Scholl Kandy Santur Walter

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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11/8/10 Report Date



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

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID : MW-6 Lab ID : BMI10102703-01A Date Received : 10/27/10 Date Sampled : 10/22/10 10:42	*** None Found ***	ND	2.0 μg/L	11/01/10 19:03	11/01/10 19:03
Client ID : MW-17-5 Lab ID : BMI10102703-02A Date Received : 10/27/10 Date Sampled : 10/22/10 09:35	*** None Found ***	ND	2.0 μg/L	11/01/10 19:24	11/01/10 19:24
Client ID : MW-17-4 Lab ID : BMI10102703-03A Date Received : 10/27/10 Date Sampled : 10/22/10 10:07	*** None Found ***	ND	2.0 μg/L	11/01/10 19:47	11/01/10 19:47
Client ID : MW-17-3 Lab ID : BMI10102703-04A Date Received : 10/27/10 Date Sampled : 10/22/10 10:34	*** None Found ***	ND	2.0 μg/L	11/01/10 20:08	11/01/10 20:08
Client ID : MW-17-2 Lab ID : BMI10102703-05A Date Received : 10/27/10 Date Sampled : 10/22/10 10:57	*** None Found ***	ND	2.0 μg/L	11/01/10 20:30	11/01/10 20:30
Client ID : MW-17-1 Lab ID : BMI10102703-06A Date Received : 10/27/10 Date Sampled : 10/22/10 11:39	*** None Found ***	ND	2.0 μg/L	11/01/10 20:52	11/01/10 20:52
Client ID : EB-03-10/22/10 Lab ID : BMI10102703-07A Date Received : 10/27/10 Date Sampled : 10/22/10 11:11	Acetone Tertiary Butyl Alcohol (TBA)	17 * 16 *	10 μg/L 10 μg/L		11/01/10 18:19 11/01/10 18:19
Client ID : TB-03-10/22/10 Lab ID : BMI10102703-08A Date Received : 10/27/10 Date Sampled : 10/22/10 07:00	*** None Found ***	ND	2.0 μg/L	11/01/10 17:13	11/01/10 17:13
Client ID : MW-20-5 Lab ID : BMI10102703-09A Date Received : 10/27/10 Date Sampled : 10/25/10 09:14	Fluorotrimethylsilanc Isopropyl alcohol	2.3 560	2.0 μg/L 100 μg/L	11/01/10 21:14 11/01/10 21:14	11/01/10 21:14 11/01/10 21:14



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Client ID : Lab ID : Date Received Date Sampled	MW-20-4 BMI10102703-10A : 10/27/10 : 10/25/10 09:43	Isopropyl alcohol	610	100 μg/L	11/01/10 21:36 11/01/10 21:36
Client ID : Lab ID : Date Received Date Sampled	MW-20-3 BMI10102703-11A : 10/27/10 : 10/25/10 10:09	Isopropyl alcohol	540	100 μg/L	11/01/10 21:57 11/01/10 21:57
Client ID : Lab ID : Date Received Date Sampled	MW-20-2 BMI10102703-12A : 10/27/10 : 10/25/10 10:34	*** None Found ***	ND	2.0 μg/L	11/01/10 22:19 11/01/10 22:19
Client ID : Lab ID : Date Received Date Sampled	MW-20-1 BMI10102703-13A : 10/27/10 : 10/25/10 11:01	*** None Found ***	ND	2.0 μg/L	11/01/10 22:40 11/01/10 22:40
Client ID : Lab ID : Date Received Date Sampled	EB-04-10/25/10 BMI10102703-14A : 10/27/10 : 10/25/10 10:50	*** None Found ***	ND	2.0 μg/L	11/01/10 18:41 11/01/10 18:41
Client ID : Lab ID : Date Received Date Sampled	TB-04-10/25/10 BMI 10102703-15A : 10/27/10 : 10/25/10 07:00	*** None Found ***	ND	2.0 μg/L	11/01/10 17:35 11/01/10 17:35
Client ID : Lab ID : Date Received Date Sampled	MW-1 BMI10102703-16A : 10/27/10 : 10/26/10 13:14	*** None Found ***	ND	2.0 μg/L	11/01/10 23:02 11/01/10 23:02
Client ID : Lab ID : Date Received Date Sampled	MW-9 BMI10102703-17A : 10/27/10 : 10/26/10 16:46	*** None Found ***	ND	2.0 μg/L	11/01/10 23:24 11/01/10 23:24
Client ID : Lab ID : Date Received Date Sampled	TRIP BLANK BMI10102703-18A : 10/27/10 : 10/26/10 00:00	*** None Found ***	ND	2.0 μg/L	11/01/10 17:57 11/01/10 17:57
Client ID : Lab ID : Date Received Date Sampled	MW-14-5 BMI10102703-19A : 10/27/10 : 10/26/10 09:15	Isopropyl alcohol	350	100 μg/L	11/01/10 23:46 11/01/10 23:46
Client ID : Lab ID : Date Received Date Sampled	MW-14-4 BMI10102703-20A : 10/27/10 : 10/26/10 10:05	*** None Found ***	ND	2.0 μg/L	11/02/10 00:07 11/02/10 00:07
Client ID : Lab ID : Date Received Date Sampled	MW-14-3 BMH10102703-21A : 10/27/10 : 10/26/10 10:36	*** None Found ***	ND	2.0 μg/L	11/02/10 20:03 11/02/10 20:03



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Client ID: MW-14-2 Lab ID: BMI10102703-22A Date Received: 10/27/10 Date Sampled: 10/26/10 11:11	*** None Found ***	ND	2.0 μg/L	11/02/10 20:25 11/02/10 20:25
Client ID: MW-14-1 Lab ID: BMI10102703-23A Date Received: 10/27/10 Date Sampled: 10/26/10 11:44	*** None Found ***	ND	2.0 μg/L	11/02/10 20:48 11/02/10 20:48
Client ID : DUPE-02-4Q10 Lab ID : BMI10102703-24A Date Received : 10/27/10 Date Sampled : 10/26/10 00:00	*** None Found ***	ND	2.0 μg/L	11/02/10 21:10 11/02/10 21:10
Client ID : EB-05-10/26/10 Lab ID : BMI10102703-25A Date Received : 10/27/10 Date Sampled : 10/26/10 11:28	*** None Found ***	ND	2.0 μg/L	11/02/10 18:35 11/02/10 18:35
Client ID: TB-05-10/26/10 Lab ID: BMI10102703-26A Date Received: 10/27/10 Date Sampled: 10/26/10 07:00	*** None Found ***	ND	2.0 μg/L	11/02/10 18:13 11/02/10 18:13

^{*} No other TICs were found at a reporting limit of 2.0 $\mu\text{g/L}.$

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

loger Scholl Kandy Soulan

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-01A

Client I.D. Number: MW-6

David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/22/10 10:42

Received: 10/27/10

Extracted: 11/01/10 19:03 Analyzed: 11/01/10 19:03

Volatile Organics by GC/MS EPA Method SW8260B

Compound		Concentration	Reporting	eporting Limit		Compound -	Concentration	R	eporting Li	mit
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	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 (DBC)	P) ND		2.5	µg/L
25	Trichloroethene	3.0	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	Q	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	112		(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	96		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μα/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

μg/L

1.0

Report Date



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

655 West Broadway San Diego, CA 92101

Ioh: G005862/IPI

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-02A

Client I.D. Number: MW-17-5

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/22/10 09:35

Received: 10/27/10

Extracted: 11/01/10 19:24 Analyzed: 11/01/10 19:24

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-Xvlene	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 (DBC	P) 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	Q	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	108		(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	96		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	ua/l			•		•	

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulmer

Walter Hirihour

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

0.50

1.0

0.50

μg/L

μg/L

11/8/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-03A

Client I.D. Number: MW-17-4

Attn: **David Conner**

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/22/10 10:07

Received: 10/27/10

Extracted: 11/01/10 19:47 Analyzed: 11/01/10 19:47

Volatile Organics by GC/MS EPA Method SW8260B

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 0.50 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	36 1,1,1,2-Tetrachloroethane 37 Chlorobenzene	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	37 Chlorobenzene			µg/ ⊏
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		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	38 Ethylbenzene	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	39 m,p-Xylene	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	40 Bromoform	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	41 Styrene	ND	0.50	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	42 o-Xylene	ND	0.50	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	43 1,1,2,2-Tetrachloroethane	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	44 1,2,3-Trichloropropane	ND	1.0	μg/L
12 1,1-Dichloroethane ND 0.50 μg/L 13 2-Butanone (MEK) ND 10 μg/L	45 Isopropylbenzene	ND	0.50	μg/L
12 1,1-Dichloroethane ND 0.50 µg/L 13 2-Butanone (MEK) ND 10 µg/L	46 Bromobenzene	ND	0.50	μg/L
10 µg/2	47 n-Propylbenzene	ND	0.50	μg/L
	48 4-Chiorotoluene	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 $0.50 \mu g/L$	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 (I	OBCP) 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	Q 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	111	(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				

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

µg/L

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11/8/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-04A

Client I.D. Number: MW-17-3

David Conner Attn:

Phone: (619) 726-7311 (614) 458-6641 Fax:

Sampled: 10/22/10 10:34

Received: 10/27/10

Extracted: 11/01/10 20:08 Analyzed: 11/01/10 20:08

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	n Reporting Limit		Compound C		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 (DBCI	P) 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	Q	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	110		(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	96		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

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.

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-05A

Client I.D. Number: MW-17-2

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/22/10 10:57

Received: 10/27/10

Extracted: 11/01/10 20:30 Analyzed: 11/01/10 20:30

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 (DBC	P) ND		2.5	μg/L
25	Trichloroethene	0.75	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	Q	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	108		(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	98		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						
33	Dibromochloromethane	ND	0.50	μg/L						

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

ND

0.74

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-06A

Client I.D. Number: MW-17-1

David Conner Phone:

(619) 726-7311 Fax: (614) 458-6641

Sampled: 10/22/10 11:39 Received: 10/27/10

Extracted: 11/01/10 20:52 Analyzed: 11/01/10 20:52

Volatile Organics by GC/MS EPA Method SW8260B

***	Compound	Concentration	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	NĐ		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 (DBC	P) 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	Q	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	104		(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						
		1		. •						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

0.50

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.

11/8/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-07A

Client I.D. Number: EB-03-10/22/10

Attn: David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/22/10 11:11

Received: 10/27/10

Extracted: 11/01/10 18:19 Analyzed: 11/01/10 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)	11	10	μg/L	48	4-Chiorotoluene	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 (DBC	P) 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	Q	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	109		(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	97		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						
33	Dibromochloromethane	ND	0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-08A

Client I.D. Number: TB-03-10/22/10

Attn: **David Conner**

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/22/10 07:00 Received: 10/27/10

Extracted: 11/01/10 17:13 Analyzed: 11/01/10 17:13

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	ncentration 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 (DBCI	P) 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	Q	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	108		(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	96		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

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.

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-09A

Client I.D. Number: MW-20-5

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/25/10 09:14

Received: 10/27/10

Extracted: 11/01/10 21:14 Analyzed: 11/01/10 21:14

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	0.78		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 (DBCI	P) 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	Q	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	103		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kundy Sulm

Walter Hinkow

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

µg/L

μg/L

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.

11/8/10

Report Date



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

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-10A

Client I.D. Number: MW-20-4

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/25/10 09:43

Received: 10/27/10

Extracted: 11/01/10 21:36 Analyzed: 11/01/10 21:36

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Concentration Reporting Limit		Compound C		Concentration	Reporting Limit		mit
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 (DBCI	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	96		(70-130)	%REC
	rolaciic	110	0.00							

μg/L

μg/L

μg/L

1.0

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachioroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Sanlar

Walter Hirkory

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/8/10

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-11A

Client I.D. Number: MW-20-3

Attn: **David Conner**

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/25/10 10:09

Received: 10/27/10

Extracted: 11/01/10 21:57 Analyzed: 11/01/10 21:57

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 (DBC)	P) ND		2.5	µg/L
25	Trichloroethene	0.51	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	Q	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	102		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

1.0

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.

Report Date



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

655 West Broadway San Diego, CA 92101

David Conner Phone: (619) 726-7311

Fax:

Attn:

(614) 458-6641

G005862/JPL Groundwater Monitoring Job:

Alpha Analytical Number: BMI10102703-12A

Client I.D. Number: MW-20-2

Sampled: 10/25/10 10:34 Received: 10/27/10 Extracted: 11/01/10 22:19 Analyzed: 11/01/10 22:19

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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 (DBCI	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-13A

Client I.D. Number: MW-20-1

David Conner Attn:

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/25/10 11:01

Received: 10/27/10

Extracted: 11/01/10 22:40 Analyzed: 11/01/10 22:40

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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		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 (DBC)	P) 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	Q	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	105		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

μg/L

1.0

Report Date



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

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-14A

Client I.D. Number: EB-04-10/25/10

David Conner

(619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 10/25/10 10:50

Received: 10/27/10

Extracted: 11/01/10 18:41 Analyzed: 11/01/10 18:41

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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 (DBC	P) 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	Q	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	109		(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	98		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

1.0

Report Date



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 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-15A

Client I.D. Number: TB-04-10/25/10

David Conner

(619) 726-7311 Phone:

Fax: (614) 458-6641

Sampled: 10/25/10 07:00

Received: 10/27/10

Extracted: 11/01/10 17:35 Analyzed: 11/01/10 17:35

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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 (DBC	P) 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	Q	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	108		(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	112		(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	ua/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

µg/L

1.0

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-16A

Client I.D. Number: MW-1

David Conner Attn: Phone: (619) 726-7311

Fax:

(614) 458-6641

Sampled: 10/26/10 13:14

Received: 10/27/10

Extracted: 11/01/10 23:02 Analyzed: 11/01/10 23:02

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	imit
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 (DBC	P) 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	Q	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	104		(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	ug/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

μg/L

μg/L

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.

Report Date



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

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-17A

Client I.D. Number: MW-9

David Conner Attn:

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/26/10 16:46

Received: 10/27/10

Extracted: 11/01/10 23:24 Analyzed: 11/01/10 23:24

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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 (DBC	P) 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	Q	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	103		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	ua/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

µg/L

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.

11/8/10

Report Date



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

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-18A

Client I.D. Number: TRIP BLANK

David Conner

Phone: (619) 726-7311

(614) 458-6641 Fax:

Sampled: 10/26/10 00:00

Received: 10/27/10

Extracted: 11/01/10 17:57 Analyzed: 11/01/10 17:57

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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	Isopropyibenzene	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 (DBCi	P) 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	Q	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	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		•				

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

1.0

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.

Report Date



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 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-19A

Client I.D. Number: MW-14-5

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/26/10 09:15

Received: 10/27/10

Extracted: 11/01/10 23:46 Analyzed: 11/01/10 23:46

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	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 (DBCI	P) 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	Q	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	104		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

μg/L

µg/L

1.0

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

11/8/10 Report Date



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

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-20A

Client I.D. Number: MW-14-4

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/26/10 10:05

Received: 10/27/10

Extracted: 11/02/10 00:07 Analyzed: 11/02/10 00:07

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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 (DBC)	P) 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	Q	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	104		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Salmer

Dalter Finhur

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

1.0

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.

11/8/10 Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-21A

Client I.D. Number: MW-14-3

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/26/10 10:36

Received: 10/27/10

Extracted: 11/02/10 20:03 Analyzed: 11/02/10 20:03

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	_imit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	µg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND		2.5	µg/L
25	Trichloroethene	1.2		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	110		(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	95		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

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

Report Date



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 655 West Broadway

San Diego, CA 92101

Attn:

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-22A

Client I.D. Number: MW-14-2

Sampled: 10/26/10 11:11

Received: 10/27/10 Extracted: 11/02/10 20:25 Analyzed: 11/02/10 20:25

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	µg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND		2.5	μg/L
25	Trichloroethene	4.6		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	111		(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	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

µg/L

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

11/8/10 Report Date

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



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-23A

Client I.D. Number: MW-14-1

David Conner Attn:

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/26/10 11:44

Received: 10/27/10

Extracted: 11/02/10 20:48 Analyzed: 11/02/10 20:48

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	· ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	µg/L
6	Trichlorofluoromethane	. ND		0.50	μg/L	41	Styrene	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND .		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chioropropane (DBC	P) ND		2.5	μg/L
25	Trichloroethene	3.6		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	Q	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	111		(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	95		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

μg/L

μg/L

0.50

1.0

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 Job:

Compound

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-24A

Client I.D. Number: DUPE-02-4Q10

David Conner Attn:

(619) 726-7311 Phone:

(614) 458-6641 Fax:

Sampled: 10/26/10 00:00

Received: 10/27/10

Extracted: 11/02/10 21:10 Analyzed: 11/02/10 21:10

Concentration

Reporting Limit

Volatile Organics by GC/MS EPA Method SW8260B

Daniel attended to the M

	Compound	Concentration	R	eporting I	Limit		Compound	Concentration	K	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	μg/L.	55	1,4-Dichlorobenzene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	µg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND		2.5	µg/L
25	Trichloroethene	3.8		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	µg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	111		(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	97		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

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.

11/8/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-25A

Client I.D. Number: EB-05-10/26/10

David Conner

(619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 10/26/10 11:28

Received: 10/27/10

Extracted: 11/02/10 18:35 Analyzed: 11/02/10 18:35

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		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 (DBC	P) 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	Q	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	109		(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	106		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

μg/L

μg/L

1.0

11/8/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102703-26A

Client I.D. Number: TB-05-10/26/10

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/26/10 07:00

Received: 10/27/10

Extracted: 11/02/10 18:13 Analyzed: 11/02/10 18:13

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration		Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L.
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	109		(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	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	ug/L						

μg/L

μg/L

0.50

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

Report Date Page 1 of 1



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: BMI10102703

Job:

G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
10102703-01A	MW-6	Aqueous	2
10102703-02A	MW-17-5	Aqueous	2
10102703-03A	MW-17-4	Aqueous	2
10102703-04A	MW-17-3	Aqueous	2
10102703-05A	MW-17-2	Aqueous	2
10102703-06A	MW-17-1	Aqueous	2
10102703-07A	EB-03-10/22/10	Aqueous	2
10102703-08A	TB-03-10/22/10	Aqueous	2
10102703-09A	MW-20-5	Aqueous	2
10102703-10A	MW-20-4	Aqueous	2
10102703-11A	MW-20-3	Aqueous	2
10102703-12A	MW-20-2	Aqueous	2
10102703-13A	MW-20-1	Aqueous	2
10102703-14A	EB-04-10/25/10	Aqueous	2
10102703-15A	TB-04-10/25/10	Aqueous	2
10102703-16A	MW-1	Aqueous	2
10102703-17A	MW-9	Aqueous	2
10102703-18A	TRIP BLANK	Aqueous	2
10102703-19A	MW-14-5	Aqueous	2
10102703-20A	MW-14-4	Aqueous	2
10102703-21A	MW-14-3	Aqueous	2
10102703-22A	MW-14-2	Aqueous	2
10102703-23A	MW-14-1	Aqueous	2
10102703-24A	DUPE-02-4Q10	Aqueous	2
10102703-25A	EB-05-10/26/10	Aqueous	2
10102703-26A	TB-05-10/26/10	Aqueous	2



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Date: 01-Nov-10		(QC S	ummar	y Repor	t				Work Orde 10102703	
Method Blan	nk		Type I		est Code: Ef atch ID: 2534		hod 314.0	Analy	sis Date:	10/28/2010 10:59	
Sample ID:	MB-25340	Units : µg/L		Run ID: IC	_3_101028 <i>A</i>	١		Prep	Date:	10/28/2010 09:46	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND	•	1							
Laboratory File ID: 15	Fortified Blank		Type I		est Code: El atch ID: 253 4		hod 314.0	Analy	sis Date:	10/28/2010 11:17	
Sample ID:	LFB-25340	Units : µg/L			_3_101028#			Prep		10/28/2010 09:46	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate	•	24.8		2 25		99	85	115			
Sample Mat	rix Spike		Type I		est Code: El		hod 314.0	Analy	sis Date:	10/28/2010 14:40	
Sample ID: Analyte	10102703-03ALFM	Units : µg/L Result	PQL		_3_101028 SpkRefVal		: LCL(ME)	Prep UCL(ME)		10/28/2010 09:46 Val %RPD(Limit)	Qual
Perchlorate		24.9		2 25		99.7	80	120			
Sample Mat	rix Spike Duplicate		Туре І		est Code: El atch ID: 253		thod 314.0	Analy	sis Date:	10/28/2010 14:58	
Sample ID:	10102703-03ALFMD	Units : µg/L		Run ID: IC	_3_101028/	4		Prep	Date:	10/28/2010 09:46	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.6		2 25	0	103	80	120	24.9	3 2.8(15)	

Comments:



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Date: 08-Nov-10	QC Summary Report										er: 3
Method Bla	nk		Type I	MBLK	Analys	sis Date:	10/29/2010 10:10				
Sample ID:	MB-25358	Units : µg/L		Run ID:	IC_3_1010	29A		Prep [Date:	10/29/2010 09:13	
Analyte		Result	PQL	SpkV	al SpkRef	Val %REC	C LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1					,		
Laboratory	Fortified Blank		Type I	LFB	Test Code	EPA Me	thod 314.0	1			
File ID: 15					Batch ID:	25358		Analys	sis Date:	10/29/2010 10:28	
Sample ID:	LFB-25358	Units : µg/L		Run ID:	IC_3_1010	29A		Prep [Date:	10/29/2010 09:13	
Analyte		Result	PQL	SpkV	al SpkRef	Val %REC	C LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.9	:	2 2	25	104	85	115			
Sample Mat	rix Spike		Type I	LFM	Test Code	: EPA Me	thod 314.0	!			
File ID: 18					Batch ID:	25358		Analys	sis Date:	10/29/2010 11:30	
Sample ID:	10102703-21ALFM	Units : µg/L		Run ID:	IC_3_1010	29A		Prep [Date:	10/29/2010 09:13	
Analyte		Result	PQL	SpkV	/al SpkRef	Val %REC	C LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		31.5		2 2	25 5.9	979 102	80	120			
Sample Mat	rix Spike Duplicate		Туре І	LFMD	Test Code	EPA Me	thod 314.0				
File ID: 18					Batch ID:	25358		Analys	sis Date:	11/03/2010 13:13	
Sample ID:	10102703-21ALFMD	Units : µg/L		Run ID:	IC_3_1010	29A		Prep [Date:	10/29/2010 09:13	
Analyte	4	Result	PQL	Spk√	/al SpkRef	Val %RE0	C LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		31.8		2 2	25 5.9	979 103	80	120	31.4	7 0.9(15)	

Comments:



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Date: 05-Nov-10	QC Summary Report	Work Order: 10102703
Method Blank File ID: 102810.B\045_M.D\ Sample ID: MB-25350 Analyte	Type: MBLK Test Code: EPA Method 200.8 Batch ID: 25350 Analysis Date: 10/28/2 Units : mg/L Run ID: ICP/MS_101029A Prep Date: 10/28/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RI	2010 13:51
Chromium (Cr)	ND 0.005	D(Limit) Quar
Laboratory Control Spike File ID: 102810.B\046_M.D\ Sample ID: LCS-25350	Type: LCS Test Code: EPA Method 200.8 Batch ID: 25350 Analysis Date: 10/29/2 Units : mg/L Run ID: ICP/MS_101029A Prep Date: 10/28/2	2010 00:02 2010 13:51
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RI	
Chromium (Cr)	0.0461 0.005 0.05 92 85 115	
Sample Matrix Spike File ID: 102810.B\051_M.D\ Sample ID: 10102703-03AMS Analyte	Type: MS Test Code: EPA Method 200.8 Batch ID: 25350 Analysis Date: 10/29/2 Units: mg/L Run ID: ICP/MS_101029A Prep Date: 10/28/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RI	2010 13:51
Chromium (Cr)	0.0497 0.005 0.05 0 99 70 130	
Sample Matrix Spike Duplicate File ID: 102810.B\052_M.D\ Sample ID: 10102703-03AMSD	Type: MSD Test Code: EPA Method 200.8 Batch ID: 25350 Analysis Date: 10/29/3 Units : mg/L Run ID: ICP/MS_101029A Prep Date: 10/28/3	2010 00:35 2010 13:51
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RI	
Chromium (Cr)		3.9(20)

Comments:



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Date: 05-Nov-10	QC Summary Report	Work Order: 10102703
Method Blank File ID: 102810.B\090_M.D\ Sample ID: MB-25354 Analyte	Type: MBLK Test Code: EPA Method 200.8 Batch ID: 25354 Analysis Date: 10/2 Units: mg/L Run ID: ICP/MS_101029B Prep Date: 10/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	28/2010 20:06
Chromium (Cr)	ND 0.005	
Laboratory Control Spike File ID: 102810.B\091_M.D\ Sample ID: LCS-25354 Analyte	Type: LCS Test Code: EPA Method 200.8 Batch ID: 25354 Analysis Date: 10/2 Units: mg/L Run ID: ICP/MS_101029B Prep Date: 10/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	28/2010 20:06
Chromium (Cr)	0.0471 0.005 0.05 94 85 115	
Sample Matrix Spike File ID: 102810.B\096_M.D\ Sample ID: 10102805-02AMS Analyte	Type: MS Test Code: EPA Method 200.8 Batch ID: 25354 Analysis Date: 10/2 Units: mg/L Run ID: ICP/MS_101029B Prep Date: 10/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	28/2010 20:06
Chromium (Cr)	0.0472	
Sample Matrix Spike Duplicate File ID: 102810.B\097_M.D\ Sample ID: 10102805-02AMSD Analyte	Type: MSD Test Code: EPA Method 200.8 Batch ID: 25354 Analysis Date: 10/2 Units : mg/L Run ID: ICP/MS_101029B Prep Date: 10/2 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	28/2010 20:06
Chromium (Cr)	0.0477 0.005 0.05 0 95 70 130 0.04721	1.0(20)

Comments:



Alpha Analytical, Inc.

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Date: 04-Nov-10		QC Summary Report									
Method Blank File ID: 10110106.D Sample ID: MBLK MS15W1101	NA Linite	Type MBLK	Test Code: EPA Method SW8 Batch ID: MS15W1101M	260B Analysis Date: 11/01/2010 15:01 Prep Date: 11/01/2010 15:01							
Analyte	M Units : μg/L Result		D: MSD_15_101101A kVal_SpkRefVal_%REC_LCL(ME`) UCL(ME) RPDRefVal %RPD(Limit) Qua							
Dichlorodifluoromethane	ND	0.5	tval opkiterval /urteo coctivit,) OOL(ML) TO DICTOR JUST DELIMITY CO							
Chloromethane	ND	1									
Vinyl chloride	ND	0.5									
Chloroethane	ND	0.5									
Bromomethane	ND	1									
Trichlorofluoromethane 1,1-Dichloroethene	ND	0.5									
Dichloromethane	ND ND	0.5 1									
Freon-113	ND 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 Chloroform	ND	0.5									
Chloroform 2,2-Dichloropropane	ND ND	0.5	·								
1,2-Dichloroethane	ND ON	0.5 0.5									
1,1,1-Trichloroethane	ND ND	0.5 0.5									
1,1-Dichloropropene	ND	0.5									
Carbon tetrachloride	ND	0.5									
Benzene	ND	0.5									
Dibromomethane	ND	0.5									
1,2-Dichloropropane Trichloroethene	ND	0.5									
Bromodichloromethane	ND ND	0.5 0.5									
4-Methyl-2-pentanone (MIBK)	ND 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 1,2-Dibromoethane (EDB)	ND	0.5									
Tetrachloroethene	ND ND	1 0.5									
1,1,1,2-Tetrachloroethane	ND ND	0.5									
Chlorobenzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	0.5									
Bromoform	ND	0.5									
Styrene o-Xylene	ND	0.5									
1,1,2,2-Tetrachloroethane	ND ND	0.5 0.5									
1,2,3-Trichloropropane	ND	0.5									
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 tert-Butylbenzene	ND ND	0.5									
1,2,4-Trimethylbenzene	ND ND	0.5 0.5									
sec-Butylbenzene	ND 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 1,2-Dibromo-3-chloropropane (DBC)	ND ND	0.5									
1,2,4-Trichlorobenzene	P) ND ND	2.5 1									
Naphthalene	ND ND	1									
Hexachlorobutadiene	ND ND	1									
1,2,3-Trichlorobenzene	ND	i									
Surr: 1,2-Dichloroethane-d4	10.5		10 105 70	130							
Surr: Toluene-d8	10.2		10 102 70	130							



Date: _04-Nov-10	QC	Summary Rep	port			Work Order: 10102703
Surr: 4-Bromofluorobenzene	9.71	10	97	70	130	



Deblorediffusomethane	Date: 04-Nov-10	(QC S	ummar	y Report			Work Order: 10102703			
Blanch Dr. C. S. MS15W1101M Dr. S. P. C. S. Dr. W. S. S. S. S. S. S. S			Type L	260B							
Analyte	File ID: 10110103.D			В	atch ID: MS15W110	01 M	Analysis l	Date: 11/01/2010 13:47			
Dishipardilluoromethane	Sample ID: LCS MS15W1101M	Units : µg/L		Run ID: M	SD_15_101101A		Prep Date	e: 11/01/2010 13:47			
Chloromethane	Analyte	Result	PQL			LCL(ME) UCL(ME) RP	DRefVal %RPD(Limit)	Qua		
Coloromethane	Dichlorodifluoromethane	8.32	-	•							
Viryl chlorided 11.5											
Bromonethane	•	11.5			115	70					
Tichlorofucoremethane 9.69 1 10 97 70 130 1,1-Dichlorosthene 10.3 1 10 97 70 130 1,1-Dichlorosthene 10.3 1 10 94 70 130 1,1-Dichlorosthene 10.8 1 10 108 67 141 1 trans-1,2-Dichlorosthene 10.8 1 10 106 67 141 1 trans-1,2-Dichlorosthene 10.6 1 10 106 70 130 1,1-Dichlorosthene 10.2 1 10 102 70 130 1,1-Dichlorosthene 10.2 1 10 102 70 130 2-Dutanoros (MEK) 111 10 200 96 70 130 2-Dutanoros (MEK) 111 10 200 96 70 130 2-Dutanorosthene 10.3 1 10 103 70 130 2-Dutanorosthene 10.3 1 10 103 70 130 2-Dichlorosthane 10.3 1 10 103 70 130 2-Dichlorosthane 10.3 1 10 103 70 130 2-Dichlorosthane 10.3 1 10 103 70 130 1-Dichlorosthane 10.4 1 10 104 70 130 1,1-Tichlorosthane 10.5 1 10 104 70 130 1,1-Tichlorosthane 10.6 1 10 106 70 130 1,1-Tichlorosthane 10.7 1 10 109 77 130 1,1-Tichlorosthane 10.8 1 10 103 70 130 1,1-Tichlorosthane 10.8 1 10 103 70 130 1,1-Tichlorosthane 10.3 1 10 103 70 130 1,1-Tichlorosthane 10.4 1 10 104 70 130 1,1-Tichlorosthane 10.5 1 10 103 70 130 1,1-Tichlorosthane 10.6 1 10 106 70 130 1,1-Tichlorosthane 10.8 1 10 107 70 130 1,1-Tichlorosthane 10.3 1 10 103 70 130 1,1-Tichlorosthane 10.4 1 10 10 10 10 10 10 10 10 10 10 10 10 1											
1.1-Dichloroethene 10.3 1 10 103 70 130 Dichloromethane 9.43 2 10 94 70 130 Dichloromethane 10.6 1 10 108 67 141 Interns-1.2-Dichloroethene 10.6 1 10 108 67 141 Interns-1.2-Dichloroethene 10.6 1 10 108 67 141 Interns-1.2-Dichloroethene 10.6 1 10 106 70 130 Methy Iter-buyl ether (MTBE) 9.74 0.5 10 97 70 130 I-Dichloroethene 10.2 1 10 102 70 130 I-Dichloroethene 10.3 1 10 103 70 130 Bromochloromethane 9.92 1 10 99 70 130 Bromochloromethane 9.92 1 10 99 70 130 Bromochloromethane 9.92 1 10 99 70 130 I-Dichloroethene 10.3 1 10 103 70 130 I-Dichloroethene 10.4 1 10 103 70 130 I-Dichloroethene 10.4 1 10 103 70 130 I-Dichloroethene 10.4 1 10 103 70 130 I-Dichloroethene 10.5 1 10 103 70 130 I-Dichloroethene 10.6 1 10 103 70 130 I-Dichloroethene 10.7 1 10 10 70 130 I-Dichloroethene 10.8 1 10 10 70 130 I-Dichloroethene 10.8 1 10 103 70 130 I-Dichloroethene 10.3 1 10 103 70 130 I-Dichloroethene 10.4 1 10 103 70 130 I-Dichloroethene 10.5 1 10 103 70 130 I-Dichloroethene 10.6 1 10 103 70 130 I-Dichloroethene 10.8 1 10 103 70 130 I-Dichloroethene 10.9 1 10 103 70 130 I-Dichloroethene 10.9 1 10 103 70 130 I-Dichloroethene 10.9 1 10 103 70 130 I-Dichloroethene 10.1 1 10 101 70 130 I-Dichloroethene 10.2 1 10 102 70 130 I-Dichloroethene 10.3 1 10 103 70 130 I-Dichloroethene 10.4 1 10 104 70 130 I-Dichloroethene 10.5 1 10 103 70 130 I-Dichloroethene 10.6 1 10 104 70 130 I-Dichloroethene 10.1 1 10 101 70 130 I-Dichloroethene 10.1 1 10											
Dichloromethane											
Freon-113	•										
trans-12-Dichtrocethene 10.6 1 10 105 70 130 Methyl Lerb-Durio defer (MTBE) 9,74 0.5 10 97 70 130 2-Butance (MEK) 191 10 20 70 130 2-Butance (MEK) 191 10 200 96 70 130 06-1-2-Dichloroethene 10.3 1 10 100 70 130 Chloroform 10 1 10 100 70 130 Chloroform 10.3 1 10 100 70 130 1,2-Dichloroethane 9.89 1 10 99 70 130 1,2-Dichloroethane 9.89 1 10 104 70 130 1,2-Dichloroethane 10.6 1 10 106 70 130 1,1-Dichloroethane 9.63 1 10 103 70 130 1,2-Dichloroethane 9.63 1 10											
Methyl terbulyl ether (MTBE)											
2-Butanone (MEK)	Methyl tert-butyl ether (MTBE)	9.74	0.5	5 10	97						
GS-1_2-Dichloroethene Fromchloromethane Fromchlo	•										
Bromochloromethane	· · · · · · · · · · · · · · · · · · ·										
Chloroform			1								
2.2-Dichloropropane 10.3 1 10 93 70 130 1.1-Trichloroethane 10.4 1 10 10.4 70 130 1.1-Trichloroethane 10.4 1 10 10.6 70 130 1.1-Trichloropropene 10.6 1 10 10.6 70 130 Carbon tetrachloride 10.3 1 10 10.3 70 130 Benzane 10.3 0.5 10 10.3 70 130 Dibromomethane 10.3 1 10 10 103 70 130 Dibromomethane 10.3 1 10 10 103 70 130 Dibromomethane 10.3 1 10 10 101 70 130 Dibromomethane 10.3 1 10 10 103 70 130 Percentage (MiBK) 23.6 2.5 25 39 94 20 182 cs-1.3-Dichloropropene 10.1 1 10 101 70 130 Trichloropropene 10.2 1 10 102 70 130 Trichloropropene 10.3 1 10 108 70 130 Trichloropropene 10.4 10 108 70 130 Trichloropropene 10.5 1 10 108 70 130 Trichloropropene 10.6 2.5 25 25 94 20 182 cs-1.3-Dichloropropene 10.2 1 10 102 70 130 Trans-1.3-Dichloropropene 10.2 1 10 102 70 130 Trans-1.3-Dichloropropene 10.3 1 10 96 70 130 Trans-1.3-Dichloropropene 10.4 10 98 70 130 Trans-1.3-Dichloropropene 10.5 1 10 98 70 130 Toluene 10.3 1 10 98 70 130 Toluene 10.3 1 10 98 70 130 Toluene 10.4 1 10 98 70 130 Toluene 10.4 1 10 99 70 130 Toluene 10.4 1 10 104 70 130 Toluene 10.4 1 10 104 70 130 Toluene 10.5 1 10 104 70 130 Toluene 10.6 1 10 106 70 130 Toluene 10.7 1 10 107 70 130 Toluene 10.8 70 130 Toluene 10.9 1 10 10 10 10 10 130 Toluene 10.1 1 10 101 70 130 Toluene 10.2 1 10 102 70 130 Toluene 10.3 1 10 103 70 130 Toluene 10.4 1 10 101 70 130 Toluene			1								
1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1-Trichloroethane 1,1,1,1,1-Trichloroethane 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,			1								
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- Out. 1,2-Dignioroculane-04 - 9.00 10 97 70 130			2								
Surr: Toluene-d8 9.75 10 98 70 130											



Date: 04-Nov-10	QC	Summary Rep	port			Work Order: 10102703
Surr: 4-Bromofluorobenzene	9.79	10	98	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

QC Summary Report 04-Nov-10 Test Code: EPA Method SW8260B Sample Matrix Spike Analysis Date: 11/01/2010 15:23 File ID: 10110107.D Batch ID: MS15W1101M Sample ID: 10102703-03AMS Prep Date: 11/01/2010 15:23 Units: µg/L Run ID: MSD_15_101101A Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Result **PQL** Dichlorodifluoromethane 26.7 2.5 Chloromethane 31.7 Vinyl chloride 39.1 2.5 Chloroethane 2.5 Bromomethane 30.6 Trichlorofluoromethane 2.5 1.1-Dichloroethene 36.5 2.5 Dichloromethane 35.8 Freon-113 38.8 2.5 trans-1,2-Dichloroethene 2.5 Methyl tert-butyl ether (MTBE) 45.3 1.3 1,1-Dichloroethane 37.3 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 2.5 38.1 Bromochloromethane 38.5 2.5 Chloroform 36.8 2.5 2.2-Dichloropropane 34.7 2.5 1,2-Dichloroethane 40.8 1,1,1-Trichloroethane 2.5 36.7 1,1-Dichloropropene 37.6 2.5 Carbon tetrachloride 35.7 2.5 Benzene 38.2 1.3 Dibromomethane 2.5 40.1 1,2-Dichloropropane 38.4 2.5 Trichloroethene 2.5 1.41 Bromodichloromethane 40.7 2.5 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene 37.3 2.5 trans-1,3-Dichloropropene 2.5 1,1,2-Trichloroethane 41.6 2.5 Toluene 35.6 1.3 1.3-Dichloropropane 40.8 2.5 Dibromochloromethane 36.5 2.5 1,2-Dibromoethane (EDB) 80.1 Tetrachloroethene 36.5 2.5 1,1,1,2-Tetrachloroethane 39.3 2.5 Chlorobenzene 37.2 2.5 Ethylbenzene 36.5 1.3 m,p-Xylene 36.1 1.3 **Bromoform** 37.3 2.5 Styrene 38.4 2.5 o-Xylene 36.5 1.3 1,1,2,2-Tetrachloroethane 41.8 2.5 1,2,3-Trichloropropane 82.3 Isopropylbenzene 33.5 2.5 Bromobenzene 37.5 2.5 n-Propylbenzene 34.6 2.5 4-Chlorotoluene 35.5 2.5 2-Chlorotoluene 35.2 2.5 1,3,5-Trimethylbenzene 34.8 tert-Butylbenzene 33.9 2.5 1,2,4-Trimethylbenzene 35.3 2.5 sec-Butvlbenzene 34.8 2.5 1,3-Dichlorobenzene 37.5 2.5 1,4-Dichlorobenzene 35.9 2.5 4-Isopropvitoluene 34.5 2.5 1,2-Dichlorobenzene 2.5 36.6 n-Butylbenzene 35.9 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene 32.1 Naphthalene 27.3 Hexachlorobutadiene 67.7 1,2,3-Trichlorobenzene Surr: 1.2-Dichloroethane-d4 51.5 Surr: Toluene-d8 48.4



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



Date: 04-Nov-10	Or Summary Report								
Sample Matrix Spike		Туре М	S Te	st Code: EF	A Met	thod SW82	60B		
File ID: 10110109.D			Ba	tch ID: MS1	5W11	01 M	Analysis Date:	11/01/2010 16:07	
Sample ID: 10102703-09AMS	Units : μg/L		Run ID: MS	D_15_1011	01A		Prep Date:	11/01/2010 16:07	
Analyte	Result	PQL				LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qual
Dichlorodifluoromethane	34.2	2.5	50	0	68	13	167	****	
Chloromethane	40.9	10	50	0	82	28	145		
Vinyl chloride	52.5	2.5	50	Ō	105	43	134		
Chloroethane	45	2.5	50	0	90	39	154		
Bromomethane	39.4	10	50	0	79	19	176		
Trichlorofluoromethane	44	2.5	50	0	88	34	160		
1,1-Dichloroethene Dichloromethane	48.6	2.5	50 50	0	97	60	130		
Freon-113	45.3 50	10 2.5	50 50	0	91 100	68 49	130 141		
trans-1,2-Dichloroethene	49.1	2.5	50	0	98	63	130		
Methyl tert-butyl ether (MTBE)	52.6	1.3	50	0	105	56	141		
1,1-Dichloroethane	47.4	2.5	50	0	95	61	130		
2-Butanone (MEK)	831	50	1000	0	83	20	182		
cis-1,2-Dichloroethene	48.7	2.5	50	0	97	70	130		
Bromochloromethane Chloroform	50.5	2.5	50 50	0	101	70 67	130		
2,2-Dichloropropane	46.1 44.5	2.5 2.5	50 50	0	92 89	67 30	130 152		
1.2-Dichloroethane	44.5 49.5	2.5 2.5	50 50	0	99	60	135		
1,1,1-Trichloroethane	48.3	2.5	50 50	0	97	59	137		
1,1-Dichloropropene	49	2.5	50	Ö	98	63	130		
Carbon tetrachloride	49.4	2.5	50	0	99	50	147		
Benzene	48.2	1.3	50	0	96	67	130		
Dibromomethane	49	2.5	50	0	98	69	133		
1,2-Dichloropropane Trichloroethene	47.8	2.5	50	0	96	69	130		
Bromodichloromethane	47.6 52	2.5 2.5	50 50	0	95 104	69 66	130 134		
4-Methyl-2-pentanone (MIBK)	125	13	125	0	104	20	182		
cis-1,3-Dichloropropene	47.7	2.5	50	0	95	63	130		
trans-1,3-Dichloropropene	46	2.5	50	0	92	66	131		
1,1,2-Trichloroethane	49	2.5	50	0	98	68	130		
Toluene	46.3	1.3	50	0	93	66	130		
1,3-Dichloropropane Dibromochloromethane	50	2.5	50	0	100	70 70	130		
1,2-Dibromoethane (EDB)	47.9 100	2.5 5	50 100	0	96 100	70 70	130 130		
Tetrachloroethene	48	2.5	50	0	96	61	134		
1,1,1,2-Tetrachloroethane	50.9	2.5	50	0	102	70	130		
Chlorobenzene	47	2.5	50	Ö	94	70	130		
Ethylbenzene	47.7	1.3	50	0	95	68	130		
m,p-Xylene	47.2	1.3	50	0	94	64	130		
Bromoform	49.9	2.5	50	0	99.8	64	138		
Styrene o-Xylene	49.2	2.5	50	0.78	97 04	69 70	130		
1,1,2,2-Tetrachloroethane	47.2 49.8	1.3 2.5	50 50	0	94 99.5	70 65	130 131		
1,2,3-Trichloropropane	101	10	100	0	101	70	130		
Isopropylbenzene	42.5	2.5	50	0	85	64	138		
Bromobenzene	45.2	2.5	50	0	90	70	130		
n-Propylbenzene	44.4	2.5	50	0	89	66	132		
4-Chlorotoluene	44.3	2.5	50	0	89	70	130		
2-Chlorotoluene 1,3,5-Trimethylbenzene	43.5 43.5	2.5	50 50	0	87 97	70 66	130 136		
tert-Butylbenzene	43.5 42.4	2.5 2.5	50 50	0	87 85	66 65	136 137		
1,2,4-Trimethylbenzene	43.9	2.5 2.5	50 50	0	88	65	137		
sec-Butylbenzene	43.8	2.5	50 50	0	88	66	134		
1,3-Dichlorobenzene	46.7	2.5	50	Ö	93	70	130		
1,4-Dichlorobenzene	44.9	2.5	50	0	90	70	130		
4-Isopropyltoluene	43.7	2.5	50	0	87	66	137		
1,2-Dichlorobenzene n-Butylbenzene	44.7	2.5	50	0	89	70	130		
1,2-Dibromo-3-chloropropane (DBCP)	46 243	2.5	50 250	0	92 97	60 67	142 130		
1,2,4-Trichlorobenzene	42.9	15 10	250 50	0	97 86	61	130		
Naphthalene	39.7	10	50	0	79	40	167		
Hexachlorobutadiene	88.5	10	100	ŏ	89	61	130		
1,2,3-Trichlorobenzene	44.5	10	50	0	89	51	144		
Surr: 1,2-Dichloroethane-d4	52.3		50		105	70	130		
Surr: Toluene-d8	49		50		98	70	130		



Date: 04-Nov-10	QC	Work Order: 10102703				
Surr: 4-Bromofluorobenzene	46.3	50	93	70	130	



Date:

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Work Order: **OC Summary Report** 04-Nov-1010102703 Sample Matrix Spike Duplicate Type MSD Test Code: EPA Method SW8260B Analysis Date: 11/01/2010 15:45 File ID: 10110108.D Batch ID: MS15W1101M Sample ID: 10102703-03AMSD Prep Date: 11/01/2010 15:45 Units: µg/L Run ID: MSD_15_101101A Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) **PQL** Qual Result Dichlorodifluoromethane 27.1 2.5 54 13 167 26.73 1.3(20)Chloromethane 33.3 0 67 145 31.65 10 50 28 5.1(20)Vinyl chloride 37.9 2.5 50 0 76 43 134 39.06 3.1(20)Chloroethane 35.3 2.5 50 71 39 154 35.03 0.7(20)**Bromomethane** 32.2 50 0 64 19 176 30.6 5.1(20) 10 Trichlorofluoromethane 33.7 2.5 50 0 67 34 160 34 0.9(20)1.1-Dichloroethene 0 74 60 130 36.51 1.3(20)50 Dichloromethane 37.9 76 35.82 0 68 130 5.6(20)10 50 Freon-113 38.7 2.5 0 77 49 38.82 0.3(20)50 141 trans-1,2-Dichloroethene 38.3 0 77 130 36.99 3.5(20)50 Methyl tert-butyl ether (MTBE) 0 95 56 45.27 5.3(20)47.7 1.3 50 141 1,1-Dichloroethane 38 2.5 0 76 61 130 37.34 1.8(20)50 2-Butanone (MEK) 762 50 1000 0 76 20 182 730.6 4.1(20)cis-1,2-Dichloroethene 38.09 2.5 0 79 70 130 3.8(20)39.6 50 Bromochloromethane 38.46 42.9 2.5 0 86 70 130 10.9(20) 50 Chloroform 0 36.75 37.8 2.5 50 76 67 130 2.7(20)2,2-Dichloropropane 35 2.5 50 0 70 30 152 34.69 0.8(20)1,2-Dichloroethane 43.1 50 0 86 60 135 40.79 5.5(20)1,1,1-Trichloroethane 37.2 2.5 0 74 59 137 36.71 1.2(20)50 1,1-Dichloropropene 37.9 2.5 50 0 76 63 130 37.6 0.8(20)Carbon tetrachloride 37.2 2.5 50 0 74 50 147 35.66 4.2(20)Benzene 0 78 67 38.16 2.4(20)39.1 50 130 1.3 Dibromomethane 0 40.13 43 2.5 50 86 69 133 6.8(20)1.2-Dichloropropane 40.2 2.5 38.39 50 0 80 69 130 4.6(20)Trichloroethene 38.04 38.8 2.5 50 1.41 75 69 130 1.9(20)Bromodichloromethane 86 40.72 5.6(20)43.1 2.5 50 0 66 134 4-Methyl-2-pentanone (MIBK) 115 13 125 0 92 20 182 109 5.5(20) cis-1,3-Dichloropropene 40.1 0 80 63 130 37.32 7.1(20) 2.5 50 trans-1,3-Dichloropropene 38.7 50 0 77 66 131 36.01 7.2(20)1,1,2-Trichloroethane 42.6 2.5 0 85 68 130 41.55 2.6(20)50 Toluene 36.8 1.3 0 74 66 130 35.56 3.5(20)50 1.3-Dichloropropane 43.3 2.5 50 0 87 70 130 40.77 6.1(20)Dibromochloromethane 40.7 0 36.49 2.5 50 81 70 130 10.9(20) 1,2-Dibromoethane (EDB) 0 88 70 80.13 9.0(20)87.7 5 100 130 Tetrachloroethene 2.5 0 74 36.54 1.5(20) 37.1 50 61 134 1,1,1,2-Tetrachloroethane 41.8 0 84 70 130 39.25 6.3(20)2.5 50 Chlorobenzene 0 78 70 130 37.17 4.9(20)39 2.5 50 Ethylbenzene 0 76 36.53 37.9 1.3 50 68 130 3.6(20)m,p-Xylene 3.8(20) 0 75 36.14 37.5 64 130 1.3 50 Bromoform 37.25 41.6 2.5 50 0 83 64 138 11.1(20) Styrene 40.8 2.5 50 0 82 69 130 38.44 5.9(20) 0 76 70 36.52 4.4(20) 38.2 1.3 130 50 1,1,2,2-Tetrachloroethane 2.5 50 0 89 65 131 41.84 6.4(20)1,2,3-Trichloropropane 0 82.32 90 90 70 8.9(20)10 100 130 Isopropylbenzene 34.7 2.5 50 0 69 64 138 33.52 3.3(20)Bromobenzene 39.3 50 0 79 70 130 37.46 4.8(20)n-Propylbenzene 35.8 2.5 0 72 66 132 34.63 3.4(20)50 4-Chlorotoluene 70 35.54 5.7(20) 37.6 2.5 50 0 75 130 2-Chlorotoluene 0 5.0(20) 74 70 130 35.17 37 2.5 50 1,3,5-Trimethylbenzene 0 35.7 2.5 50 71 66 136 34.77 2.8(20)tert-Butvlbenzene 34.9 0 70 65 137 33.88 2.8(20)50 1,2,4-Trimethylbenzene 37.2 0 74 35.33 2.5 50 65 137 5.1(20) sec-Butylbenzene 35.6 2.5 0 71 66 134 34.81 2.1(20)50 1,3-Dichlorobenzene 40.4 2.5 0 81 70 130 37.46 7.5(20)50 1,4-Dichlorobenzene 0 38.5 2.5 50 77 70 130 35.93 6.8(20)4-Isopropyltoluene 35.8 2.5 50 0 72 66 137 34.49 3.6(20)1,2-Dichlorobenzene 39 2.5 50 0 78 70 130 36.59 6.4(20)n-Butylbenzene 37.1 35.87 3.5(20) 2.5 0 74 142 50 60 1,2-Dibromo-3-chloropropane (DBCP) 86 10.2(20) 215 15 250 0 67 130 194.3 1.2,4-Trichlorobenzene 0 73 36.4 10 50 61 137 32.1 12.7(20) Naphthalene 16.0(20) 32 10 50 0 64 40 167 27.26 Hexachlorobutadiene 71.2 10 71 61 5.1(20) 100 130 67.7 1,2,3-Trichlorobenzene 36.4 73 51 33.04 9.7(20) 10 50 144 Surr: 1,2-Dichloroethane-d4 51.1 50 102 70 130 Surr: Toluene-d8 48.4 50 70 130 97



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Date:

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Work Order:

QC Summary Report 04-Nov-10 10102703 Type MSD Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate File ID: 10110110.D Batch ID: MS15W1101M Analysis Date: 11/01/2010 16:29 Sample ID: 10102703-09AMSD Units: µg/L Prep Date: 11/01/2010 16:29 Run ID: MSD_15_101101A Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) **PQL** Qual Result Dichlorodifluoromethane 2.5 5.0(20)32.5 13 167 34.17 Chloromethane 40.94 38 10 0 76 28 145 7.6(20)50 Vinyl chloride 48.5 52.48 2.5 50 0 97 43 134 7.9(20)Chloroethane 42.7 2.5 50 0 85 39 154 45.03 5.3(20)Bromomethane 80 39.36 39.9 10 50 0 19 176 1.3(20)Trichlorofluoromethane 42.3 2.5 50 0 85 34 160 43.99 3.9(20)1.1-Dichloroethene 46.2 50 0 92 60 130 48.56 5.0(20)Dichloromethane 0 86 68 45.3 43.2 10 50 130 4.7(20)Freon-113 47.9 2.5 50 0 96 49 141 50 4.3(20)trans-1,2-Dichloroethene 46.1 2.5 50 0 92 63 130 49.09 6.2(20)Methyl tert-butyl ether (MTBE) 0 102 56 51.2 1.3 50 141 52.6 2.6(20)1,1-Dichloroethane 0 47.35 3.1(20)45.9 2.5 50 92 61 130 2-Butanone (MEK) 810 50 1000 0 81 20 182 830.5 2.5(20)cis-1,2-Dichloroethene 45.4 2.5 0 91 70 130 48.71 7.0(20)50 Bromochloromethane 48.2 96 70 130 50.46 4.6(20)50 Chloroform 0 89 67 46.05 44.4 2.5 50 130 3.7(20)2,2-Dichloropropane 42.5 2.5 50 0 85 30 152 44.46 4.6(20)1.2-Dichloroethane 47.9 2.5 50 0 96 60 135 49.46 3.3(20)1,1,1-Trichloroethane 2.5 4.2(20)46.3 0 93 59 48.28 50 137 1,1-Dichloropropene 4.2(20)2.5 50 0 94 63 130 49.04 Carbon tetrachloride 47.7 2.5 50 0 95 50 147 49.39 3.5(20)Benzene 46 1.3 50 0 92 67 130 48.16 4.6(20)Dibromomethane 48.2 0 96 1.6(20)2.5 50 69 133 1.2-Dichloropropane 2.5 0 93 69 47.82 2.6(20)46.6 50 130 Trichloroethene 45.4 2.5 0 91 69 130 47.55 4.7(20)50 Bromodichloromethane 51 2.5 50 0 102 66 134 51.98 1.9(20)4-Methyl-2-pentanone (MIBK) 125 125.2 123 0 98 20 13 182 1.8(20)cis-1,3-Dichloropropene 4.3(20) 45.7 2.5 50 0 91 63 130 47.7 trans-1,3-Dichloropropene 44.3 2.5 50 0 89 66 131 46.02 3.8(20)1,1,2-Trichloroethane 47.9 2.5 0 96 68 49.03 2.3(20)50 130 Toluene 44.2 1.3 50 0 88 66 130 46.31 4.7(20)1.3-Dichloropropane 48 4 2.5 0 97 70 50.01 3.2(20)50 130 Dibromochloromethane 47.3 2.5 0 95 70 130 47.85 1.2(20)50 1,2-Dibromoethane (EDB) 96.8 0 97 70 130 100.2 3.4(20)100 Tetrachloroethene 2.5 47.97 4.4(20) 45.9 0 92 61 134 50 1,1,1,2-Tetrachloroethane 49.3 2.5 0 99 70 130 50.89 3.2(20) 50 Chlorobenzene 45.2 2.5 0 90 70 130 46.95 3.8(20)50 Ethylbenzene 45.7 50 0 91 68 130 47.66 1.3 4.2(20)m,p-Xylene 45 50 0 90 64 130 47.15 4.7(20)1.3 Bromoform 47.6 0 95 64 49.88 4.8(20)50 138 Styrene 47.9 0.78 69 49.19 2.6(20)2.5 50 94 130 o-Xvlene 45 1.3 0 90 70 130 47.24 4.8(20)50 1.1.2.2-Tetrachloroethane 48.5 0 2.5 50 97 65 131 49.77 2.6(20)1,2,3-Trichloropropane 97.7 10 100 0 98 70 130 100.7 3.1(20) Isopropylbenzene 2.5 41.5 50 0 83 64 138 42.52 2.5(20)Bromobenzene 44.7 2.5 0 89 70 130 45.22 50 1.1(20)n-Propylbenzene 43.3 2.5 50 0 87 66 132 44.38 2.4(20)4-Chlorotoluene 43.1 2.5 50 0 86 70 130 44.26 2.7(20)2-Chlorotoluene 42.5 2.5 0 85 70 130 43.51 2.3(20) 50 1,3,5-Trimethylbenzene 0 86 42.8 50 66 136 43.52 1.7(20)tert-Butvlbenzene 0 41.2 2.5 50 82 65 137 42.41 2.9(20)1,2,4-Trimethylbenzene 42.7 2.5 0 85 65 137 43.85 2.6(20) 50 sec-Butylbenzene 0 43.3 2.5 50 87 66 134 43.82 1.1(20)1,3-Dichlorobenzene 45.6 2.5 50 0 91 70 130 46.74 2.5(20)1,4-Dichlorobenzene 44 2.5 0 88 44.87 50 70 130 2.1(20)4-Isopropyltoluene 42.3 50 0 85 66 137 43.67 3.3(20)1,2-Dichlorobenzene 2.5 44.68 43.8 0 88 70 2.0(20)50 130 n-Butvlbenzene 44.2 2.5 50 0 88 60 142 46.02 3.9(20)1,2-Dibromo-3-chloropropane (DBCP) 240 15 250 0 96 67 130 243.2 1.5(20) 1,2,4-Trichlorobenzene 0 82 41 1 10 50 61 137 42.88 4.2(20)Naphthalene 74 10 50 0 40 167 39.74 7.2(20)Hexachlorobutadiene 83.4 83 10 100 0 61 130 88.52 6.0(20)1,2,3-Trichlorobenzene 41 1 10 50 82 51 144 44.47 8.0(20) Surr: 1.2-Dichloroethane-d4 52.3 50 105 70 130 Surr: Toluene-d8 48.5 50 97 70 130



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Date:	QC	Work Order: 10102703				
Surr: 4-Bromofluorobenzene	47	50	94	70	130	

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.



04-Nov-10		(QC Summary Report									
Method Bla			Type I	/BLK			Method SW8260B					
File ID: 10110	206.D				Batch ID: MS15	W1102M	Analysis	s Date:	11/02/2010 16:45			
Sample ID:	MBLK MS15W1102M	Units : µg/L		Run ID	: MSD_15_10110:	2A	Prep Da	ate:	11/02/2010 16:45			
Analyte		Result	PQL	Spk'	Val SpkRefVal %	REC LCL(ME) UCL(ME) R	PDRef	Val %RPD(Limit)	Qua		
Dichlorodifluor		ND	0.9	5								
Chloromethan	е	ND										
Vinyl chloride Chloroethane		ND	0.9									
Bromomethan	ıe.	ND ND	0.5) I								
Trichlorofluoro		ND	0.9									
1,1-Dichloroet		ND	0.9									
Dichlorometha	ane	ND										
Freon-113		ND	0.9									
trans-1,2-Dich		ND	0.9									
1,1-Dichloroet	tyl ether (MTBE)	ND	0.9									
2-Butanone (N		ND ND	0.9 10									
cis-1,2-Dichlor	roethene	ND	0.9									
Bromochlorom		ND	0.9									
Chloroform		ND	0.9	5								
2,2-Dichloropr		ND	0.9									
1,2-Dichloroet 1,1,1-Trichloro		ND ND	0.5									
1,1-Dichloropr		ND ND	0.9 0.9									
Carbon tetracl		ND	0.3									
Benzene		ND	0.5									
Dibromometha		ND	0.5									
1,2-Dichloropr		ND	0.5									
Trichloroethen Bromodichloro		ND	0.5									
	ntanone (MIBK)	ND ND	0.9 2.9									
cis-1,3-Dichlor		ND ND	0.5									
trans-1,3-Dich		ND	0.5									
1,1,2-Trichlord	ethane	ND	0.5									
Toluene		ND	0.5									
1,3-Dichloropr		ND	0.5									
Dibromochloro 1,2-Dibromoet		ND ND	0.5									
Tetrachloroeth		ND	0.5									
1,1,1,2-Tetrac	hloroethane	ND	0.5									
Chlorobenzen	e	ND	0.5									
Ethylbenzene		ND	0.5									
m,p-Xylene		ND	0.8									
Bromoform Styrene		ND	0.5									
o-Xylene		ND ND	0. ! 0. !									
1,1,2,2-Tetrac	hloroethane	ND	0.8									
1,2,3-Trichlord	propane	ND	0.0									
Isopropylbenz		ND	0.5	5								
Bromobenzen		ND	0.5									
n-Propylbenze 4-Chlorotoluer		ND	0.5									
2-Chlorotoluer		ND ND	0. 8 0. 8									
1,3,5-Trimethy		ND	0.8									
tert-Butylbenze	ene	ND	0.5									
1,2,4-Trimethy		ND	0.5	5								
sec-Butylbenz		ND	0.5									
1,3-Dichlorobe 1,4-Dichlorobe		ND	0.5									
4-Isopropyltolu		ND ND	0.5 0.5									
1,2-Dichlorobe		ND ND	0.5									
n-Butylbenzen	e	ND	0.5									
	-chloropropane (DBCP)	ND	2.5									
1,2,4-Trichloro	benzene	ND	1									
Naphthalene	in all a se a	ND	1									
Hexachlorobut 1,2,3-Trichloro		ND ND	1									
1,2,3-1 richioro Surr: 1,2-Dichl		ND 10.7	1		10 1	107 70	130					
	d8	10.7				107 70 104 70	130					



Date: 04-Nov-10	QC	Summary Re	port			Work Order: 10102703
Surr: 4-Bromofluorobenzene	9.62	10	96	70	130	



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Date: 04-Nov-10	(Work Ord 1010270						
Laboratory Control Spike		Type L	.cs T	est Code: EPA Met	hod SW8	260B		
File ID: 10110203.D			В	atch ID: MS15W110)2M	Analysis l	Date: 11/02/2010 15:31	
Sample ID: LCS MS15W1102M	Units : µg/L		Run ID: M	SD_15_101102A		Prep Date	e: 11/02/2010 15:31	
Analyte	Result	PQL			LCL(ME)	UCL(ME) RP	DRefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	8.35	1	10	84	70	130		
Chloromethane	5.25	2		53	70(70)	130		L50
Vinyl chloride	9.4	1	10	94	70	130		
Chloroethane	9.48	1		95	70	130		
Bromomethane	3.78	2		38	70(70)	130		L50
Trichlorofluoromethane 1,1-Dichloroethene	9.71	1		97	70 70	130		
Dichloromethane	10.3 9.52	1		103 95	70 70	130 130		
Freon-113	11.1	1		111	67	141		
trans-1,2-Dichloroethene	10.4	1		104	70	130		
Methyl tert-butyl ether (MTBE)	9.58	0.5		96	70	130		
1,1-Dichloroethane	10.2	. 1		102	70	130		
2-Butanone (MEK) cis-1,2-Dichloroethene	190	10		95 402	70 70	130		
Bromochloromethane	10.2 9.86	1		102 99	70 70	130 130		
Chloroform	9.76	1	10	98	70 70	130		
2,2-Dichloropropane	10	1		100	70	130		
1,2-Dichloroethane	10	1	. •	100	70	130		
1,1,1-Trichloroethane 1,1-Dichloropropene	10.3	1		103	70 70	130		
Carbon tetrachloride	10.5 10.2	1 1		105 102	70 70	130 130		
Benzene	10.2	0.5		102	70 70	130		
Dibromomethane	9.69	1		97	70	130		
1,2-Dichloropropane	10	1		100	70	130		
Trichloroethene Bromodichloromethane	10.2	1		102	70	130		
4-Methyl-2-pentanone (MIBK)	10.9 24.2	1		109	70	130		
cis-1,3-Dichloropropene	10.1	2.5 1		97 101	20 70	182 130		
trans-1,3-Dichloropropene	9.26	1		93	70	130		
1,1,2-Trichloroethane	9.68	1		97	70	130		
Toluene	9.89	0.5		99	70	130		
1,3-Dichloropropane Dibromochloromethane	9.94	1		99	70	130		
1,2-Dibromoethane (EDB)	9.5 20	1	-	95 99.8	70 70	130 130		
Tetrachloroethene	10.4	1		104	70 70	130		
1,1,1,2-Tetrachloroethane	10.6	1		106	70	130		
Chlorobenzene	10.1	1		101	70	130		
Ethylbenzene	10.3	0.5		103	70	130		
m,p-Xylene Bromoform	10.1 9.39	0.5 1		101 94	70 70	130 130		
Styrene	10.3	1		103	70 70	130		
o-Xylene	10	0.5		100	70	130		
1,1,2,2-Tetrachloroethane	9.4	1		94	70	130		
1,2,3-Trichloropropane	19.6	2		98	70	130		
Isopropylbenzene Bromobenzene	9.73	1		97	70 70	130		
n-Propylbenzene	9.96 10.1	1		99.6 101	70 70	130 130		
4-Chlorotoluene	9.99	1		99.9	70	130	•	
2-Chlorotoluene	9.93	1	_	99	70	130		
1,3,5-Trimethylbenzene	9.84	1		98	70	130		
tert-Butylbenzene 1.2.4-Trimethylbenzene	9.6	1	10	96	70	130		
1,2,4-Trimethylbenzene sec-Butylbenzene	9.84 9.94	1 1	10	98 99	70 70	130 130		
1,3-Dichlorobenzene	9.94 10.2	1	10 10	99 102	70 70	130		
1,4-Dichlorobenzene	9.63	1		96	70	130		
4-Isopropyltoluene	9.83	1	10	98	70	130		
1,2-Dichlorobenzene	9.4	1	10	94	70	130		
n-Butylbenzene 1,2-Dibromo-3-chloropropane (DBCP)	10.1	1		101	70 70	130		
1,2,4-Trichlorobenzene	46.9 8.16	3 2		94 82	70 70	130 130		
Naphthalene	6.18	2		62 62	70 70(70)	130		L50
Hexachlorobutadiene	17.3	2		86	70(70)	130		
1,2,3-Trichlorobenzene	7.86	2		79	70	130		
Surr: 1,2-Dichloroethane-d4	10.1	_	10	101	70	130		



Date: 04-Nov-10	QC	Work Order: 10102703				
Surr: Toluene-d8	9.76	10	98	70	130	
Surr: 4-Bromofluorobenzene	9.61	10	96	70	130	



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

47 4



Date: _04-Nov-10	QC	Summary Rep	port			Work Order: 10102703
Surr: 4-Bromofluorobenzene	45.3	50	91	70	130	



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Date: 04-Nov-10		SC 21	ummar	y Repoi	τ		-		1010270	er: 3
Sample Matrix Spike Duplicate		Type M	ISD T	est Code: E	PA Me	thod SW82	260B			
File ID: 10110208.D			В	atch ID: MS	15W11	02M	Analy	sis Date: 1	1/02/2010 17:29	
Sample ID: 10102703-21AMSD	Units : µg/L			SD_15_101			Prep		1/02/2010 17:29	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVa	I %RPD(Limit)	Qua
Dichlorodifluoromethane	31	2.5		0	62	13	167	32.27	4.1(20)	
Chloromethane	29	10		0	58	28	145	29.83	2.9(20)	
Vinyl chloride Chloroethane	44.7	2.5		0	89	43	134	45.35	1.5(20)	
Bromomethane	43.1 27.3	2.5 10			86 55	39 19	154 176	44.29 21.79	2.8(20) 22.5(20)	R58
Trichlorofluoromethane	44.1	2.5			88	34	160	45.92	4.1(20)	1100
1,1-Dichloroethene	47.7	2.5		0	95	60	130	49.16	3.0(20)	
Dichloromethane	45	10		0	90	68	130	45.87	2.0(20)	
Freon-113	50.6	2.5		0	101	49	141	52.44	3.7(20)	
trans-1,2-Dichloroethene	48.7	2.5		0	97	63	130	49.81	2.3(20)	
Methyl tert-butyl ether (MTBE)	51.7	1.3		0	103	56	141	53.64	3.6(20)	
1,1-Dichloroethane 2-Butanone (MEK)	48 840	2.5 50		0	96 84	61 20	130 182	48.66 854.4	1.4(20) 1.7(20)	
cis-1,2-Dichloroethene	48.2	2.5		-	96	70	130	47.35	1.8(20)	
Bromochloromethane	49.5	2.5			99	70	130	50.6	2.3(20)	
Chloroform	47.5	2.5			95	67	130	48.51	2.1(20)	
2,2-Dichloropropane	42.3	2.5	50	0	85	30	152	43.72	3.3(20)	
1,2-Dichloroethane	51	2.5			102	60	135	51.93	1.9(20)	
1,1,1-Trichloroethane 1,1-Dichloropropene	48.4	2.5			97	59	137	49.4	2.1(20)	
Carbon tetrachloride	49.4 49.6	2.5 2.5		0	99 99	63 50	130 147	50.31 49.07	1.9(20) 1.0(20)	
Benzene	49.6 47.7	2.5 1.3		0	99 95	67	130	49.07	2.8(20)	
Dibromomethane	50.1	2.5		0	100	69	133	51.98	3.6(20)	
1,2-Dichloropropane	48.6	2.5		0	97	69	130	49.05	0.9(20)	
Trichloroethene	48.8	2.5		1.2	95	69	130	49.72	1.8(20)	
Bromodichloromethane	52.7	2.5		0	105	66	134	53.57	1.6(20)	
4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene	127 47.1	13		0	101 94	20 63	182 130	132.3 48.02	4.4(20) 1.9(20)	
trans-1,3-Dichloropropene	47.1 45.6	2.5 2.5		0	94 91	66	131	46.02 47.4	4.0(20)	
1,1,2-Trichloroethane	50	2.5		0	100	68	130	52.54	5.0(20)	
Toluene	44.9	1.3		Ō	90	66	130	46.28	3.0(20)	
1,3-Dichloropropane	49.3	2.5		0	99	70	130	50.26	2.0(20)	
Dibromochloromethane	48.3	2.5		0	97	70	130	47.86	1.0(20)	
1,2-Dibromoethane (EDB) Tetrachloroethene	98.8	5		0	99	70	130	102.1	3.2(20)	
1,1,1,2-Tetrachloroethane	47.4 50	2.5 2.5		0	95 100	61 70	134 130	47.92 49.73	1.0(20) 0.6(20)	
Chlorobenzene	46.5	2.5		0	93	70	130	46.48	0.0(20)	
Ethylbenzene	46.6	1.3		ő	93	68	130	47.33	1.6(20)	
m,p-Xylene	46.6	1.3		0	93	64	130	47.6	2.1(20)	
Bromoform	48.5	2.5		0	97	64	138	49.05	1.1(20)	
Styrene o-Xylene	47.8	2.5		0	96	69 70	130	48.17	0.8(20)	
o-Aylene 1,1,2,2-Tetrachloroethane	46.3 49.3	1.3 2.5		0	93 99	70 65	130 131	46.72 50.41	0.8(20) 2.2(20)	
1,2,3-Trichloropropane	49.3 99.1	2.5 10		0	99	65 70	130	103.5	4.3(20)	
Isopropylbenzene	42.5	2.5		0	85	64	138	42.19	0.7(20)	
Bromobenzene	45.5	2.5	50	Ō	91	70	130	45.53	0.1(20)	
n-Propylbenzene	43.6	2.5	50	0	87	66	132	44.24	1.4(20)	
4-Chlorotoluene	44.2	2.5		0	88	70	130	43.76	1.1(20)	
2-Chlorotoluene 1,3,5-Trimethylbenzene	44.2 42.5	2.5		0	88	70 66	130	43.53	1.6(20)	
tert-Butylbenzene	43.5 42.3	2.5 2.5		0	87 85	66 65	136 137	43.3 42.17	0.3(20) 0.3(20)	
1,2,4-Trimethylbenzene	43.7	2.5		0	87	65	137	43.89	0.4(20)	
sec-Butylbenzene	43.9	2.5		ő	88	66	134	43.52	0.9(20)	
1,3-Dichlorobenzene	47	2.5	50	0	94	70	130	45.83	2.6(20)	
1,4-Dichlorobenzene	44.5	2.5		0	89	70	130	44.15	0.7(20)	
4-lsopropyltoluene 1,2-Dichlorobenzene	43.2	2.5		0	86	66 70	137	42.99 42.76	0.5(20)	
n-Butylbenzene	44.3 45.1	2.5 2.5		0	89 90	70 60	130 142	43.76 44.27	1.3(20) 1.8(20)	
1,2-Dibromo-3-chloropropane (DBCP)	238	2.5 15		0	90 95	60 67	130	239.5	0.7(20)	
1,2,4-Trichlorobenzene	40.4	10		0	81	61	137	39.48	2.4(20)	
Naphthalene	35.1	10		0	70	40	167	33.12	5.9(20)	
Hexachlorobutadiene	84.8	10	100	0	85	61	130	81.03	4.5(20)	
1,2,3-Trichlorobenzene	41.3	10		0	83	51	144	39.18	5.2(20)	
Surr: 1,2-Dichloroethane-d4	53		50		106	70	130			
Surr: Toluene-d8	47.7		50		95	70	130			



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Date: 04-Nov-10	QC	Summary Re	port			Work Order: 10102703
Surr: 4-Bromofluorobenzene	45.7	50	91	70	130	

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.

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

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

Report Due By: 5:00 PM On: 09-Nov-2010

WorkOrder: BMIS10102703

Page: 1 of 3

Report Attention David Conner **Phone Number** (614) 424-4899 x (619) 726-7311 x connerd@battelle.org cutiee@batelle.org EMail Address

San Diego, CA 92101

655 West Broadway Battelle Memorial Institute

Client's COC #: 31910, 29184, 29187, 3190 Job: G005862/JPL Groundwater Monitoring

Shane Walton

(614) 424-4117 x

waltons@battelle.org

EDD Required: Yes

Sampled by: David Loera, Chase Brogdon

Cooler Temp Samples Received 27-Oct-2010 27-Oct-2010 Date Printed

Sample ID Comments: BMI10102703-09A MW-20-5 BMI10102703-06A BMI10102703-04A MW-17-3 BMI10102703-01A MW-6 BMI10102703-10A MW-20-4 BMI10102703-08A TB-03-10/22/10 BMI10102703-07A BMI10102703-05A MW-17-2 BMI10102703-03A MW-17-4 BMI10102703-02A MW-17-5 QC Level: DS4 EB-03-10/22/10 MW-17-1 Security seals intact. Frozen ice. Temp Blanks #9025, #4840, and #7740 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Samples Sample ID Client = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Matrix Date Š Š å å å Š å å Š å 10/22/10 10:42 10/25/10 09:43 10/22/10 07:00 10/22/10 09:35 10/25/10 09:14 10/22/10 11:39 10/22/10 10:07 Collection No. of Bottles 10/22/10 11:11 10/22/10 10:57 10/22/10 10:34 Alpha Sub G 5 G 5 G G ഗ S 0 0 0 0 0 0 0 0 0 0 TAT ဖ ဖ ဖ 9 ဖ ဖ 9 9 9 9 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç Ç Ç Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 VOC by 524 VOC by 524 VOC_W Requested Tests Criteria Reno Trip Blank 10/7/10 MS/MSD Level IV QC Sample Remarks MS/MSD

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.

Logged in by:

mabith

Ldcex

Elizabuth

Flacox

Alpha Analytical, Inc. Company

0-27-10/015

Date/Time

01A through -15A were delayed in FedEx shipment.:

Matrix Type: AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) 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 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

Alpha Analytical, Inc.

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

EMail Address

Report Attention Phone Number (619) 726-7311 x

Page: 2 of 3

WorkOrder: BMIS10102703

Report Due By: 5:00 PM On: 09-Nov-2010

cutiee@batelle.org connerd@battelle.org EDD Required: Yes

Sampled by: David Loera, Chase Brogdon

27-Oct-2010 27-Oct-2010 Date Printed

Samples Received

QC Level: DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Client's COC #: 31910, 29184, 29187, 3190 Job: G005862/JPL Groundwater Monitoring

PO: 218013

San Diego, CA 92101

Shane Walton

(614) 424-4899 x

(614) 424-4117 x

waltons@battelle.org

Battelle Memorial Institute 655 West Broadway Suite 1420

										Requested Tests	d Tests	
Alpha	Client		Collection		No. of Bottles	•	314_W	METALS	METALS_D VOC_TIC_			
Sample ID	Sample ID	Matri	Matrix Date	Alpha	Sub	TAT		*	8			Sample Remarks
BMI10102703-11A	MW-20-3	Ą	10/25/10 10:09	Ŋ	0	9	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-12A	MW-20-2	AQ	10/25/10 10:34	Ŋ	0	9	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-13A	MW-20-1	Ą	10/25/10 11:01	رن د	0	ဖ	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-14A	EB-04-10/25/10	ĄQ	10/25/10 10:50	51	0	ဖ	Perchlorate	Ç	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-15A	TB-04-10/25/10	ĄQ	10/25/10 07:00	_	0	9			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 10/7/10
BMI10102703-16A	MW-1	AQ	10/26/10 13:14	7	0	ဖ	Perchlorate	C _C	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-17A	WW-9	ĄQ	10/26/10 16:46	7	0	မ	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-18A	TRIP BLANK	å	10/26/10 00:00	_	0	9			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 6/29/10
BMI10102703-19A	MW-14-5	å	10/26/10 09:15	5	0	9	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10102703-20A	MW-14-4	Ą	10/26/10 10:05	თ	0	9	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		Level IV QC

Security seals intact. Frozen ice. Temp Blanks #9025, #4840, and #7740 received @ 0°C. Level IV QC. Samples should be used as the control spike sample it possible (i.e.: MS/MSD). 01A through -15A were delayed in FedEx shipment.:

Logged in by:

Alaba Arabutani Inc	Alpha Analytica	ナケート	U COX
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Matrix Type: AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) 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 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. 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

Alpha Analytical, Inc.

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

 Report Attention
 Phone Number
 EMail Address

 David Conner
 (619) 726-7311 x
 connerd@battelle.org

 Betsy Cutie
 (614) 424-4899 x
 cutiee@batelle.org

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

CA orkOrder rt Due By

WorkOrder: BMIS10102703

Page: 3 of 3

Report Due By: 5:00 PM On: 09-Nov-2010

EDD Required: Yes

Sampled by: David Loera, Chase Brogdon

 Cooler Temp
 Samples Received
 Date Printed

 0 °C
 27-Oct-2010
 27-Oct-2010

Client's COC #: 31910, 29184, 29187, 3190 Job: G005862/JPL Groundwater Monitoring QC Level: DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

			The state of the s		Requested Tests	
Alpha Sample ID	Client Sample ID	Collectio Matrix Date	Collection No. of Bottles x Date Alpha Sub TAT	314_W	METALS_D VOC_TIC_ VOC_W	Sample Remarks
BMI10102703-21A MW-14-3	MW-14-3	AQ 10/26/10 10:36	10 0 9	Perchlorate	Cr VOC by 524 VOC by 524 Criteria Criteria	MS/MSD
BMI10102703-22A	MW-14-2	AQ 10/26/10 11:11	5 0 9	Perchlorate	Cr VOC by 524 VOC by 524 Criteria Criteria	
BMI10102703-23A	MW-14-1	AQ 10/26/10 11:44	5 0 9	Perchlorate	Cr VOC by 524 VOC by 524 Criteria Criteria	
BMI10102703-24A	DUPE-02-4Q10	AQ 10/26/10 00:00	5 0 9	Perchlorate	Cr VOC by 524 VOC by 524 Criteria Criteria	
BMI10102703-25A	EB-05-10/26/10	AQ 10/26/10 11:28	5 0	Perchlorate	Cr VOC by 524 VOC by 524 Criteria Criteria	
BMI10102703-26A	TB-05-10/26/10	AQ 10/26/10 07:00	1 0 9		VOC by 524 VOC by 524 Criteria Criteria	Reno Trip Blank 10/7/10

Comments: 01A through -15A were delayed in FedEx shipment.: Security seals intact. Frozen ice. Temp Blanks #9025, #4840, and #7740 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Samples Date/Time

Logged in by: 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. Elizabeth Alpha Analytical, Inc. 0-27-10 045

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

Billing Information; Company Name Lattell

*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	Relinquished by: (Signature/Affiliation)	45.0636 (c) (2)). Sampled	ADDITIONAL INSTRUCTIONS: * Chbrid				M ICFOLECTOITULE BY 999 THOI		State, Zip Matrix* P.O. # 21 P.O. 2	ient Name David Conner	#365 OK 734	Anc
OT - Other AR - Air **: L-Liter V-Voa ted unless other arrangements are made. Hazardous sam	Received by: (Signature/Affiliation) August Received by: (Signature/Affiliation) August Au	By: (Signature/Affiliation) Booking by: (Signature/Affiliation)	Chbride, Vitrate, Vitrite, Orthophosphale,				MW-6 01	sample Description 7	Conneral @ battelle ors 1910-131	Name David Congret Attention / Project Manager		Alpna Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406
S-Soil Jar O-Orbo T-Tedlar B-Brass Figles will be returned to client or disposed of at client expension.	ACBY / Olpha 10/27/10	Trylet & Date:	Sulfate				XXX dli Mil	Containers**	7	4010 (312)	Analyses Required	AZ CA X_ NV W/
P-Plastic OT-Other ise. The report for the analysis	70 Time:	Time:	peridered freed and may be					REMARKS	Global	Level: Ø or IV	Data Validation	Page # of

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 <u>Genuls TOMPKINS/BATTEILE</u> Address SOS KINN AUDE		≅ ? 	Samples Collected From Which State? AZ CA NV WA ID OR OTHER F	Page # / of /
e, Zip באוניאינויאליאל umber	Phone (775) 355-1044 Fax (775) 355-0406	-0406	Analyses Required	-
18	P.O. # 278013 Job #	138500 J	20.89	å
City. State, Zip SAN THEHO. CA 92110	Phone #69 726-731/ Fax#	524	\$ (3/4) 	EDD / EDF? YES NO
Matrix* Sample See Key	Report Attention	Total and type of		Global ID #
Below	Sample Description	_		REMARKS
073 1/31/10 100 -02	1 MW-17-5	3v,2p X X	X	
		60 % XX	× ///	MS/MST)
to.	MW-17-3	$3,2p \times \times$	×	
3.		×	X	
	064W-17-1	★ ×	*	
[] *	CB-03-10/22/10	3v,2p X X	X EQUI	ECHIPMENT BLANK
0-00 -0/21/01a -08		Z X	774,	TRUP BLANK
ADDITIONAL INSTRUCTIONS:				
)				
Signature	Print Name	Company		Time
neilinduisine (Astains in Indiana Indi	CHASE BLANSON	INSIGHT CECITIC	INC 10/2/10	1300
Received by	Astron Stark	Aph- Augtice	10/25/10	0 /300
Relinquished by	1, 6,	1, 2, 0	10/11/10	
Relinquished by Capabeth (ACap	Elizabeth Hdcox	x (lepha	10.27-10	10+5
Received by				
'Key: AQ - Aqueous SO - Soil WA - Waste	ste OT - Other AR - Air **: L-Liter	V-Voa S-Soil Jar O-Orbo	T-Tedlar B-Brass P-Plastic	stic OT-Other

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.

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

3illing Information: _{Vame} <u> </u>		Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 AZ CA >	Samples Collected From Which State? 29 18 /
Address SOS KING AUE Dity, State, Zip Columbus, OH 43201 Phone Number Fax	(Q)		Analyses Required /
Client Name SATTELLE / DAVID CONNEN	PO.# 218013	Job# (2005862)	Required QC Level?
Address	EMail Address	La L	/ / / II (III) IV
1150 CA 92110	Phone #6/9) 726-7311 F	Fax #	
Matrix* Sample	Report Attention		Giobal ID #
Below	Sample Description	TAT Filtered ** See below S	REMARKS
O- 07 1/0 MB - 07	NW-20-5	_	MS/MSD, AC LONG. II
-10	MW-20-4	3v, 20 y X X	
1009	1	× × ×	
1000	2 MW-20-2	× × ×	
101	3 m-20-1	× × ×	
1050 4 4	_	$ 3v_{i}2_{p} \times \times $	COMIPHENT BLANK
J. DV affen ato	573-04-10/25/10	X	TRIP BLANK
ADDITIONAL INSTRUCTIONS:			
Signature	Print Name	Company	Date Time
Relinquished by	(AMS BALLYON)	TNSOHT EET THE	19/29/10 1300
Received by	Anthorn Ship	Austra	
Relinquished by	2 0 1		
Received by angabeth de Cox	Elizabeth Hollox	Lepha	10-27-10 1045
Received by			
Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other AR - Air **:	L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar	r B-Brass P-Plastic OT-Other

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.

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

<u>₹</u> .
ì
Level: (II) or IV
(EDD) EDF? YES NO-
Global ID#
/ REMARKS
am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be
Time:
7.10 Time:
Time:
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
P-Plasti P-Plast

Billing Information:	Alpha	Alpha Analytical, Inc.	nples Collected From W	hich State? 29183
Address SOS KING AUE City, State, Zip Columbus, ot, 43201 Phone Number	Sparks, Phone Fax (77	Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406	Analyses Required	Page # _/of _/ d
	P.O. # 2/8/2	Job#	2	Required QC Level:
Address Address ADD OLD TOWN AVE. C-705	EMail Address	000000	200	/ / ' " (III) IV
<u> </u>	Phone #(619) 726-7311	Fax#	(3)	EDD / EDF? YES NO
Matrix* Sampled by See Key See Key	Report Attention	Total and type of	ZY (3)	Global ID #
Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below		REMARKS
0915 1921/0 AQ	MW-14-5	3,2p X	XX	
1005 JC	Hw-14-4	30,20 X	× ×	ac were TIT
1036		60 Mp X	× ×	MS/MSD
	MW-14-2	3v, 20 ×	×	
-23	1-11-M	3v, 20 ×	X	SAMPLE TIME 1144
+ AQ .24	JMPK- 02 -4010	31,20 X	X	DUPLICATE
1128 A AQ	68-05-10/26/10	3v, 20 X	×	COMPANT BUILL
0700 m/24/0 00 .21	113-05-10/26/10	`.		THIP BLANK
ADDITIONAL INSTRUCTIONS:				
Relinquished by	A Maria India		y	-
Received by	Snow	All A	e me	10/26/10 1500
Relinquished by	", ",	11 1		10/16/10 1500
Received by Congrath (Icax) Relinquished by	Elizabeth Ada) XO	lona	10
Received by				
*Key: AQ - Aqueous SO - Soil WA - Waste	te OT - Other AR - Air **:	L-Liter V-Voa S-Soil Jar	O-Orbo T-Tedlar B-Brass	P-Plastic OT-Other

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.

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

S



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

Date 05-Nov-10

David Conner

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

(619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102805

Cooler Temp:

1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
10102805-01A	MW-11-5	Aqueous
10102805-02A	MW-11-4	Aqueous
10102805-03A	MW-11-3	Aqueous
10102805-04A	MW-11-2	Aqueous
10102805-05A	MW-11-1	Aqueous
10102805-06A	EB-06-10/27/10	Aqueous
10102805-07A	TB-06-10/27/10	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

<u>Analyte</u>

NONE

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

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

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

Roger Scholl

Kandy Saulner

Walter Hirihour



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/28/10

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: BMI10102805-05A	Chloride	24	0.50 mg/L	10/29/10 08:40	10/29/10 09:02
Date Sampled 10/27/10 09:17	Nitrite (NO2) - N	ND	0.25 mg/L	10/29/10 08:40	10/29/10 09:02
•	Nitrate (NO3) - N	0.79	0.25 mg/L	10/29/10 08:40	10/29/10 09:02
	Phosphate, ortho - P	ND	0.50 mg/L	10/29/10 08:40	10/29/10 09:02
	Sulfate (SO4)	50	0.50 mg/L	10/29/10 08:40	10/29/10 09:02

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 10/28/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5 Lab ID: BMI10102805-01A Date Sampled 10/27/10 07:32	Perchlorate	ND	1.00 μg/L	10/29/10 09:13	10/29/10 15:29
Client ID: MW-11-4 Lab ID: BMI10102805-02A Date Sampled 10/27/10 08:01	Perchlorate	ND	1.00 µg/L	10/29/10 09:13	10/29/10 15:48
Client ID: MW-11-3 Lab ID: BMI10102805-03A Date Sampled 10/27/10 08:27	Perchlorate	ND	1.00 µg/L	10/29/10 09:13	10/29/10 16:06
Client ID: MW-11-2 Lab ID: BMI10102805-04A Date Sampled 10/27/10 08:50	Perchlorate	ND	1.00 µg/L	10/29/10 09:13	10/29/10 16:25
Client ID: MW-11-1 Lab ID: BM I10102805-05A Date Sampled 10/27/10 09:17	Perchlorate	ND	1.00 µg/L	10/29/10 09:13	10/29/10 16:43
Client ID: EB-06-10/27/10 Lab ID: BMI10102805-06A Date Sampled 10/27/10 09:05	Perchlorate	ND	1.00 µg/L	10/29/10 09:13	10/29/10 17:01

ND = Not Detected

Roger Scholl Kandy Sulma

Walter Hirihun

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/28/10

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: BMI10102805-01A Date Sampled 10/27/10 07:32	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 07:05
Client ID: MW-11-4 Lab ID: BMI10102805-02A Date Sampled 10/27/10 08:01	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 05:24
Client ID: MW-11-3 Lab ID: BMI10102805-03A Date Sampled 10/27/10 08:27	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 07:11
Client ID: MW-11-2 Lab ID: BMI10102805-04A Date Sampled 10/27/10 08:50	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 07:16
Client ID: MW-11-1 Lab ID: BMI10102805-05A Date Sampled 10/27/10 09:17	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 07:22
Client ID: EB-06-10/27/10 Lab ID: BMI10102805-06A Date Sampled 10/27/10 09:05	Chromium (Cr)	ND	0.0050 mg/L	10/28/10 20:06	10/29/10 07:27

ND = Not Detected

Roger Scholl

Kandy Saulmer

Dalter Hindren Quality Accurance Off

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Job: G005862/JPL G

G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

	1	8			
			Estimated		
	Parameter	Estimated	Reporting		ate
		Concentration	Limit	Extracted Ana	lyzed
Client ID: MW-11-5 Lab ID: BMI10102805-01A Date Received: 10/28/10 Date Sampled: 10/27/10 07:32	* * * None Found * * *	ND	2.0 μg/L	11/02/10 23:21 11/02	/10 23:21
Client ID: MW-11-4 Lab ID: BMI10102805-02A Date Received: 10/28/10 Date Sampled: 10/27/10 08:01	*** None Found ***	ND	2.0 μg/L	11/02/10 23:43 11/02	/10 23:43
Client ID: MW-11-3 Lab ID: BMI10102805-03A Date Received: 10/28/10 Date Sampled: 10/27/10 08:27	* * * None Found * * *	ND	2.0 μg/L	11/03/10 00:04 11/03	/10 00:04
Client ID: MW-11-2 Lab ID: BMI10102805-04A Date Received: 10/28/10 Date Sampled: 10/27/10 08:50	* * * None Found * * *	ND	2.0 μg/L	11/03/10 00:26 11/03	/10 00:26
Client ID : MW-11-1 Lab ID : BMI10102805-05A Date Received : 10/28/10 Date Sampled : 10/27/10 09:17	*** None Found ***	ND	2.0 μg/L	11/03/10 00:48 11/03	/10 00:48
Client ID : EB-06-10/27/10 Lab ID : BMI10102805-06A Date Received : 10/28/10 Date Sampled : 10/27/10 09:05	*** None Found ***	ND	2.0 μg/L	11/02/10 19:41 11/02	/10 19:41
Client ID : TB-06-10/27/10 Lab ID : BM110102805-07A Date Received : 10/28/10 Date Sampled : 10/27/10 07:00	*** None Found ***	ND	2.0 μg/L	11/02/10 19:19 11/02	/10 19:19



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Stirkner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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11/10/10

Report Date



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ANALYTICAL REPORT

Attn:

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-01A

Client I.D. Number: MW-11-5

Phone: (619) 726-7311 Fax:

(614) 458-6641

David Conner

Sampled: 10/27/10 07:32

Received: 10/28/10

Extracted: 11/02/10 23:21 Analyzed: 11/02/10 23:21

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC			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	Q	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	103		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L						
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

µg/L

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Sampled: 10/27/10 08:01

Received: 10/28/10

Extracted: 11/02/10 23:43 Analyzed: 11/02/10 23:43

Alpha Analytical Number: BMI10102805-02A Client I.D. Number: MW-11-4

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	µg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	5 5	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 (DBC	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Client I.D. Number: MW-11-3

Attn: Fax:

David Conner Phone: (619) 726-7311 (614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-03A

Sampled: 10/27/10 08:27

Received: 10/28/10

Extracted: 11/03/10 00:04 Analyzed: 11/03/10 00:04

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	104		(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						

ua/L

μg/L

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/10/10

Report Date Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Client I.D. Number: MW-11-2

Attn:

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-04A

Sampled: 10/27/10 08:50

Received: 10/28/10

Extracted: 11/03/10 00:26 Analyzed: 11/03/10 00:26

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	103		(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	ug/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

1,2-Dibromoethane (EDB)

ND = Not Detected

35 Tetrachioroethene

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

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.

11/10/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-05A

Client I.D. Number: MW-11-1

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/27/10 09:17

Received: 10/28/10 Extracted: 11/03/10 00:48 Analyzed: 11/03/10 00:48

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	105		(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						

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

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Salver

Walter Firehour

11/10/10

Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

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ANALYTICAL REPORT

Phone: (619) 726-7311

David Conner

(614) 458-6641

Attn:

Fax:

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-06A

Client I.D. Number: EB-06-10/27/10

Sampled: 10/27/10 09:05 Received: 10/28/10

Extracted: 11/02/10 19:41 Analyzed: 11/02/10 19:41

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	NĎ		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	ug/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 (DBC	P) 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	Q	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	110		(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	96		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	ua/L			•		•	

μg/L

μg/L

μg/L

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Dibromochloromethane

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

33

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102805-07A

Client I.D. Number: TB-06-10/27/10

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

(614) 458-6641

Sampled: 10/27/10 07:00

Received: 10/28/10

Extracted: 11/02/10 19:19 Analyzed: 11/02/10 19:19

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	Limit		Compound	Concentration	R	eporting Li	mit
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-Xviene	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	ug/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	NĐ		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	110		(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	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

Walter Hinkows

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

0.50

μg/L

μg/L

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.

11/10/10 Report Date



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: BMI10102805 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
10102805-01A	MW-11-5	Aqueous	2
10102805-02A	MW-11-4	Aqueous	2
10102805-03A	MW-11-3	Aqueous	2
10102805-04A	MW-11-2	Aqueous	2
10102805-05A	MW-11-1	Aqueous	2
10102805-06A	EB-06-10/27/10	Aqueous	2
10102805-07A	TB-06-10/27/10	Aqueous	2

11/10/10



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Date: 10-Nov-10		QC Summary Report							Work Orde 10102805		
Method Blan File ID: 22 Sample ID:	nk MB-25356	Units : mg/L	Туре: М	Ва	est Code: EP		thod 300.0	Analy Prep l		10/29/2010 09:39 10/29/2010 08:40	
Analyte	MD-23336	Result	PQL		_ 1_101029A SpkRefVal ⁽	%REC	LCL(ME)	•		/al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	N	ND ND ND ND ND	0.5 0.25 0.25 0.5 0.5	•							
Laboratory File ID: 23	Fortified Blank		Type: LI		est Code: EP		thod 300.0	A I	D-4	40/00/0040 00-50	
Sample ID:	LFB-25356	Units : mg/L			atch ID: 2535 _ 1_101029A			Analy Prep l		10/29/2010 09:58 10/29/2010 08:40	
Analyte		Result	PQL				LCL(ME)	•		Val %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	· N	48.8 4.71 4.68 4.76 96.1	0.5 0.25 0.25 0.5 0.5	50 5 5 5 100		98 94 94 95 96	90 90 90 90 90	110 110 110 110 110			
Sample Mat	rix Spike		Type: LI	FM Te	est Code: EP	A Met	hod 300.0				
File ID: 41					atch ID: 2535	6		•		10/29/2010 15:53	
Sample ID: Analyte	10102905-01ALFM	Units : mg/L Result	PQL		_1_101029A SnkReft/al	%RFC	: LCL(ME)	Prep I		10/29/2010 08:40 Val %RPD(Limit)	Qual
Chloride		137	0.5	100	58.37	79	80	120	TO DITO	var zoru b(Ellille)	M2
Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort	·N	9.5 17.3 10.5	0.25 0.25 0.5	10 10 10	0 9.679 0	95 76 105	80 80 80	120 120 120			M2
Sulfate (SO4)		238	0.5	200	67.42	85	80	120			_
	rix Spike Duplicate		Type: LI		est Code: EP		thod 300.0				
File ID: 42 Sample ID:	10102905-01ALFMD	Lloito :	•		atch ID: 2535	6		•		10/29/2010 16:12	
Analyte	10 102905-0 IALFWD	Units : mg/L Result	PQL	-	_ 1_101029A SokRef\/al	%REC	: LCL(ME)	Prep I		10/29/2010 08:40 Val %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	·N	140 9.72 17.8 10.9 241	0.5 0.25 0.25 0.5 0.5	100 10 10 10 200	58.37 0 9.679 0 67.42	81 97 81 109 87	80 80 80 80 80 80	120 120 120 120 120 120	136.9 9.5 17.25 10.52 238.2	9 1.9(15) 2.3(15) 5 2.9(15) 2 3.5(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 uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag. M2 = Matrix spike recovery was low, the method control sample recovery was acceptable.



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Date: 09-Nov-10		QC Summary Report							Work Order: 10102805		
Method Bla File ID: 14 Sample ID:	nk MB-25358	Units : µg/L	Туре: І		Test Code: E Batch ID: 253 C_3_101029	58	thod 314.0	Analys Prep D		10/29/2010 10:10 10/29/2010 09:13	
Analyte		Result	PQL	SpkVa	al SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1							
Laboratory File ID: 15	Fortified Blank		Туре: І		Test Code: E Batch ID: 253		hod 314.0	Analys	sis Date:	10/29/2010 10:28	
Sample ID:	LFB-25358	Units : µg/L		Run ID:1	C_3_101029	Ą		Prep D	Date:	10/29/2010 09:13	
Analyte		Result	PQL	SpkVa	al SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.9		2 2	5	104	85	115			
Sample Mat	rix Spike		Type: I		Test Code: E		hod 314.0				
File ID: 18	404000000000000000000000000000000000000				Batch ID: 253			•		10/29/2010 11:30	
Sample ID: Analyte	10102703-21ALFM	Units : μg/L Result	PQL		C_3_101029/ al_SnkReft/al		: LCL(ME)	Prep D		10/29/2010 09:13 Val %RPD(Limit)	Qual
Perchlorate		31.5			5 5.979		80	120		<u> </u>	
Sample Mat	rix Spike Duplicate		Type: I		Test Code: E		hod 314.0	A l	:- D-4	44/00/0040 40-40	
Sample ID:	10102703-21ALFMD	Lloito :/l			Batch ID: 253			•		11/03/2010 13:13	
Analyte	IN INET US-E INLEMID	Units : µg/L Result	PQL		C_3_101029		LCI/ME)	Prep D		10/29/2010 09:13 Val %RPD(Limit)	Qual
Perchlorate		31.8			5 5.979		80	120	31.4		

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-Nov-10	QC Summary Report						Work Orde 10102805			
Method Blank File ID: 102810.B\090_M.D\		Type N		est Code: EF atch ID: 2535		thod 200.8	Analy	sis Date:	10/29/2010 04:52	
Sample ID: MB-25354	Units : mg/L		Run ID: IC	P/MS_10102	29B		Prep I	Date:	10/28/2010 20:06	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike		Type L	CS Te	est Code: EF	A Met	thod 200.8				
File ID: 102810.B\091_M.D\			Ва	atch ID: 2535	i 4		Analy	sis Date:	10/29/2010 04:58	
Sample ID: LCS-25354	Units : mg/L		Run ID: IC	P/MS_10102	29B		Prep l	Date:	10/28/2010 20:06	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0471	0.008	5 0.05		94	85	115			
Sample Matrix Spike		Type I	VIS T	est Code: EF	'A Met	thod 200.8				
File ID: 102810.B\096_M.D\			Ba	atch ID: 2535	i 4		Analy	sis Date:	10/29/2010 05:30	
Sample ID: 10102805-02AMS	Units : mg/L		Run ID: IC	P/MS_10102	29B		Prep I	Date:	10/28/2010 20:06	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0472	0.00	5 0.05	0	94	70	130			
Sample Matrix Spike Duplicate		Type I	MSD Te	est Code: EF	A Met	thod 200.8				
File ID: 102810.B\097_M.D\			Ва	atch ID: 2535	54		Analy	sis Date:	10/29/2010 05:35	
Sample ID: 10102805-02AMSD	Units : mg/L		Run ID: IC	P/MS_10102	29B		Prep l	Date:	10/28/2010 20:06	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0477	0.00	5 0.05	0	95	70	130	0.0472	21 1.0(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.



Date: 05-Nov-10	(Work Order: 10102805		
Method Blank		Type MBLK	Test Code: EPA Method S	W8260B	
File ID: 10110206.D			Batch ID: MS15W1102M	Analysis Date: 11/02/2010	16:45
Sample ID: MBLK MS15W1102M	Units : µg/L	Run	D: MSD_15_101102A	Prep Date: 11/02/2010	16:45
Analyte	Result	PQL Sp	kVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(l	imit) Qua
Dichlorodifluoromethane	ND	0.5			
Chloromethane	ND	1			
Vinyl chloride	ND	0.5			
Chloroethane Bromomethane	ND	0.5			
Trichlorofluoromethane	ND ND	1 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 2-Butanone (MEK)	ND ND	0.5 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 1,1-Dichloropropene	ND ND	0.5 0.5			
Carbon tetrachloride	ND	0.5			
Benzene	ND	0.5			
Dibromomethane	ND	0.5			
1,2-Dichloropropane	ND	0.5			
Trichloroethene Bromodichloromethane	ND	0.5			
4-Methyl-2-pentanone (MIBK)	ND ND	0.5 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 1,2-Dibromoethane (EDB)	ND ND	0.5 1			
Tetrachloroethene	ND	0.5			
1,1,1,2-Tetrachloroethane	ND	0.5			
Chlorobenzene	ND	0.5			
Ethylbenzene	ND	0.5			
m,p-Xylene Bromoform	ND	0.5			
Styrene	ND ND	0.5 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 n-Propylbenzene	ND ND	0.5 0.5			
4-Chlorotoluene	ND ND	0.5 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 1,3-Dichlorobenzene	ND ND	0.5 0.5			
1,4-Dichlorobenzene	ND ND	0.5 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 Naphthalene	ND ND	1			
Hexachlorobutadiene	ND ND	1 1			
1,2,3-Trichlorobenzene	ND	1			
Surr: 1,2-Dichloroethane-d4	10.7	•	10 107 7		
Surr: Toluene-d8	10.4		10 104 7	0 130	



Date: 05-Nov-10	QC	Summary Re	port			Work Order: 10102805
Surr: 4-Bromofluorobenzene	9.62	10	96	70	130	



Date: 05-Nov-10								Work Order: 10102805		
Laboratory Control Spike										
File ID: 10110203.D			В	atch ID: MS15W110	2M	Analysis Date:	11/02/2010 15:31			
Sample ID: LCS MS15W1102M	Units : µg/L		Run ID: M	SD_15_101102A		Prep Date:	11/02/2010 15:31			
Analyte	Result	PQL			LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qua		
Dichlorodifluoromethane	8.35	1		84	70	130	,			
Chloromethane	5.25	2		53	70(70)	130		L50		
Vinyl chloride	9.4	1		94	70(70)	130				
Chloroethane	9.48	1		95	70	130				
Bromomethane	3.78	2		38	70(70)	130		L50		
Trichlorofluoromethane	9.71	1		97	70	130				
1,1-Dichloroethene	10.3	1		103	70	130				
Dichloromethane	9.52	2		95	70	130				
Freon-113	11.1	1		111	67	141,				
trans-1,2-Dichloroethene	10.4	1	10	104	70	130				
Methyl tert-butyl ether (MTBE)	9.58	0.5	5 10	96	70	130				
1,1-Dichloroethane	10.2	1		102	70	130				
2-Butanone (MEK)	190	10		95	70	130				
cis-1,2-Dichloroethene	10.2	1		102	70	130				
Bromochloromethane Chloroform	9.86	1		99	70	130				
2,2-Dichloropropane	9.76 10	1		98 100	70 70	130 130				
1,2-Dichloroethane	10	1		100	70 70	130				
1.1.1-Trichloroethane	10.3			103	70	130				
1,1-Dichloropropene	10.5	1		105	70	130				
Carbon tetrachloride	10.2	1		102	70	130				
Benzene	10.2	0.5	5 10	102	70	130				
Dibromomethane	9.69	1	10	97	70	130				
1,2-Dichloropropane	10	1		100	70	130				
Trichloroethene	10.2	1		102	70	130				
Bromodichloromethane	10.9	1		109	70	130				
4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene	24.2	2.5		97 401	20 70	182 130				
trans-1,3-Dichloropropene	10.1 9.26	1		101 93	70 70	130				
1,1,2-Trichloroethane	9.68			93 97	70 70	130				
Toluene	9.89	0.5		99	70	130				
1,3-Dichloropropane	9.94	1		99	70	130				
Dibromochloromethane	9.5	1		95	70	130				
1,2-Dibromoethane (EDB)	20	2		99.8	70	130				
Tetrachloroethene	10.4	1	10	104	70	130				
1,1,1,2-Tetrachloroethane	10.6	1		106	70	130				
Chlorobenzene	10.1	_ 1		101	70	130				
Ethylbenzene	10.3	0.5		103	70	130				
m,p-Xylene Bromoform	10.1	0.5		101	70 70	130 130				
Styrene	9.39 10.3	1		94 103	70 70	130				
o-Xylene	10.5	0.5		100	70	130				
1,1,2,2-Tetrachloroethane	9.4	1		94	70	130				
1,2,3-Trichloropropane	19.6	2		98	70	130				
Isopropylbenzene	9.73	1		97	70	130				
Bromobenzene	9.96	1	10	99.6	70	130				
n-Propylbenzene	10.1	1	10	101	70	130				
4-Chlorotoluene	9.99	1	10	99.9	70	130				
2-Chlorotoluene	9.93	1	10	99	70	130				
1,3,5-Trimethylbenzene	9.84	1	10	98	70	130				
tert-Butylbenzene 1,2,4-Trimethylbenzene	9.6	1	10	96	70 70	130				
sec-Butylbenzene	9.84 9.94	1	10 10	98 99	70 70	130 130				
1,3-Dichlorobenzene	10.2	1	10	102	70 70	130				
1,4-Dichlorobenzene	9.63	1	10	96	70	130				
4-Isopropyltoluene	9.83	1	10	98	70	130				
1,2-Dichlorobenzene	9.4	1	10	94	70	130				
n-Butylbenzene	10.1	1	10	101	70	130				
1,2-Dibromo-3-chloropropane (DBCP)	46.9	3	50	94	70	130				
1,2,4-Trichlorobenzene	8.16	2	10	82	70	130				
Naphthalene	6.18	2		62	70(70)	130		L50		
Hexachlorobutadiene	17.3	2		86	70	130				
1,2,3-Trichlorobenzene	7.86	2		79	70	130				
Surr: 1,2-Dichloroethane-d4	10.1		10	101	70	130				



Date: 05-Nov-10	CH NIMMORY RANGE							
Surr: Toluene-d8	9.76	10	98	70	130			
Surr: 4-Bromofluorobenzene	9.61	10	96	70	130			



Surr: Toluene-d8

Alpha Analytical, Inc.

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

Work Order: Date: **QC Summary Report** 05-Nov-10 Test Code: EPA Method SW8260B Type MS Sample Matrix Spike Analysis Date: 11/02/2010 17:07 File ID: 10110207.D Batch ID: MS15W1102M 11/02/2010 17:07 Sample ID: 10102703-21AMS Prep Date: Units: µg/L Run ID: MSD_15_101102A SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result **PQL** Qual Dichlorodifluoromethane 32.3 2.5 Chloromethane 29.8 Vinyl chloride 45.4 2.5 Chloroethane 44.3 2.5 Bromomethane 21.8 Trichlorofluoromethane 2.5 45.9 1,1-Dichloroethene 49.2 2.5 Dichloromethane 45.9 Freon-113 2.5 52.4 trans-1,2-Dichloroethene 99.6 49.8 2.5 Methyl tert-butyl ether (MTBE) 53.6 1.3 1.1-Dichloroethane 48.7 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 2.5 47.4 Bromochloromethane 50.6 2.5 2.5 Chloroform 48.5 2,2-Dichloropropane 43.7 2.5 1,2-Dichloroethane 51.9 2.5 1,1,1-Trichloroethane 49.4 2.5 1.1-Dichloropropene 50.32.5 Carbon tetrachloride 49.1 2.5 Benzene 1.3 Dibromomethane 2.5 1,2-Dichloropropane 49.1 2.5 Trichloroethene 1.2 49.7 2.5 Bromodichloromethane 53.6 2.5 4-Methyl-2-pentanone (MIBK) 2.5 cis-1,3-Dichloropropene trans-1,3-Dichloropropene 47.4 2.5 1,1,2-Trichloroethane 52.5 2.5 Toluene 46.3 1.3 1,3-Dichloropropane 50.3 2.5 Dibromochloromethane 47.9 2.5 1,2-Dibromoethane (EDB) Tetrachloroethene 2.5 47.9 1,1,1,2-Tetrachloroethane 49.7 2.5 Chlorobenzene 46.5 2.5 Ethylbenzene 47.3 1.3 m,p-Xylene 1.3 **Bromoform** 49.1 2.5 Styrene 48.2 2.5 o-Xylene 46.7 1.3 1,1,2,2-Tetrachloroethane 50.4 2.5 1,2,3-Trichloropropane Isopropylbenzene 42.2 2.5 Bromobenzene 45.5 2.5 n-Propylbenzene 44.2 2.5 4-Chlorotoluene 43.8 2.5 2-Chlorotoluene 43.5 2.5 1,3,5-Trimethylbenzene 43.3 2.5 tert-Butylbenzene 2.5 42.2 1,2,4-Trimethylbenzene 43.9 2.5 sec-Butylbenzene 43.5 2.5 1,3-Dichlorobenzene 45.8 2.5 1.4-Dichlorobenzene 44.2 2.5 4-Isopropyltoluene 2.5 1,2-Dichlorobenzene 43.8 2.5 n-Butvibenzene 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1.2.4-Trichlorobenzene 39.5 Naphthalene 33.1 Hexachlorobutadiene 1,2,3-Trichlorobenzene 39.2 Surr: 1,2-Dichloroethane-d4 52.9

47.4



Date: 05-Nov-10	QC	Summary Rep	port			Work Order: 10102805
Surr: 4-Bromofluorobenzene	45.3	50	91	70	130	



Surr: Toluene-d8

Alpha Analytical, Inc.

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

Work Order: Date: QC Summary Report 05-Nov-10 10102805 Test Code: EPA Method SW8260B Type MSD Sample Matrix Spike Duplicate Analysis Date: 11/02/2010 17:29 File ID: 10110208.D Batch ID: MS15W1102M Sample ID: 10102703-21AMSD Units: µg/L Run ID: MSD 15 101102A Prep Date: 11/02/2010 17:29 SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte **PQL** Result Dichlorodifluoromethane 2.5 50 167 32.27 4.1(20)31 62 13 Chloromethane 50 58 28 145 29.83 2.9(20)29 10 n Vinyl chloride 50 89 43 134 45.35 1.5(20)44.7 2.5 0 Chloroethane 44.29 2.8(20) 50 86 39 154 43.1 2.5 0 **R58** Bromomethane 0 55 19 176 21.79 22.5(20) 27.3 10 50 160 Trichlorofluoromethane 88 34 45.92 4.1(20)44.1 2.5 50 0 1,1-Dichloroethene 47.7 2.5 50 0 95 60 130 49.16 3.0(20)Dichloromethane 50 90 68 130 45.87 2.0(20)45 10 0 Freon-113 50.6 2.5 50 49 141 52.44 3.7(20) 0 101 trans-1,2-Dichloroethene 48 7 2.5 50 n 97 63 130 49.81 2.3(20)Methyl tert-butyl ether (MTBE) 1.3 50 103 56 141 53.64 3.6(20)51.7 1.4(20) 1,1-Dichloroethane 61 130 48.66 48 2.5 50 0 96 2-Butanone (MEK) 1.7(20)840 50 1000 0 84 20 182 854.4 cis-1,2-Dichloroethene 48.2 2.5 50 0 96 70 130 47.35 1.8(20)Bromochloromethane 70 130 50.6 2.3(20)49.5 2.5 99 50 0 Chloroform 47.5 2.5 50 0 95 67 130 48.51 2.1(20)3.3(20) 2,2-Dichloropropane 50 30 152 43.72 42.3 2.5 0 85 1,2-Dichloroethane 2.5 50 0 102 60 135 51.93 1.9(20)51 1,1,1-Trichloroethane 48.4 50 0 97 59 137 49.4 2.1(20)2.5 1.1-Dichloropropene 63 130 50.31 1.9(20) 49.4 2.5 50 0 99 Carbon tetrachloride 49.07 1.0(20)49.6 2.5 50 0 99 50 147 2.8(20)Benzene 47.7 1.3 50 0 95 67 130 49.01 Dibromomethane 51.98 3.6(20) 2.5 50 0 100 69 133 50.1 1,2-Dichloropropane 49.05 0.9(20)48.6 2.5 50 0 97 69 130 Trichloroethene 48.8 2.5 50 1.2 95 69 130 49.72 1.8(20) Bromodichloromethane 134 53.57 1.6(20)52.7 2.5 50 0 105 66 4-Methyl-2-pentanone (MIBK) 182 132.3 4.4(20)127 13 125 0 101 20 1.9(20) cis-1,3-Dichloropropene 130 48.02 47.1 2.5 50 0 94 63 trans-1,3-Dichloropropene 91 66 131 47.4 4.0(20)45.6 2.5 50 0 1,1,2-Trichloroethane 50 50 0 100 68 130 52.54 5.0(20)46.28 3.0(20)Toluene 66 130 44.9 50 90 1.3 0 1,3-Dichloropropane 130 50.26 2.0(20)49.3 2.5 50 0 99 70 Dibromochloromethane 70 130 47.86 1.0(20)48.3 2.5 50 0 97 1.2-Dibromoethane (EDB) 100 0 99 70 130 102.1 3.2(20)98.8 5 Tetrachloroethene 2.5 95 134 47.92 1.0(20)47.4 50 0 61 1,1,1,2-Tetrachloroethane 50 130 49.73 0.6(20)50 2.5 0 100 70 Chlorobenzene 46.5 2.5 50 0 93 70 130 46.48 0.0(20)Ethylbenzene 46.6 68 130 47.33 1.6(20)1.3 50 0 93 47.6 m,p-Xylene 46.6 1.3 50 0 93 64 130 2.1(20)**Bromoform** 48.5 50 0 97 64 138 49.05 1.1(20) 2.5 Styrene 47.8 2.5 50 0 96 69 130 48.17 0.8(20)o-Xvlene 70 130 46.72 0.8(20)46.3 50 93 1.3 0 1,1,2,2-Tetrachloroethane 49.3 2.5 50 0 99 65 131 50.41 2.2(20)1,2,3-Trichloropropane 99.1 10 100 0 99 70 130 103.5 4.3(20)Isopropylbenzene 42.5 2.5 0 85 64 138 42.19 0.7(20)50 Bromobenzene 70 130 45.53 0.1(20)45.5 2.5 50 0 91 n-Propylbenzene 1.4(20)2.5 66 132 44.24 43.6 50 0 87 4-Chlorotoluene 1.1(20) 44.2 2.5 50 0 88 70 130 43.76 2-Chlorotoluene 44.2 2.5 50 0 88 70 130 43.53 1.6(20)0.3(20) 1,3,5-Trimethylbenzene 43.5 2.5 50 0 87 66 136 43.3 tert-Butylbenzene 65 0.3(20)42.3 2.5 50 0 85 137 42.17 1,2,4-Trimethylbenzene 43.7 2.5 50 0 87 65 137 43.89 0.4(20)sec-Butylbenzene 50 66 43.52 0.9(20)43.9 2.5 0 88 134 1,3-Dichlorobenzene 130 45.83 2.6(20)47 2.5 50 0 94 70 1,4-Dichlorobenzene 70 0.7(20)44.5 2.5 50 0 89 130 44.15 4-Isopropyltoluene 2.5 0 86 137 42.99 0.5(20)43 2 50 66 1.2-Dichlorobenzene 44.3 2.5 50 0 89 70 130 43.76 1.3(20)n-Butylbenzene 1.8(20) 45.1 2.5 50 90 60 142 44.27 0 1,2-Dibromo-3-chloropropane (DBCP) 0.7(20)238 15 250 0 95 67 130 239.5 1.2.4-Trichlorobenzene 2.4(20) 40.4 10 50 0 81 61 137 39.48 Naphthalene 35.1 10 50 0 70 40 167 33.12 5.9(20) Hexachlorobutadiene 84.8 85 81.03 4.5(20)10 100 0 61 130 1.2.3-Trichlorobenzene 41.3 10 83 51 144 5.2(20)50 39.18 Surr: 1,2-Dichloroethane-d4 53 50 106 70 130

50

95

70

130

47.7



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

Date: 05-Nov-10	QC	Summary Re	port			Work Order: 10102805
Surr: 4-Bromofluorobenzene	45.7	50	91	70	130	

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.

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Attention TEL: (775) 355-1044 FAX: (775) 355-0406 Phone Number

Shane Walton David Conner (614) 424-4117 x (619) 726-7311 x connerd@battelle.org waltons@battelle.org EMail Address

Battelle Memorial Institute

655 West Broadway

Suite 1420

San Diego, CA 92101

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

Page: 1 of 1

WorkOrder: BMIS10102805

Report Due By: 5:00 PM On: 11-Nov-2010

EDD Required: Yes

Sampled by: Chase Brogdon Cooler Temp Samples Received

28-Oct-2010 28-Oct-2010 **Date Printed**

Client's COC #: 29181 QC Level: DS4 = DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job : G005862/JPL Groundwater Monitoring

						Requested Tests	Tests	
Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	300_0_W	314_W METALS_D	D VOC_TIC_ VOC_W	VOC_W	Sample Remarks
BMI10102805-01A	MW-11-5	AQ 10/27/10 07:32	5 0 10		Perchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI10102805-02A	MW-11-4	AQ 10/27/10 08:01	5 0 10		Perchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	Level IV QC
BMI10102805-03A	MW-11-3	AQ 10/27/10 08:27	5 0 10		Perchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI10102805-04A	MW-11-2	AQ 10/27/10 08:50	0	10 Pe	Perchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI10102805-05A	MW-11-1	AQ 10/27/10 09:17	5 0 1	NO2, NO3, Perchlorate SO4, CI, PO4	erchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	OC by 524 Criteria	
BMI10102805-06A	EB-06-10/27/10	AQ 10/27/10 09:05	5 0 10		Perchlorate Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI10102805-07A	TB-06-10/27/10	AQ 10/27/10 07:00	1 0 10	0		VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	Reno Trip Blank 8/12/10

Comments:

Security seals intact. Frozen ice. Temp Blank #9105 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

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		10:28:10 153		TIZABLE TICCOX	hapth lacer	Logged in by:
_			1			
Signature Print Name Company Date/Time						

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

City, State, Zip Columbus Address _ Name CHARLE TOMPKINSI Billing Information: Phone Number *Key: AQ - Aqueous ADDITIONAL INSTRUCTIONS: 0827 ete 4160 25.80 1080 Sampled Sampled Client Name BATTELLE / DAND CONNER Relinquished by Relinquished by Received by Relinquished by DA 6/42/4 28to Address OLD TOWN AVE Received by Received by Time Date 127/10 505 KING See Key Matrix* Below Ø gnature CA 921/0 ampled by Brown 5MI10102805-01 SO - Soil Lab ID Number HO 0-205 Fax BATTELLE 4320 WA - Waste Office Use Only) É G Ż 63 06-82-06-Phone # (6/9) MW-11-2 12-11-WM 73-06-MW-11-1 mw-11-3 Report Attention P.O. # HW-11-8 EMail Address OT - Other HASE BROGGE 218013 Sample Description 10/271 15/01 726-7211 **Print Name** Ö Sparks, Nevada 89431-5778 Phone (775) 355-1044 255 Glendale Avenue, Suite 21 Fax (775) 355-0406 Alpha Analytical, Inc. **: L-Liter Fax # Job# ጃ V-Voa Field Filtered Total and type of 7 ** See below 3v,2p containers $\overline{\zeta}$ r, B AZ Ö Samples Collected From Which State? Company $\boldsymbol{\lambda}$ CA × 9 R Analyses Required X / NV -OTHER 10/22/10 10-28-10 Date TRUP BLANK SOMPMENT BLANK OC LEVEL Global ID # EDD / EDF? YES Required QC Level? Page # REMARKS SOS ≡, Time 2 š ₹

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.

AR - Air

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

S-Soil Jar

O-Orbo

T-Tedlar

B-Brass

P-Plastic

OT-Other



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

Date: 09-Nov-2010

David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10102907

Cooler Temp:

 $0 \, ^{\circ} C$

Alpha's Sample ID	Client's Sample ID	Matrix
10102907-01A	MW-22-5	Aqueous
10102907-02A	MW-22-4	Aqueous
10102907-03A	MW-22-3	Aqueous
10102907-04A	MW-22-2	Aqueous
10102907-05A	MW-22-1	Aqueous
10102907-06A	DUPE-03-4O10	Aqueous
10102907-07A	EB-07-10/28/10	Aqueous
10102907-08A	TB-07-10/28/10	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulur

Walter Striken



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 655 West Broadway San Diego, CA 92101 Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 10/29/10

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5 Lab ID: BM110102907-01A Date Sampled 10/28/10 08:25	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 13:31
Client ID: MW-22-4 Lab ID: BMI10102907-02A Date Sampled 10/28/10 08:47	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 13:50
Client ID: MW-22-3 Lab ID: BMI10102907-03A Date Sampled 10/28/10 09:11	Perchlorate	1.98	1.00 μg/L	11/03/10 10:48	11/03/10 14:08
Client ID: MW-22-2 Lab ID: BMI10102907-04A Date Sampled 10/28/10 09:47	Perchlorate	2.51	1.00 μg/L	11/03/10 10:48	11/03/10 14:26
Client ID: MW-22-1 Lab ID: BMI10102907-05A Date Sampled 10/28/10 10:13	Perchlorate	2.31	1.00 μg/L	11/03/10 10:48	11/03/10 14:45
Client ID: DUPE-03-4Q10 Lab ID: BMI10102907-06A Date Sampled 10/28/10 00:00	Perchlorate	2.56	1.00 μg/L	11/03/10 10:48	11/03/10 15:03
Client ID: EB-07-10/28/10 Lab ID: BMI10102907-07A Date Sampled 10/28/10 10:04	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 15:22

ND = Not Detected

Roger Scholl Kandy Saulus Walter Firehren

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/10/10 Report Date



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 655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 10/29/10

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: BMI10102907-01A Date Sampled 10/28/10 08:25	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:20
Client ID: MW-22-4 Lab ID: BMI10102907-02A Date Sampled 10/28/10 08:47	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:26
Client ID: MW-22-3 Lab ID: BMI10102907-03A Date Sampled 10/28/10 09:11	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:34
Client ID: MW-22-2 Lab ID: BMI10102907-04A Date Sampled 10/28/10 09:47	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:52
Client ID: MW-22-1 Lab ID: BMI10102907-05A Date Sampled 10/28/10 10:13	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:57
Client ID: DUPE-03-4Q10 Lab ID: BMI10102907-06A Date Sampled 10/28/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 18:03
Client ID: EB-07-10/28/10 Lab ID: BMI10102907-07A Date Sampled 10/28/10 10:04	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:08

ND = Not Detected

Roger Scholl Kandy

ulman Walter Strike

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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Report Date



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

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311

(614) 458-6641 Fax:

Tentatively Identified Compounds - Volatile Organics by GC/MS

· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		Estimated		
	Parameter	Estimated Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-22-5 Lab ID : BMI10102907-01A Date Received : 10/29/10 Date Sampled : 10/28/10 08:25	*** None Found ***	ND	2.0 μg/L	11/03/10 21:36	11/03/10 21:36
Client ID : MW-22-4 Lab ID : BMI10102907-02A Date Received : 10/29/10 Date Sampled : 10/28/10 08:47	*** None Found ***	ND	2.0 μg/L	11/03/10 21:57	11/03/10 21:57
Client ID: MW-22-3 Lab ID: BMI10102907-03A Date Received: 10/29/10 Date Sampled: 10/28/10 09:11	*** None Found ***	ND	2.0 μg/L	11/03/10 22:19	11/03/10 22:19
Client ID : MW-22-2 Lab ID : BMI10102907-04A Date Received : 10/29/10 Date Sampled : 10/28/10 09:47	*** None Found ***	ND	2.0 μg/L	11/03/10 22:41	11/03/10 22:41
Client ID: MW-22-1 Lab ID: BMI10102907-05A Date Received: 10/29/10 Date Sampled: 10/28/10 10:13	*** None Found ***	ND	2.0 μg/L	11/03/10 23:03	11/03/10 23:03
Client ID : DUPE-03-4Q10 Lab ID : BMI10102907-06A Date Received : 10/29/10 Date Sampled : 10/28/10 00:00	*** None Found ***	ND	2.0 μg/L	11/03/10 23:24	11/03/10 23:24
Client ID : EB-07-10/28/10 Lab ID : BMI10102907-07A Date Received : 10/29/10 Date Sampled : 10/28/10 10:04	*** None Found ***	ND	2.0 μg/L	11/03/10 18:15	11/03/10 18:15
Client ID : TB-07-10/28/10 Lab ID : BMI10102907-08A Date Received : 10/29/10 Date Sampled : 10/28/10 07:00	* * * None Found * * *	ND	2.0 μg/L	11/03/10 17:53	11/03/10 17:53



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Forkmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/10/10

Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-01A

Client I.D. Number: MW-22-5

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/28/10 08:25

Received: 10/29/10

Extracted: 11/03/10 21:36 Analyzed: 11/03/10 21:36

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	eporting l	Limit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	µg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochioromethane	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 (DBC			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	Q	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	110		(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	93		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kundg Saulmir

Walter Firedown

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

μg/L

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.

11/10/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-02A

Client I.D. Number: MW-22-4

Attn: **David Conner**

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/28/10 08:47

Received: 10/29/10

Extracted: 11/03/10 21:57 Analyzed: 11/03/10 21:57

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting I	_imit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L.
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC			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	Q	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	107		(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	95		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						
~~		I									

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas, NV \bullet (702)\ 736-7522\ /\ Carson, CA \bullet (714)\ 386-2901\ /\ info@alpha-analytical.com$

μg/L

μg/L

μg/L

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.

11/10/10 Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-03A

Client I.D. Number: MW-22-3

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/28/10 09:11

Received: 10/29/10

Extracted: 11/03/10 22:19 Analyzed: 11/03/10 22:19

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	. ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	109		(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	95		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kundy Saulur

Walter Hirihan

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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.

11/10/10

Report Date
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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-04A

Client I.D. Number: MW-22-2

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/28/10 09:47

Received: 10/29/10

Extracted: 11/03/10 22:41 Analyzed: 11/03/10 22:41

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting I	Limit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

1.0

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. **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-05A

Client I.D. Number: MW-22-1

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/28/10 10:13

Received: 10/29/10

Extracted: 11/03/10 23:03 Analyzed: 11/03/10 23:03

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
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	0.51		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 (DBC)	P) 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	Q	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	109		(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	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Sudner

Walter Hinkow

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

µg/L

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.

11/10/10 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

ANALYTICAL REPORT

Phone: (619) 726-7311

Attn:

Fax:

David Conner

(614) 458-6641

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-06A

.....

Client I.D. Number: DUPE-03-4Q10

Sampled: 10/28/10 00:00 Received: 10/29/10

Extracted: 11/03/10 23:24 Analyzed: 11/03/10 23:24

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	, R	eporting l	_imit		Compound	Concentration	Re	eporting Li	mit
Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	µg/L
Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
Trichlorofluoromethane	ND -		0.50		41	Styrene	ND		0.50	μg/L
1,1-Dichloroethene	ND		0.50		42	o-Xylene	ND		0.50	µg/L
Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	µg/L
1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene				μg/L
Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND			μg/L
Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene			0.50	µg/L
Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene			0.50	μg/L
1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	, i		2.5	µg/L
	ND		0.50	μg/L	60	1,2,4-Trichlorobenzene				µg/L
Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	1	Q	1.0	μg/L
4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND		1.0	μg/L
cis-1,3-Dichloropropene	ND		0.50	μg/L	63	1,2,3-Trichlorobenzene	ND		1.0	μg/L
trans-1,3-Dichloropropene	ND		0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	108		(70-130)	%REC
1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	105		(70-130)	%REC
Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
1,3-Dichloropropane	ND		0.50	μg/L						
	Dichlorodifluoromethane Chloromethane Vinyl chloride Chloroethane Bromomethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane Freon-113 trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane 2-Butanone (MEK) cis-1,2-Dichloroethene Bromochloromethane Chloroform 2,2-Dichloropropane 1,2-Dichloropropane 1,1-Trichloroethane 1,1,1-Trichloroethane 1,1,1-Dichloropropane Carbon tetrachloride Benzene Dibromomethane 1,2-Dichloropropane Trichloroethene Bromodichloromethane 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Toluene	Dichlorodifluoromethane Chloromethane ND Vinyl chloride ND Chloroethane ND Bromomethane ND Trichlorofluoromethane ND 1,1-Dichloroethene ND Dichloromethane ND Freon-113 ND Trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE) ND 1,1-Dichloroethane ND Sebutanone (MEK) Cis-1,2-Dichloroethene ND Bromochloromethane ND Chloroform ND Chloroform ND 1,2-Dichloroethene ND 1,1-Trichloroethane ND 1,1-Trichloroethane ND 1,1-Dichloropropane ND 1,2-Dichloropropane ND 1,2-Dichloropropane ND 1,2-Dichloropropane ND ND 1,1-Dichloropropane ND ND Tirichloroethane ND ND Tirichloroethane ND ND Trichloroethene ND ND Trichloropropene ND Trichloropropene ND Trichloropropene ND Trans-1,3-Dichloropropene ND Toluene	Dichlorodifluoromethane Chloromethane Vinyl chloride Chloroethane ND Chloroethane ND Bromomethane ND Trichlorofluoromethane ND 1,1-Dichloroethene ND Dichloromethane ND Freon-113 ND Methyl tert-butyl ether (MTBE) ND 1,1-Dichloroethane ND Sebutanone (MEK) Cis-1,2-Dichloroethene ND Bromochloromethane ND Chloroform ND Chloroform ND 1,2-Dichloroethene ND 1,1-Trichloroethane ND 1,1-Trichloroethane ND 1,2-Dichloropropane ND 1,1-Dichloropropane ND 1,1-Dichloropropane ND	Dichlorodifluoromethane ND 0,50 Chloromethane ND Q 1,0 Vinyl chloride ND 0,50 Chloroethane ND 0,50 Bromomethane ND 0,50 Trichlorofluoromethane ND 0,50 1,1-Dichloroethene ND 0,50 Dichloromethane ND 0,50 Freon-113 ND 0,50 trans-1,2-Dichloroethene ND 0,50 Methyl tert-butyl ether (MTBE) ND 0,50 Methyl tert-butyl ether (MTBE) ND 0,50 1,1-Dichloroethane ND 0,50 1,1-Dichloroethane ND 0,50 Bromochloromethane ND 0,50 1,2-Dichloropropane ND 0,50 1,1-Trichloroethane ND 0,50 1,1-Trichloropropene ND 0,50 1,1-Dichloropropene ND 0,50 1,1-Dichloropropane ND 0,50 1,2-Dichloropropane ND	Dichlorodifluoromethane ND 0.50 µg/L Chloromethane ND Q 1.0 µg/L Vinyl chloride ND 0.50 µg/L Chloroethane ND 0.50 µg/L Bromomethane ND 0.50 µg/L Trichlorofluoromethane ND 0.50 µg/L 1,1-Dichloroethene ND 0.50 µg/L Freon-113 ND 0.50 µg/L Methyl tert-butyl ether (MTBE) ND 0.50 µg/L Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 1,1-Dichloroethane ND 0.50 µg/L 2-Butanone (MEK) ND 0.50 µg/L 2-Butanone (MEK) ND 0.50 µg/L Bromochloromethane ND 0.50 µg/L Cis-1,2-Dichloroethene ND 0.50 µg/L Bromochloromethane ND 0.50 µg/L 1,1-Trichloroethane ND 0.50 µg/L	Dichlorodifluoromethane ND 0.50 µg/L 36 Chloromethane ND Q 1.0 µg/L 37 Vinyl chloride ND 0.50 µg/L 38 Chloroethane ND 0.50 µg/L 39 Bromomethane ND 0.50 µg/L 40 Trichlorofluoromethane ND 0.50 µg/L 40 1,1-Dichloroethene ND 0.50 µg/L 42 Dichloromethane ND 0.50 µg/L 42 Freon-113 ND 0.50 µg/L 43 freon-113 ND 0.50 µg/L 44 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 45 Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 46 1,1-Dichloroethane ND 0.50 µg/L 47 2-Butanone (MEK) ND 0.50 <td> Dichlorodifluoromethane</td> <td> Dichlorodifluoromethane</td> <td> Dichlorodifluoromethane</td> <td>Dichlorodifiluoromethane ND 0.50 μg/L 36 1.1,1.2-Tetrachloroethane ND 0.50 Chloromethane ND Q 1.0 μg/L 37 Chlorobenzene ND 0.50 Vinyl chloride ND 0.50 μg/L 37 Chlorobenzene ND 0.50 Chlorodethane ND 0.50 μg/L 48 Ethylbenzene ND 0.50 Brommethane ND 0.50 μg/L 41 Styrene ND 0.50 1,1-Dichloroethene ND 0.50 μg/L 42 Styrene ND 0.50 1,1-Dichloroethane ND 0.50 μg/L 42 7.4 (Hernichten) ND 0.50 Freon-113 ND 0.50 μg/L 43 1.1,2,2-Tetrachloroethane ND 0.50 Methyl tetr-butyl ether (MTBE) ND 0.50 μg/L 45 Isopropylbenzene ND 0.50 Methyl tetr-butyl ether (MTBE) ND 0.50</td>	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifiluoromethane ND 0.50 μg/L 36 1.1,1.2-Tetrachloroethane ND 0.50 Chloromethane ND Q 1.0 μg/L 37 Chlorobenzene ND 0.50 Vinyl chloride ND 0.50 μg/L 37 Chlorobenzene ND 0.50 Chlorodethane ND 0.50 μg/L 48 Ethylbenzene ND 0.50 Brommethane ND 0.50 μg/L 41 Styrene ND 0.50 1,1-Dichloroethene ND 0.50 μg/L 42 Styrene ND 0.50 1,1-Dichloroethane ND 0.50 μg/L 42 7.4 (Hernichten) ND 0.50 Freon-113 ND 0.50 μg/L 43 1.1,2,2-Tetrachloroethane ND 0.50 Methyl tetr-butyl ether (MTBE) ND 0.50 μg/L 45 Isopropylbenzene ND 0.50 Methyl tetr-butyl ether (MTBE) ND 0.50

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulur

Dalter Hindren

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento. CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

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.

11/10/10

Report Date
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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-07A

Client I.D. Number: EB-07-10/28/10

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/28/10 10:04

Received: 10/29/10

Extracted: 11/03/10 18:15 Analyzed: 11/03/10 18:15

Volatile Organics by GC/MS EPA Method SW8260B

Dichlorodifluoromethane	imit
2 Chloromethane ND Q 1.0 µg/L 37 Chlorobenzene ND 0.5 3 Vinyl chloride ND 0.50 µg/L 38 Ethylbenzene ND 0.5 4 Chloroethane ND 0.50 µg/L 39 m,p-Xylene ND 0.5 5 Bromomethane ND 0.50 µg/L 40 Bromoform ND 0.5 6 Trichloroethane ND 0.50 µg/L 41 Styrene ND 0.5 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 0.5 8 Dichloromethane ND 0.50 µg/L 43 1,1,2,2-Tetrachloroethane ND 0.5 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloroepropane ND 0.5 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND <t< th=""><th>μg/L</th></t<>	μg/L
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4 Chloroethane ND 0.50 μg/L 39 m,p-Xylene ND 0.5 5 Bromomethane ND Q 1.0 μg/L 40 Bromoform ND 0.5 6 Trichlorofluoromethane ND 0.50 μg/L 41 Styrene ND 0.5 7 1,1-Dichloroethene ND 0.50 μg/L 42 o-Xylene ND 0.5 8 Dichloromethane ND 1.0 μg/L 43 1,1,2,2-Tetrachloroethane ND 0.5 9 Freon-113 ND 0.50 μg/L 44 1,2,3-Trichloropropane ND 1 10 trans-1,2-Dichloroethene ND 0.50 μg/L 45 Isopropylbenzene ND 0.5 11 Methyl tetr-butyl ether (MTBE) ND 0.50 μg/L 46 Bromobenzene ND 0.5 12 1,1-Dichloroethane ND 0.50 μg/L 47 n-Propylbenzene ND 0.5 13 2-Butanone (MEK) ND 0.50 μg/	μg/L
5 Bromomethane ND Q 1.0 µg/L 40 Bromoform ND 0.5 6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 0.5 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 0.5 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 0.5 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 1 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND 0.5 11 Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 45 Isopropylbenzene ND 0.5 12 1,1-Dichloroethane ND 0.50 µg/L 46 Bromobenzene ND 0.5 13 2-Butanone (MEK) ND 10 µg/L 47 n-Propylbenzen	μg/L
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8 Dichloromethane ND 1.0 μg/L 43 1,1,2,2-Tetrachloroethane ND 0.5 9 Freon-113 ND 0.50 μg/L 44 1,2,3-Trichloropropane ND 1 10 trans-1,2-Dichloroethene ND 0.50 μg/L 45 Isopropylbenzene ND 0.5 11 Methyl tert-butyl ether (MTBE) ND 0.50 μg/L 46 Bromobenzene ND 0.5 12 1,1-Dichloroethane ND 0.50 μg/L 47 n-Propylbenzene ND 0.5 13 2-Butanone (MEK) ND 10 μg/L 48 4-Chlorotoluene ND 0.5 14 cis-1,2-Dichloroethene ND 0.50 μg/L 49 2-Chlorotoluene ND 0.5 15 Bromochloromethane ND 0.50 μg/L 50 1,3,5-Trimethylbenzene ND 0.5 16 Chloroform ND 0.50 μg/L 51 tert-Butylbenzene ND 0.5 17 2,2-Dichloropropane ND 0.50 μg/L 52 1,2,4-Trimethylbenzene ND 0.5 18	μg/L
9 Freon-113 ND 0.50 $\mu g/L$ 44 1,2,3-Trichloropropane ND 1 10 trans-1,2-Dichloroethene ND 0.50 $\mu g/L$ 45 Isopropylbenzene ND 0.5 11 Methyl tert-butyl ether (MTBE) ND 0.50 $\mu g/L$ 46 Bromobenzene ND 0.5 12 1,1-Dichloroethane ND 0.50 $\mu g/L$ 47 n-Propylbenzene ND 0.5 13 2-Butanone (MEK) ND 10 $\mu g/L$ 48 4-Chlorotoluene ND 0.5 14 cis-1,2-Dichloroethane ND 0.50 $\mu g/L$ 49 2-Chlorotoluene ND 0.5 15 Bromochloromethane ND 0.50 $\mu g/L$ 49 2-Chlorotoluene ND 0.5 16 Chloroform ND 0.50 $\mu g/L$ 50 1,3,5-Trimethylbenzene ND 0.5 17 2,2-Dichloropropane ND 0.50 $\mu g/L$ 51 tert-Butylbenzene ND 0.5 18 1,2-Dichloroethane ND 0.50 $\mu g/L$ 52 1,2,4-Trimethylbenzene ND 0.5 18 1,2-Dichloroethane ND 0.50 $\mu g/L$ 53 sec-Butylbenzene ND 0.5	μg/L
9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 1 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND 0.5 11 Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 46 Bromobenzene ND 0.5 12 1,1-Dichloroethane ND 0.50 µg/L 47 n-Propylbenzene ND 0.5 13 2-Butanone (MEK) ND 10 µg/L 48 4-Chlorotoluene ND 0.5 14 cis-1,2-Dichloroethene ND 0.50 µg/L 49 2-Chlorotoluene ND 0.5 15 Bromochloromethane ND 0.50 µg/L 50 1,3,5-Trimethylbenzene ND 0.5 16 Chloroform ND 0.50 µg/L 51 tert-Butylbenzene ND 0.5 17 2,2-Dichloropropane ND 0.50 µg/L 52 1,2,4-Trimethylbenzene ND 0.5 18 1,2-Dichloroethane ND 0.50 µg/L 53 sec-Butylbenzene ND 0.5	μg/L
11 Methyl tert-butyl ether (MTBE) ND $0.50 \mu g/L$ 46 Bromobenzene ND $0.50 \mu g/L$ 47 n-Propylbenzene ND $0.50 \mu g/L$ 47 n-Propylbenzene ND $0.50 \mu g/L$ 48 4-Chlorotoluene ND $0.50 \mu g/L$ 48 4-Chlorotoluene ND $0.50 \mu g/L$ 49 2-Chlorotoluene ND $0.50 \mu g/L$ 49 2-Chlorotoluene ND $0.50 \mu g/L$ 49 2-Chlorotoluene ND $0.50 \mu g/L$ 50 1,3,5-Trimethylbenzene ND $0.50 \mu g/L$ 50 1,3,5-Trimethylbenzene ND $0.50 \mu g/L$ 51 tert-Butylbenzene ND $0.50 \mu g/L$ 51 tert-Butylbenzene ND $0.50 \mu g/L$ 52 1,2,4-Trimethylbenzene ND $0.50 \mu g/L$ 51 tert-Butylbenzene ND $0.50 \mu g/L$ 52 1,2,4-Trimethylbenzene ND $0.50 \mu g/L$ 53 sec-Butylbenzene ND $0.50 \mu g/L$ 50 0.50 pg/L 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 1,2,4-Trimethylbenzene ND $0.50 \mu g/L$ 53 sec-Butylbenzene ND $0.50 \mu g/L$ 50 0.50 pg/L 51 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 nc-Butylbenzene ND $0.50 \mu g/L$ 53 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 sec-Butylbenzene ND $0.50 \mu g/L$ 51 sec-Butylbenzene ND $0.50 \mu g/L$ 52 s	μg/L
12 1,1-Dichloroethane ND 0.50 μ g/L 47 n-Propylbenzene ND 0.50 13 2-Butanone (MEK) ND 10 μ g/L 48 4-Chlorotoluene ND 0.51 4 cis-1,2-Dichloroethane ND 0.50 μ g/L 49 2-Chlorotoluene ND 0.51 Bromochloromethane ND 0.50 μ g/L 50 1,3,5-Trimethylbenzene ND 0.51 Entrylbenzene ND 0.51 Chloroform ND 0.50 μ g/L 51 tert-Butylbenzene ND 0.51 2,2-Dichloropropane ND 0.50 μ g/L 52 1,2,4-Trimethylbenzene ND 0.51 1,2-Dichloroethane ND 0.50 μ g/L 53 sec-Butylbenzene ND 0.51 ND	μg/L
13 2-Butanone (MEK) ND 10 μ g/L 48 4-Chlorotoluene ND 0.5 14 cis-1,2-Dichloroethene ND 0.50 μ g/L 49 2-Chlorotoluene ND 0.5 15 Bromochloromethane ND 0.50 μ g/L 50 1,3,5-Trimethylbenzene ND 0.5 16 Chloroform ND 0.50 μ g/L 51 tert-Butylbenzene ND 0.5 17 2,2-Dichloropropane ND 0.50 μ g/L 52 1,2,4-Trimethylbenzene ND 0.5 18 1,2-Dichloroethane ND 0.50 μ g/L 53 sec-Butylbenzene ND 0.5	μg/L
14 cis-1,2-Dichloroethene ND 0.50 μ g/L 49 2-Chlorotoluene ND 0.50 μ g/L 50 1,3,5-Trimethylbenzene ND 0.5 ND 0.	μg/L
15BromochloromethaneND 0.50 $\mu g/L$ 50 $1,3,5$ -TrimethylbenzeneND 0.5 16ChloroformND 0.50 $\mu g/L$ 51 tert-ButylbenzeneND 0.5 17 $2,2$ -DichloropropaneND 0.50 $\mu g/L$ 52 $1,2,4$ -TrimethylbenzeneND 0.5 18 $1,2$ -DichloroethaneND 0.50 $\mu g/L$ 53 sec-ButylbenzeneND 0.5	μg/L
16 ChloroformND 0.50 $\mu g/L$ 51 tert-ButylbenzeneND 0.5 17 2,2-DichloropropaneND 0.50 $\mu g/L$ 52 1,2,4-TrimethylbenzeneND 0.5 18 1,2-DichloroethaneND 0.50 $\mu g/L$ 53 sec-ButylbenzeneND 0.5	μg/L
17 2,2-Dichloropropane ND 0.50 μ g/L 52 1,2,4-Trimethylbenzene ND 0.50 μ g/L 53 sec-Butylbenzene ND 0.50 μ g/L 54 μ g/L 55 sec-Butylbenzene ND 0.50 μ g/L 56 sec-Butylbenzene ND 0.50 μ g/L 57 sec-Butylbenzene ND 0.50 μ g/L 59 sec-Butylbenzene ND 0.50 μ g/L 59 sec-Butylbenzene ND 0.50 μ g/L 59 sec-Butylbenzene	μg/L
18 1,2-Dichloroethane ND 0.50 µg/L 53 sec-Butylbenzene ND 0.50	µg/L
3,00 µg/2 00 000 Dat/100 120 10	μg/L
19 1.1.1-Trichlorgethane ND 0.50 ug/l 54 1.3-Dichlorghenzene ND 0.5	μg/L
10 1,17 Thomassanano 14D 0.50 pg/E 54 1,5-Dichlorobetizatio 14D 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-Isopropyttoluene ND 0.50	, 0
22 Benzene ND 0.50 µg/L 57 1,2-Dichlorobenzene ND 0.5	
23 Dibromomethane ND 0.50 µg/L 58 n-Buty/benzene ND 0.5	µg/L
24 1,2-Dichloropropane ND 0.50 µg/L 59 1,2-Dibromo-3-chloropropane (DBCP) ND 2	μg/L
25 Trichloroethene ND 0.50 µg/L 60 1,2,4-Trichlorobenzene ND 1	μg/L
26 Bromodichloromethane ND 0.50 µg/L 61 Naphthalene ND Q 1	μg/L
27 4-Methyl-2-pentanone (MIBK) ND 2.5 µg/L 62 Hexachlorobutadiene ND 1	μg/L
28 cis-1,3-Dichloropropene ND 0.50 µg/L 63 1,2,3-Trichlorobenzene ND 1	μg/L
29 trans-1,3-Dichloropropene ND 0.50 µg/L 64 Surr: 1,2-Dichloroethane-d4 112 (70-13)	%REC
30 1,1,2-Trichloroethane ND 0.50 µg/L 65 Surr: Toluene-d8 101 (70-13)	%REC
31 Toluene ND 0.50 µg/L 66 Surr: 4-Bromofluorobenzene 93 (70-13)	%REC
32 1,3-Dichloropropane ND 0.50 µg/L	
33 Dibromochloromethane ND 0.50 µg/L	

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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.

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10102907-08A

Client I.D. Number: TB-07-10/28/10

David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 10/28/10 07:00

Received: 10/29/10

Extracted: 11/03/10 17:53 Analyzed: 11/03/10 17:53

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	NĐ		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 (DBC	P) 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	Q	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	113		(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	ua/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

μg/L

μg/L

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.

11/10/10 Report Date

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VOC Sample Preservation Report

Work Order: BMI10102907 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
10102907-01A	MW-22-5	Aqueous	2	
10102907-02A	MW-22-4	Aqueous	2	
10102907-03A	MW-22-3	Aqueous	2	
10102907-04A	MW-22-2	Aqueous	2	
10102907-05A	MW-22-1	Aqueous	2	
10102907-06A	DUPE-03-4Q10	Aqueous	2	
10102907-07A	EB-07-10/28/10	Aqueous	2	
10102907-08A	TB-07-10/28/10	Aqueous	2	

11/10/10

Report Date



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Date: 09-Nov-10		QC Summary Report								er: 7
Method Blan	nk		Type: N		Test Code: El Batch ID: 253		thod 314.0	Analysis Date	e: 11/03/2010 12:17	
Sample ID:	MB-25385	Units : μg/L		Run ID:	IC_3_101103/	4		Prep Date:	11/03/2010 10:48	
Analyte		Result	PQL	SpkVa	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		ND		1						
Laboratory	Fortified Blank		Туре: L	.FB	Test Code: El	PA Me	thod 314.0			
File ID: 16					Batch ID: 253	85		Analysis Date	e: 11/03/2010 12:36	
Sample ID:	LFB-25385	Units : µg/L		Run ID:	IC_3_101103/	4		Prep Date:	11/03/2010 10:48	
Analyte		Result	PQL	SpkV	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		25.9		2 2	:5	104	85	115		
Sample Mat	rix Spike		Type: L	.FM	Test Code: El	PA Me	thod 314.0			
File ID: 28					Batch ID: 253	85		Analysis Date	e: 11/03/2010 16:17	
Sample ID:	10110205-02ALFM	Units : µg/L		Run ID:	IC_3_101103/	4		Prep Date:	11/03/2010 10:48	
Analyte		Result	PQL	SpkV	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		22.9	2	2 2	5 0	91	80	120		
Sample Mat	rix Spike Duplicate		Type: L	.FMD	Test Code: El	PA Me	thod 314.0			
File ID: 29	-				Batch ID: 253	85		Analysis Date	e: 11/03/2010 16:35	
Sample ID:	10110205-02ALFMD	Units : µg/L		Run ID:	IC_3_101103/	4		Prep Date:	11/03/2010 10:48	
Analyte		Result	PQL	SpkV	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		23.9	2	2 2	5 0	95	80	120 22.	86 4.3(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: 08-Nov-10	QC Summary Report							Work Order: 10102907		
Method Blank File ID: 110310.B\018_M.D\		Type N		est Code: EF		hod 200.8	Analysi	s Date:	11/03/2010 15:02	
Sample ID: MB-25388	Units : mg/L		Run ID: IC	P/MS_10110)3A		Prep D	ate:	11/03/2010 11:33	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike File ID: 110310.B\019_M.D\		Type L		est Code: EF atch ID: 2538		hod 200.8	Analysi	s Date:	11/03/2010 15:07	
Sample ID: LCS-25388	Units : mg/L		Run ID: IC	P/MS_10110)3A		Prep D	ate:	11/03/2010 11:33	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	0.0555	0.005	0.05		111	85	115			
Sample Matrix Spike File ID: 110310.B\024_M1.D\		Type I		est Code: Eleatch ID: 2538		thod 200.8	Analysi	s Date:	11/03/2010 15:35	
Sample ID: 10110205-02AMS	Units : mg/L		Run ID: IC	P/MS_1011)3A		Prep D	ate:	11/03/2010 11:33	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	0.0476	0.00	0.05	0	95	70	130			
Sample Matrix Spike Duplicate		Type I		est Code: El		thod 200.8	Analys	ia Data:	44/02/2040 45.40	
File ID: 110310.B\024_M2.D\				atch ID: 253			•		11/03/2010 15:40	
Sample ID: 10110205-02AMSD	Units : mg/L			P/MS_1011			Prep D		11/03/2010 11:33	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRefV	'al %RPD(Limit)	Qual
Chromium (Cr)	0.0522	0.00	5 0.05	0	104	70	130	0.0475	9.2(20)	

Comments:

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



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09-Nov-2010	(10102907	Work Order: 10102907		
Method Blank		Type MBLK	Test Code: EPA Method SW		
File ID: 10110307.D			Batch ID: MS15W1103M	Analysis Date: 11/03/2010 15:36	
Sample ID: MBLK MS15W1103M	Units : µg/L	Run II): MSD_15_101103D	Prep Date: 11/03/2010 15:36	
Analyte	Result	PQL Spk	Val SpkRefVal %REC LCL(M	E) UCL(ME) RPDRefVal %RPD(Limit)	Qu
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 trans-1,2-Dichloroethene	ND	0.5			
Methyl tert-butyl ether (MTBE)	ND ND	0.5 0.5			
1,1-Dichloroethane	ND 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 Carbon tetrachloride	ND ND	0.5			
Benzene	ND ND	0.5 0.5			
Dibromomethane	ND	0.5 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 Dibromochloromethane	ND	0.5			
1,2-Dibromoethane (EDB)	ND ND	0.5			
Tetrachloroethene	ND ND	1 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 ND	1			
Isopropylbenzene Bromobenzene	ND ND	0.5 0.5			
n-Propylbenzene	ND ND	0.5 0.5			
4-Chlorotoluene	ND ND	0.5			
2-Chlorotoluene	ND 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 ND	0.5			
1,2-Dichlorobenzene n-Butylbenzene	ND ND	0.5			
1,2-Dibromo-3-chloropropane (DBCP)	ND ND	0.5 2.5			
1,2,4-Trichlorobenzene	ND ND	2.5 1			
Naphthalene	ND	1			
Hexachlorobutadiene	ND	1			
1,2,3-Trichlorobenzene	ND	1			
Surr: 1,2-Dichloroethane-d4	11.1	•	10 111 70	130	
Surr: Toluene-d8	10.2		10 102 70	130	



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Date: 09-Nov-2010	QC	Work Order: 10102907				
Surr: 4-Bromofluorobenzene	9.8	10	98	70	130	



Date:

Alpha Analytical, Inc.

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Work Order:

QC Summary Report 09-Nov-2010 Type LCS Test Code: EPA Method SW8260B **Laboratory Control Spike** Analysis Date: 11/03/2010 14:00 File ID: 10110303.D Batch ID: MS15W1103M Sample ID: Prep Date: 11/03/2010 14:00 LCS MS15W1103M Units: µg/L Run ID: MSD_15_101103D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte **PQL** Qual Result Dichlorodifluoromethane 8.55 L50 Chloromethane 70(70) 6.12 Vinvl chloride 10.1 Chloroethane 9.75 L2 70(70) Bromomethane 4.79 Trichlorofluoromethane 9.88 1,1-Dichloroethene 10.6 Dichloromethane 9.54 Freon-113 11.3 trans-1.2-Dichloroethene 10.5 Methyl tert-butyl ether (MTBE) 10.1 0.5 1,1-Dichloroethane 10.1 2-Butanone (MEK) cis-1,2-Dichloroethene 10.1 Bromochloromethane 9.51 Chloroform 9.99 99.9 2,2-Dichloropropane 10.2 1.2-Dichloroethane 10.4 1,1,1-Trichloroethane 10.5 1,1-Dichloropropene 10.5 Carbon tetrachloride 10.2 Benzene 10.1 0.5 Dibromomethane 1,2-Dichloropropane 9.92 Trichloroethene 10.1 Bromodichloromethane 10.9 4-Methyl-2-pentanone (MIBK) 2.5 25.4 cis-1,3-Dichloropropene trans-1,3-Dichloropropene 9.16 1,1,2-Trichloroethane 9.75 Toluene 0.5 9.72 1,3-Dichloropropane 9.89 Dibromochloromethane 9.61 1.2-Dibromoethane (EDB) 19.9 Tetrachloroethene 10.3 1.1.1.2-Tetrachloroethane 10.3 Chlorobenzene 9.91 Ethylbenzene 10.1 0.5 m,p-Xylene 0.5 Bromoform 9.42 Styrene 10.2 0.5 o-Xylene 9.88 1,1,2,2-Tetrachloroethane 9.78 1,2,3-Trichloropropane 20.2 Isopropylbenzene 9.51 Bromobenzene 9.86 n-Propylbenzene 9.91 4-Chlorotoluene 9.7 2-Chlorotoluene 9.66 1,3,5-Trimethylbenzene 9.68 tert-Butylbenzene 9.29 1.2.4-Trimethylbenzene 9.68 sec-Butvlbenzene 9.73 1,3-Dichlorobenzene 10.1 1,4-Dichlorobenzene 9 42 4-Isopropyltoluene 9.58 1,2-Dichlorobenzene 9.24 n-Butylbenzene 9.89 1.2-Dibromo-3-chloropropane (DBCP) 46.3 1,2,4-Trichlorobenzene 7 94 Naphthalene 6.15 70(70) L50 Hexachlorobutadiene 16.8 1,2,3-Trichlorobenzene 7.5 Surr: 1,2-Dichloroethane-d4 10.3



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Date: 09-Nov-2010	QC :	Work Order: 10102907				
Surr: Toluene-d8	9.72	10	97	70	130	
Surr: 4-Bromofluorobenzene	9.49	10	95	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

QC Summary Report 09-Nov-2010 Type MS Test Code: EPA Method SW8260B Sample Matrix Spike Analysis Date: 11/03/2010 15:59 File ID: 10110308.D Batch ID: MS15W1103M 11/03/2010 15:59 Prep Date: Sample ID: 10110105-01AMS Units: µg/L Run ID: MSD_15_101103D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result PQL Qual Dichlorodifluoromethane 44.9 2.5 Chloromethane 24.7 Vinyl chloride 49.5 2.5 n Chloroethane 45.2 2.5 Bromomethane 18.9 Trichlorofluoromethane 46.9 2.5 1,1-Dichloroethene 2.5 Dichloromethane Freon-113 2.5 O 54.2 trans-1,2-Dichloroethene 51.1 2.5 Methyl tert-butyl ether (MTBE) 62.9 1.3 5.21 1.1-Dichloroethane 49.5 2.5 2-Butanone (MEK) cis-1.2-Dichloroethene 60.6 2.5 10.54 Bromochloromethane 48.6 2.5 Chloroform 49.3 2.5 2,2-Dichloropropane 44.8 2.5 1,2-Dichloroethane 2.5 1.1.1-Trichloroethane 51.2 2.5 n 1.1-Dichloropropene 2.5 51.7 Carbon tetrachloride 49.5 2.5 Benzene 49.6 1.3 Dibromomethane 2.5 1,2-Dichloropropane 49.7 2.5 Trichloroethene 48 9 2.5 Bromodichloromethane 2.5 55.3 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene 49.3 2.5 trans-1,3-Dichloropropene 49.1 2.5 1.1.2-Trichloroethane 53.2 2.5 Toluene 45.8 1.3 1,3-Dichloropropane 52.1 2.5 Dibromochloromethane 49.8 2.5 1,2-Dibromoethane (EDB) Tetrachloroethene 2.5 47.9 1,1,1,2-Tetrachloroethane 50.8 2.5 Chlorobenzene 47.7 2.5 Ethylbenzene 48.1 1.3 m,p-Xylene 47.5 1.3 Bromoform 51.4 2.5 Styrene 49.2 2.5 o-Xylene 47.2 1.3 1,1,2,2-Tetrachloroethane 54.1 2.5 1,2,3-Trichloropropane Isopropylbenzene 43.6 2.5 Bromobenzene 47 4 2.5 n-Propylbenzene 45.1 2.5 4-Chlorotoluene 44.6 2.5 2-Chlorotoluene 45.6 2.5 1,3,5-Trimethylbenzene 45.2 2.5 tert-Butylbenzene 43.2 2.5 1,2,4-Trimethylbenzene 45.5 2.5 sec-Butvlbenzene 45.3 2.5 1,3-Dichlorobenzene 48.2 2.5 1,4-Dichlorobenzene 45.7 2.5 4-Isopropyltoluene 2.5 44.3 1,2-Dichlorobenzene 46.5 2.5 n-Butvlbenzene 46.4 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene 40.6 Naphthalene 34.9 Hexachlorobutadiene 84.6 1.2.3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4 55.7 Surr: Toluene-d8 47.2



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Date: 09-Nov-2010	QC	Work Order: 10102907				
Surr: 4-Bromofluorobenzene	46	50	92	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

OC Summary Report 10102907 09-Nov-2010 Type MSD Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate Analysis Date: 11/03/2010 16:22 File ID: 10110309.D Batch ID: MS15W1103M 11/03/2010 16:22 Prep Date: Sample ID: 10110105-01AMSD Units: µg/L Run ID: MSD_15_101103D SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte **PQL** Qual Result Dichlorodifluoromethane 167 44.87 14.0(20) 0 78 13 39 2.5 50 **R58** 33 50 66 28 145 24.72 28.6(20) Chloromethane 10 43 134 49.45 13.5(20) Vinyl chloride 56.6 2.5 50 0 113 45.24 11.7(20) Chloroethane 40.2 2.5 50 80 39 154 M57R58 19 176 18.87 105.0(20) Bromomethane 50 n 12 5.9 10 46.87 9.6(20)Trichlorofluoromethane 42.6 2.5 50 0 85 34 160 89 60 130 50.97 13.0(20)1.1-Dichloroethene 44.7 2.5 50 n 50.03 6.4(20)Dichloromethane 46.9 10 50 0 94 68 130 54.22 12.4(20) Freon-113 47.9 2.5 96 49 141 50 12.7(20) trans-1,2-Dichloroethene 90 63 130 51.05 45 2.5 50 Ω Methyl tert-butyl ether (MTBE) 62.87 6.3(20)59.1 1.3 50 5.21 108 56 141 10.9(20) 130 49.52 1,1-Dichloroethane 44.4 2.5 50 0 89 61 947.2 3.7(20)2-Butanone (MEK) 91 20 182 913 50 1000 0 cis-1,2-Dichloroethene 56.8 2.5 50 10.54 92 70 130 60.56 6.5(20)Bromochloromethane 48.63 7.0(20)91 70 130 45.4 2.5 50 0 Chloroform 44.4 2.5 50 0 89 67 130 49.25 10.3(20) 44.82 12.4(20) 30 2,2-Dichloropropane 39.6 2.5 50 0 79 152 1.2-Dichloroethane 103 60 135 55.02 6.9(20)51.4 2.5 50 n 11.9(20) 1,1,1-Trichloroethane 91 59 137 51.17 45.4 2.5 50 0 63 130 51.65 13.9(20) 1.1-Dichloropropene 90 44.9 2.5 50 0 49.53 8.5(20) Carbon tetrachloride 45.5 2.5 50 0 91 50 147 11.0(20) 49.55 Benzene 44.4 1.3 50 0 89 67 130 Dibromomethane 9.6(20)50 2.5 50 0 99.9 69 133 55 130 49.67 9.7(20)1,2-Dichloropropane 45.1 2.5 50 0 90 69 Trichloroethene 44.3 2.5 50 0 89 69 130 48.89 9.9(20)Bromodichloromethane 66 134 55.26 8.7(20)50.6 2.5 50 0 101 4-Methyl-2-pentanone (MIBK) 20 182 144.1 5.0(20)137 13 125 0 110 49.33 8.5(20) 63 130 cis-1,3-Dichloropropene 45.3 2.5 50 0 91 trans-1,3-Dichloropropene 2.5 0 89 66 131 49.1 9.3(20)44 7 50 7.9(20)1,1,2-Trichloroethane 49.1 2.5 50 0 98 68 130 53.17 Toluene 66 130 45.81 8.9(20)0 84 41.9 1.3 50 1,3-Dichloropropane 98 70 130 52.06 5.7(20)49.2 2.5 50 0 4.0(20)Dibromochloromethane 0 96 70 130 49.75 47.8 2.5 50 70 105.6 5.1(20) 1,2-Dibromoethane (EDB) 100 5 100 0 100 130 47.94 11.8(20) Tetrachloroethene 42.6 2.5 0 85 61 134 50 1.1.1.2-Tetrachloroethane 70 130 50.82 5.5(20) 2.5 0 96 48.1 50 Chlorobenzene 130 47.71 7.6(20)44.2 2.5 50 0 88 70 Ethylbenzene 48.05 8.5(20)44.2 1.3 50 0 88 68 130 m,p-Xylene 64 130 47.45 9.2(20)43.3 0 87 1.3 50 Bromoform 64 138 51.39 3.1(20)49.8 2.5 50 0 99.6 6.4(20)Styrene 46.1 2.5 50 0 92 69 130 49.18 o-Xylene 88 70 130 47.21 7.0(20)0 44 1.3 50 1,1,2,2-Tetrachloroethane 52.8 2.5 50 0 106 65 131 54.08 2.4(20)70 110.6 3.7(20)1.2.3-Trichloropropane 130 107 10 100 0 107 Isopropylbenzene 37.2 2.5 50 0 74 64 138 43.64 16.0(20) 70 11.2(20) Bromobenzene 42.4 2.5 0 85 130 47.43 50 n-Propylbenzene 39.2 0 78 66 132 45.13 14.1(20) 2.5 50 4-Chlorotoluene 70 130 44.6 11.8(20) 39.6 2.5 50 0 79 2-Chlorotoluene 14.7(20) 79 70 130 45.6 39.4 2.5 50 0 1,3,5-Trimethylbenzene 39.2 2.5 0 78 66 136 45.15 14.0(20) 50 tert-Butylbenzene 0 75 65 137 43.2 13.7(20) 37.7 2.5 50 1.2.4-Trimethylbenzene 65 137 45.45 12 9(20) 39.9 2.5 50 0 80 sec-Butvlbenzene 15.1(20) 38.9 2.5 0 78 66 134 45.3 50 1,3-Dichlorobenzene 43.4 2.5 0 87 70 130 48.18 10.5(20) 50 1,4-Dichlorobenzene 41.4 0 70 45.73 9.9(20)2.5 50 83 130 4-Isopropyltoluene 39 1 2.5 50 0 78 66 137 44.28 12.4(20) 1,2-Dichlorobenzene 7.9(20)70 46.47 42.9 2.5 50 0 86 130 n-Butylbenzene 41.5 2.5 0 83 60 142 46.35 11.1(20) 50 1,2-Dibromo-3-chloropropane (DBCP) 0 110 67 130 260.3 5.4(20) 275 15 250 1.2.4-Trichlorobenzene 10.8(20) 45.3 10 0 61 137 40.63 50 91 Naphthalene **R58** 10 50 0 94 40 167 34.92 29.5(20) Hexachlorobutadiene 88 10 100 0 88 61 130 84.55 4.0(20)1,2,3-Trichlorobenzene 41.02 19.4(20) 49.8 50 99.7 51 144 Surr: 1,2-Dichloroethane-d4 55 50 110 130



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Date: 09-Nov-2010	Work Order: 10102907					
Surr: Toluene-d8	48.1	50	96	70	130	
Surr: 4-Bromofluorobenzene	44	50	88	70	130	

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.

L2 = The associated blank spike recovery was below laboratory acceptance limits.

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

M57 = Matrix spike recovery was below laboratory acceptance limits.

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

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

 Report Attention
 Phone Number
 EMail Address

 David Conner
 (619) 726-7311 x
 connerd@battelle.org

 Betsy Cutie
 (614) 424-4899 x
 cutiec@batelle.org

 Shane Walton
 (614) 424-4117 x
 waltons@battelle.org

Battelle Memorial Institute

655 West Broadway Suite 1420

SA

Page: 1 of 1

WorkOrder: BMIS10102907

Report Due By: 5:00 PM On: 11-Nov-2010

EDD Required: Yes

Sampled by : Chase Brogon

Cooler Temp Samples Received

0 °C 29-Oct-2010

<u>Date Printed</u> **29-Oct-2010**

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

Job: G005862/JPL Groundwater Monitoring

Client's COC #: 29189

218013

San Diego, CA 92101

Sample ID BMI10102907-08A TB-07-10/28/10 BMI10102907-05A MW-22-1 BMI10102907-07A BMI10102907-06A BMI10102907-04A BMI10102907-03A MW-22-3 BMI10102907-02A BMI10102907-01A MW-22-5 DUPE-03-4Q10 EB-07-10/28/10 MW-22-2 MW-22-4 Sample ID Client Ş å å g å å g à Matrix Date 10/28/10 08:25 10/28/10 07:00 10/28/10 08:47 10/28/10 00:00 10/28/10 09:11 Collection No. of Bottles 10/28/10 10:04 10/28/10 10:13 10/28/10 09:47 Alpha Sub G S G S O ហ G 0 0 0 0 0 0 0 0 TAT 9 9 9 9 9 9 9 9 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç Ω Ç Ω Ç Ω. Ç VOC by 524 Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 | VOC by 524 Criteria | Criteria VOC by 524 Criteria Requested Tests VOC_W Reno Trip Blank 10/7/10 Sample Remarks

Comments: Security scals intact. Frozen ice. Temp Blank #5596 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

Logged in by:	
Compabith (Ideax	Signature
Elizabeth Hdcox	Print Name
Alpha Analytical, Inc.	Сотрапу
1029.10 1216	Date/Time

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

Phone Number City, State, Zip Courgus, of 43201 Address Sos Name CENALY TOMPKINS / BATTELLE Billing Information: ADDITIONAL INSTRUCTIONS **10/3** ate 1460 1160 468 0825 Sampled Sampled Client Name **EA776116-1 Relinquished by Received by Received by Received by Relinquished by Relinquished by īme TO TOWN ALE. See Key Matrix* Aa KING AUR Signature DAVID CANKER MAXE BOOGEN Lab ID Number Fax ·OLDUPE-03 6 8 S MW-22-1 101-40-82180 EB-07-10. MW-22-3 MW-22-2 Report Attention P.O. # 4W-22-4 EMail Address Phone # MW-22-5 MASE Brown Sample Description 18013 726-7311 128 / Print Name 1010X ó Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Phone (775) 355-1044 -ax (775) 355-0406 Fax # Job # TAT 298500 30,20 containers ** See below Total and type of 37,20 ~ Samples Collected From Which State? 6 Company 9 X CA × NV **Analyses Required** OTHER 10/27/10 0/28/101 Date Compación BLANK TRUP BLANK DIPLICATE Global ID # EDD / EDF? YES Page # Required QC Level? REMARKS 29189 1200 Time 9 š ₹

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.

*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



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Date: 10-Nov-2010

David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10110205

Cooler Temp:

3 °C

		Cooler remp.	
Alpha's Sample ID	Client's Sample ID	Matrix	
10110205-01A	MW-4-5	Aqueous	
10110205-02A	MW-4-4	Aqueous	
10110205-03A	MW-4-3	Aqueous	
10110205-04A	MW-4-2	Aqueous	
10110205-05A	MW-4-1	Aqueous	
10110205-06A	EB-08-10/2910	Aqueous	
10110205-07A	TB-08-10/29/10	Aqueous	
10110205-08A	MW-3-5	Aqueous	
10110205-09A	MW-3-4	Aqueous	
10110205-10A	MW-3-3	Aqueous	
10110205-11A	MW-3-2	Aqueous	
10110205-12A	MW-3-1	Aqueous	
10110205-13A	DUPE-04-4Q10	Aqueous	
10110205-14A	EB-09-11/01/10	Aqueous	
10110205-15A	TB-09-11/01/10	Aqueous	

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

<u>Analyte</u>

NONE

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

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

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

Roger Scholl

Kandy Sandner

Dalter Airihm



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/02/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-4-5 Lab ID: BMI10110205-01A Date Sampled 10/29/10 09:13	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 15:40
Client ID: MW-4-4 Lab ID: BMI10110205-02A Date Sampled 10/29/10 09:42	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 15:58
Client ID: MW-4-3 Lab ID: BMI10110205-03A Date Sampled 10/29/10 10:05	Perchlorate	ND	1.00 µg/L	11/03/10 10:48	11/03/10 16:54
Client ID: MW-4-2 Lab ID: BMI10110205-04A Date Sampled 10/29/10 10:28	Perchlorate	3.68	1.00 μg/L	11/03/10 10:48	11/03/10 17:49
Client ID: MW-4-1 Lab ID: BMI10110205-05A Date Sampled 10/29/10 10:55	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 18:07
Client ID: EB-08-10/2910 Lab ID: BMI10110205-06A Date Sampled 10/29/10 10:46	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 18:26
Client ID: MW-3-5 Lab ID: BMI10110205-08A Date Sampled 11/01/10 09:16	Perchlorate	ND	1.00 µg/L	11/03/10 10:48	11/03/10 18:44
Client ID: MW-3-4 Lab ID: BMI10110205-09A Date Sampled 11/01/10 10:06	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 19:02
Client ID: MW-3-3 Lab ID: BMI10110205-10A Date Sampled 11/01/10 10:29	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 19;21
Client ID: MW-3-2 Lab ID: BMI10110205-11A Date Sampled 11/01/10 10:50	Perchlorate	180	10.0 μg/L	11/03/10 10:48	11/04/10 15:00
Client ID: MW-3-1 Lab ID: BMI10110205-12A Date Sampled 11/01/10 11:22	Perchlorate	ND	1.00 μg/L	11/03/10 10:48	11/03/10 19:58



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Client ID: **DUPE-04-4Q10**

Lab ID: BMI10110205-13A Perchlorate

ND

 $1.00 \mu g/L$

11/03/10 10:48 11/03/10 20:16

Date Sampled 11/01/10 00:00

Client ID: EB-09-11/01/10

Lab ID: BMI10110205-14A Perchlorate

Date Sampled 11/01/10 11:07

ND

 $1.00~\mu g/L$

11/03/10 10:48 11/03/10 20:34

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/02/10

Job:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		EFA Method 200.8			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-4-5 Lab ID: BMI10110205-01A Date Sampled 10/29/10 09:13	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 17:46
Client ID: MW-4-4 Lab ID: BMI10110205-02A Date Sampled 10/29/10 09:42	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 15:29
Client ID: MW-4-3 Lab ID: BMI10110205-03A Date Sampled 10/29/10 10:05	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 15:57
Client ID: MW-4-2 Lab ID: BMI10110205-04A Date Sampled 10/29/10 10:28	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:03
Client ID: MW-4-1 Lab ID: BMI10110205-05A Date Sampled 10/29/10 10:55	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:08
Client ID: EB-08-10/2910 Lab ID: BMI10110205-06A Date Sampled 10/29/10 10:46	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:14
Client ID: MW-3-5 Lab ID: BM110110205-08A Date Sampled 11/01/10 09:16	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:19
Client ID: MW-3-4 Lab ID: BMI10110205-09A Date Sampled 11/01/10 10:06	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:25
Client ID: MW-3-3 Lab ID: BMI10110205-10A Date Sampled 11/01/10 10:29	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:30
Client ID: MW-3-2 Lab ID: BMI10110205-11A Date Sampled 11/01/10 10:50	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:36
Client ID: MW-3-1 Lab ID: BMI10110205-12A Date Sampled 11/01/10 11:22	Chromium (Cr)	ND	0.0050 mg/L	11/03/10 11:33	11/03/10 16:41



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Client ID: DUPE-04-4Q10

Lab ID: BMI10110205-13A Chromium (Cr)

ND

0.0050 mg/L

11/03/10 11:33 11/03/10 16:47

Date Sampled 11/01/10 00:00

Client ID: EB-09-11/01/10

Lab ID: BMI10110205-14A Chromium (Cr)

ND

 $0.0050\ mg/L$

11/03/10 11:33 11/03/10 17:15

Date Sampled 11/01/10 11:07

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job: G005862/JPL (

G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Estimated				
	Parameter	Estimated Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-4-5 Lab ID : BMI10110205-01A Date Received : 11/02/10 Date Sampled : 10/29/10 09:13	*** None Found ***	ND	2.0 μg/L	11/08/10 18:33	11/08/10 18:33
Client ID : MW-4-4 Lab ID : BMI10110205-02A Date Received : 11/02/10 Date Sampled : 10/29/10 09:42	*** None Found ***	ND	2.0 µg/L	11/08/10 18:55	11/08/10 18:55
Client ID : MW-4-3 Lab ID : BMI10110205-03A Date Received : 11/02/10 Date Sampled : 10/29/10 10:05	*** None Found ***	ND	2.0 μg/L	11/08/10 19:17	11/08/10 19:17
Client ID : MW-4-2 Lab ID : BMI10110205-04A Date Received : 11/02/10 Date Sampled : 10/29/10 10:28	*** None Found ***	ND	2.0 µg/L	11/08/10 19:38	11/08/10 19:38
Client ID : MW-4-1 Lab ID : BMI10110205-05A Date Received : 11/02/10 Date Sampled : 10/29/10 10:55	*** None Found ***	ND	2.0 μg/L	11/08/10 20:00	11/08/10 20:00
Client ID : EB-08-10/2910 Lab ID : BMI10110205-06A Date Received : 11/02/10 Date Sampled : 10/29/10 10:46	*** None Found ***	ND	2.0 μg/L	11/08/10 16:22	11/08/10 16:22
Client ID : TB-08-10/29/10 Lab ID : BM110110205-07A Date Received : 11/02/10 Date Sampled : 10/29/10 07:00	*** None Found ***	ND	2.0 μg/L	11/08/10 15:39	11/08/10 15:39
Client ID : MW-3-5 Lab ID : BMI10110205-08A Date Received : 11/02/10 Date Sampled : 11/01/10 09:16	* * * None Found * * *	ND	2.0 μg/L	11/08/10 20:21	. 11/08/10 20:21
Client ID : MW-3-4 Lab ID : BMI10110205-09A Date Received : 11/02/10 Date Sampled : 11/01/10 10:06	*** None Found ***	ND	2.0 μg/L	11/08/10 20:43	11/08/10 20:43



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Client ID: MW-3-3 Lab ID: BMI10110205-10A Date Received: 11/02/10 Date Sampled: 11/01/10 10:29	*** None Found ***	ND	2.0 μg/L	11/08/10 21:04 11/08/10 21:04
Client ID: MW-3-2 Lab ID: BMI10110205-11A Date Received: 11/02/10 Date Sampled: 11/01/10 10:50	*** None Found ***	ND	2.0 μg/L	11/08/10 21:26 11/08/10 21:26
Client ID: MW-3-1 Lab ID: BMI10110205-12A Date Received: 11/02/10 Date Sampled: 11/01/10 11:22	*** None Found ***	ND	2.0 μg/L	11/08/10 21:48 11/08/10 21:48
Client ID : DUPE-04-4Q10 Lab ID : BMI10110205-13A Date Received : 11/02/10 Date Sampled : 11/01/10 00:00	*** None Found ***	ND	2.0 μg/L	11/08/10 22:09 11/08/10 22:09
Client ID : EB-09-11/01/10 Lab ID : BMI10110205-14A Date Received : 11/02/10 Date Sampled : 11/01/10 11:07	*** None Found ***	ND	2.0 μg/L	11/08/10 16:44 11/08/10 16:44
Client ID: TB-09-11/01/10 Lab ID: BMI10110205-15A Date Received: 11/02/10 Date Sampled: 11/01/10 07:00	*** None Found ***	ND	2.0 μg/L	11/08/10 16:00 11/08/10 16:00

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job: G005862/JPL Gro

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-01A

Client I.D. Number: MW-4-5

Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 10/29/10 09:13 Received: 11/02/10

Extracted: 11/08/10 18:33 Analyzed: 11/08/10 18:33

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration		Reporting	Limit		Compound	Concentration	Re	eporting Li	mit
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		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	Isopropyibenzene	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 (DBCI			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	Q	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	Q	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	106		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulmir

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µg/L

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11/15/10

Report Date
Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-02A

Client I.D. Number: MW-4-4

David Conner Attn:

(619) 726-7311 Phone:

(614) 458-6641 Fax:

Sampled: 10/29/10 09:42

Received: 11/02/10

Extracted: 11/08/10 18:55 Analyzed: 11/08/10 18:55

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	_imit		Compound	Concentration	Re	porting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachioroethane	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		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 (DBC	P) 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	Q	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	Q	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	105		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachioroethene

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µg/L

μg/L

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.

11/15/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-03A

Client I.D. Number: MW-4-3

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/29/10 10:05

Received: 11/02/10

Extracted: 11/08/10 19:17 Analyzed: 11/08/10 19:17

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	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		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-Chiorotoluene	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 (DBC	P) 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	Q	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	Q	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	106		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

μg/L

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-04A Client I.D. Number: MW-4-2

David Conner

(619) 726-7311 Phone:

Fax: (614) 458-6641

Sampled: 10/29/10 10:28

Received: 11/02/10

Extracted: 11/08/10 19:38 Analyzed: 11/08/10 19:38

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	Limit		Compound	Concentration	Re	eporting Li	mit
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		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 (DBC	P) ND		2.5	μg/L
25	Trichloroethene	0.61		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	Q	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	104		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-05A

Client I.D. Number: MW-4-1

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 10/29/10 10:55

Received: 11/02/10

Extracted: 11/08/10 20:00 Analyzed: 11/08/10 20:00

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration		Reporting	Limit		Compound	Concentration	Re	eporting Li	mit
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		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 (DBC			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	Q	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	Q	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	106		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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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.



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-06A

Client I.D. Number: EB-08-10/2910

David Conner Attn:

(619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 10/29/10 10:46

Received: 11/02/10

Extracted: 11/08/10 16:22 Analyzed: 11/08/10 16:22

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
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		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 (DBCI	P) 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	Q	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	Q	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	105		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

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μg/L

μg/L

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.

11/15/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

Client I.D. Number: TB-08-10/29/10

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110205-07A

Sampled: 10/29/10 07:00

Received: 11/02/10

Extracted: 11/08/10 15:39

Analyzed: 11/08/10 15:39 Volatile Organics by GC/MS

EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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		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 (DBC)	P) 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	Q	1.0	μg/L
27	4-Methyl-2-pentano∩e (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	Q	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	106		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L						
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-08A Client I.D. Number: MW-3-5

Attn: David Conner

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 11/01/10 09:16

Received: 11/02/10

Extracted: 11/08/10 20:21 Analyzed: 11/08/10 20:21

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting !	Limit		Compound	Concentration	R	eporting Li	mit
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		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-!sopropyltoluene	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 (DBC	P) 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	Q	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	Q	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	105		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

μg/L

1.0

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.

11/15/10 Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-09A

Client I.D. Number: MW-3-4

Attn: David Conner

Phone: (619) 726-7311

(614) 458-6641 Fax:

Sampled: 11/01/10 10:06

Received: 11/02/10

Extracted: 11/08/10 20:43 Analyzed: 11/08/10 20:43

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	_imit		Compound	Concentration	R	eporting Li	mit
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		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 (DBC	P) 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	Q	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	Q	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	104		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

ua/L

µg/L

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-10A

Client I.D. Number: MW-3-3

David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/01/10 10:29

Received: 11/02/10

Extracted: 11/08/10 21:04 Analyzed: 11/08/10 21:04

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting (_imit		Compound	Concentration	R	eporting Li	mit
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		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-Tetrachioroethane	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 (DBCI	P) 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	Q	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	Q	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	103		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

μg/L

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.

Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

David Conner Phone: (619) 726-7311

Fax:

Attn:

(614) 458-6641

Alpha Analytical Number: BMI10110205-11A

Client I.D. Number: MW-3-2

Sampled: 11/01/10 10:50

Received: 11/02/10

Extracted: 11/08/10 21:26 Analyzed: 11/08/10 21:26

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	R	eporting Li	mit
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	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	2.1	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 (DBC	P) ND		2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	0.74	0.50	µg/L	61	Naphthalene	ND	Q	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	Q	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	106		(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L						
				F 3						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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.

11/15/10 Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-12A

Client I.D. Number: MW-3-1

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

(614) 458-6641

Sampled: 11/01/10 11:22

Received: 11/02/10

Extracted: 11/08/10 21:48 Analyzed: 11/08/10 21:48

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting I	_imit		Compound	Concentration	Re	eporting Li	mit
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		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 (DBC			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	Q	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	Q	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	106		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Sanlur

Walter Hirihow

Roger L. Scholl. Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

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.

11/15/10

Report Date



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

ANALYTICAL REPORT

Phone: (619) 726-7311

David Conner

(614) 458-6641

Attn:

Fax:

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-13A

Client I.D. Number: DUPE-04-4Q10

Sampled: 11/01/10 00:00 Received: 11/02/10

Extracted: 11/08/10 22:09 Analyzed: 11/08/10 22:09

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting !	Limit		Compound	Concentration	Re	eporting Li	mit
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		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 (DBC	P) 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	Q	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	Q	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	107		(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					•	
	5 0 11 0										

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

0.50

1.0

μg/L

μg/L

μg/L

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

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11/15/10



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-14A

Client I.D. Number: EB-09-11/01/10

David Conner Attn:

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 11/01/10 11:07

Received: 11/02/10 Extracted: 11/08/10 16:44

Analyzed: 11/08/10 16:44

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	Re	eporting Li	mit
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		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	NĎ		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 (DBCI	P) 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	Q	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	Q	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	105		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

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11/15/10



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110205-15A

Client I.D. Number: TB-09-11/01/10

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/01/10 07:00

Received: 11/02/10

Extracted: 11/08/10 16:00 Analyzed: 11/08/10 16:00

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	Re	porting Li	mit
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		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 (DBC)	P) ND		2.5	μg/L
25	Trichloroethene	ND		0.50	μg/L	60	1,2,4-Trichlorobenzene	NĐ		1.0	µg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	Q	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	106		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	104		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

µg/L

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11/15/10



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: BMI10110205 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН	
10110205-01A	MW-4-5	Aqueous	2	
10110205-02A	MW-4-4	Aqueous	2	
10110205-03A	MW-4-3	Aqueous	2	
10110205-04A	MW-4-2	Aqueous	2	
10110205-05A	MW-4-1	Aqueous	2	
10110205-06A	EB-08-10/2910	Aqueous	2	
10110205-07A	TB-08-10/29/10	Aqueous	2	
10110205-08A	MW-3-5	Aqueous	2	
10110205-09A	MW-3-4	Aqueous	2	
10110205-10A	MW-3-3	Aqueous	2	
10110205-11A	MW-3-2	Aqueous	2	
10110205-12A	MW-3-1	Aqueous	2	
10110205-13A	DUPE-04-4Q10	Aqueous	2	
10110205-14A	EB-09-11/01/10	Aqueous	2	
10110205-15A	TB-09-11/01/10	Aqueous	2	

11/15/10



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Date: 09-Nov-10		QC S	Summ	ary R	eport					Work Order: 10110205			
Method Blan	nk		Туре	MBLK		ode: EP D: 2538		hod 314.0		sis Date:	11/03/20	10 12:17	
Sample ID:	MB-25385	Units : µg/L		Run ID): IC_3_1	01103A			Prep	Date:	11/03/20	10 10:48	
Analyte		Result	PQL	Spk	Val Spkl	RefVal %	6REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		ND		1									
Laboratory	Fortified Blank		Туре	LFB	Test Co	ode: EP	A Met	hod 314.0					
File ID: 16					Batch I	D: 2538	5		Analy	sis Date:	11/03/20	10 12:36	
Sample ID:	LFB-25385	Units : µg/L		Run I): IC_3_1	01103A			Prep	Date:	11/03/20	10 10:48	
Analyte		Result	PQL	Spk	Val Spkl	RefVal %	6REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate	•	25.9		2	25		104	85	115				
Sample Mat	rix Spike		Туре	LFM	Test C	ode: EP	A Met	hod 314.0					
File ID: 28					Batch I	D: 2538	5		Analy	sis Date:	11/03/20	10 16:17	
Sample ID:	10110205-02ALFM	Units : µg/L		Run I): IC_3_1	01103A			Prep	Date:	11/03/20	10 10:48	
Analyte		Result	PQL	Spk	Val Spki	RefVal %	6REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		22.9		2	25	0	91	80	120				
Sample Mat	rix Spike Duplicate		Туре	LFMD	Test C	ode: EP	A Met	hod 314.0					
File ID: 29	•				Batch I	D: 2538	5		Analy	sis Date:	11/03/20	10 16:35	
Sample ID:	10110205-02ALFMD	Units : µg/L		Run II): IC_3_1	01103A			Prep	Date:	11/03/20	10 10:48	
Analyte		Result	PQL	Spk	Val Spkl	RefVal %	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		23.9		2	25	0	95	80	120	22.8	6 4.3	3(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: 10-Nov-10		Work Order: 10110205		
Method Blank File ID: 110310.B\018_M.D\	Туре МВЦК	Test Code: EPA Method 200.8 Batch ID: 25388	Analysis Date: 11/	/03/2010 15:02
Sample ID: MB-25388	Units: mg/L Run	ID: ICP/MS_101103A	Prep Date: 11/	/03/2010 11:33
Analyte	Result PQL Sp	pkVal 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.	В	
File ID: 110310.B\019_M.D\		Batch ID: 25388	Analysis Date: 11/	/03/2010 15:07
Sample ID: LCS-25388	Units: mg/L Run	ID: ICP/MS_101103A	Prep Date: 11/	/03/2010 11:33
Analyte	Result PQL S	pkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal	%RPD(Limit) Qual
Chromium (Cr)	0.0555 0.005	0.05 111 85	115	
Sample Matrix Spike	Type MS	Test Code: EPA Method 200.	3	
File ID: 110310.B\024_M1.D\		Batch ID: 25388	Analysis Date: 11/	/03/2010 15:35
Sample ID: 10110205-02AMS	Units: mg/L Run	ID: ICP/MS_101103A	Prep Date: 11/	/03/2010 11:33
Analyte	Result PQL Sp	pkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal	%RPD(Limit) Qual
Chromium (Cr)	0.0476 0.005	0.05 0 95 70	130	
Sample Matrix Spike Duplicate	Type MSD	Test Code: EPA Method 200.	В	
File ID: 110310.B\024_M2.D\		Batch ID: 25388	Analysis Date: 11/	/03/2010 15:40
Sample ID: 10110205-02AMSD	Units: mg/L Run	ID: ICP/MS_101103A	Prep Date: 11/	/03/2010 11:33
Analyte	Result PQL Sp	pkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal	%RPD(Limit) Qual
Chromium (Cr)	0.0522 0.005	0.05 0 104 70	130 0.04758	9.2(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.



Date: 10-Nov-2010	(2C Sumn	nary Report			Work Order: 10110205		
Method Blank		Type MBLK	Test Code: EPA Metho					
File ID: 10110806.D			Batch ID: MS15W1108	VI .	Analysis Date:	11/08/2010 13:50		
Sample ID: MBLK MS15W1108M	Units : µg/L	Run II	D: MSD_15_101108A	ĺ	Prep Date:	11/08/2010 13:50		
Analyte	Result	PQL Spl	Val SpkRefVal %REC L	CL(ME) UCL	(ME) RPDRef	/al %RPD(Limit)	Qu	
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 2-Butanone (MEK)	ND ND	0.5 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 Trichloroethene	ND	0.5						
Bromodichloromethane	ND ND	0.5						
4-Methyl-2-pentanone (MIBK)	ND ND	0.5 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 Bromoform	ND	0.5						
Styrene	ND ND	0.5 0.5						
o-Xylene	ND	0.5 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 4-Isopropyltoluene	ND ND	0.5						
1,2-Dichlorobenzene	ND ND	0.5 0.5						
n-Butylbenzene	ND ND	0.5 0.5						
1,2-Dibromo-3-chloropropane (DBCP)	ND ND	0.5 2.5						
1.2,4-Trichlorobenzene	ND ND	2.5 1						
Naphthalene	ND ND	1						
Hexachlorobutadiene	ND	1						
1,2,3-Trichlorobenzene	ND	1						
Surr: 1,2-Dichloroethane-d4	10.1	•	10 101	70 1	30			
			10 106		30			



Date: 10-Nov-2010	QC	Summary Re	port			Work Order: 10110205
Surr: 4-Bromofluorobenzene	10.4	10	104	70	130	



Date: 10-Nov-2010	(QC Su	mmary	Report			Work Order: 10110205		
Laboratory Control Spike		Type LC:	S Te	st Code: EPA Met i	nod SW82	260B			
File ID: 10110803.D		•	Bat	ch ID: MS15W110	8M	Analysis Date	e: 11/08/2010 12:45		
Sample ID: LCS MS15W1108M	Units : µg/L	R	un ID: MS	D_15_101108A		Prep Date:	11/08/2010 12:45		
Analyte	Result	PQL			LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qu	
							, , , , , , , , , , , , , , , , , , ,		
Dichlorodifluoromethane	8.07	1	10	81	70 70(70)	130		Ŀ50	
Chloromethane	6.22	2	10	62	70(70)	130		EJ	
Vinyl chloride	9.91	1	10	99	70 70	130 130			
Chloroethane Bromomethane	9.42 8.07	1	10	94 81	70 70	130			
Frichlorofluoromethane	8.07 9.97	2 1	10 10	99.7	70 70	130			
1.1-Dichloroethene	10.2	1	10	102	70	130			
Dichloromethane	9.07	2	10	91	70	130			
Freon-113	11.2	1	10	112	67	141			
rans-1,2-Dichloroethene	10.2	1	10	102	70	130			
Methyl tert-butyl ether (MTBE)	8.45	0.5	10	85	70	130			
1,1-Dichloroethane	9.93	1	10	99	70	130			
2-Butanone (MEK)	168	10	200	84	70	130			
cis-1,2-Dichloroethene	9.79	1	10	98	70 70	130			
Bromochloromethane	9.24	1	10	92	70 70	130			
Chloroform 2,2-Dichloropropane	9.68 9.93	1	10	97 99	70 70	130 130			
1,2-Dichloropropane 1,2-Dichloroethane	9.93 9.33	1	10 10	93	70 70	130			
1,1,1-Trichloroethane	10.2	1	10	102	70	130			
1,1-Dichloropropene	10.3	1	10	103	70	130			
Carbon tetrachloride	9.73	i	10	97	70	130			
Benzene	9.79	0.5	10	98	70	130			
Dibromomethane	8.87	1	10	89	70	130			
1,2-Dichloropropane	9.55	1	10	96	70	130			
Trichloroethene	9.74	1	10	97	70	130			
Bromodichloromethane	10.1	1	10	101	70	130			
4-Methyl-2-pentanone (MIBK)	20.4	2.5	25	82	20	182			
cis-1,3-Dichloropropene	9.14	1	10	91	70 70	130 130			
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	8.32	1	10	83 88	70 70	130			
Toluene	8.79 9.48	1 0.5	10 10	95	70 70	130			
1,3-Dichloropropane	8.98	1	10	90	70	130			
Dibromochloromethane	8.58	1	10	86	70	130			
1,2-Dibromoethane (EDB)	17.6	2	20	88	70	130			
Tetrachloroethene	9.75	1	10	98	70	130			
1,1,1,2-Tetrachloroethane	9.69	1	10	97	70	130			
Chlorobenzene	9.62	1	10	96	70	130			
Ethylbenzene	9.97	0.5	10	99.7	70	130			
m,p-Xylene	9.67	0.5	10	97	70	130			
Bromoform	7.96	1	10	80	70	130			
Styrene	9.65	1	10	97	70 70	130			
o-Xylene 1,1,2,2-Tetrachloroethane	9.67	0.5	10	97	70 70	130 130			
1,1,2,2-1 ettachloroethane 1,2,3-Trichloropropane	8.29 16.8	1 2	10 20	83 84	70 70	130			
Isopropylbenzene	10.1	1	10	101	70	130			
Bromobenzene	9.89	1	10	99	70	130			
n-Propylbenzene	10.4	1	10	104	70	130			
4-Chlorotoluene	9.97	1	10	99.7	70	130			
2-Chlorotoluene	10.2	1	10	102	70	130			
1,3,5-Trimethylbenzene	10.2	1	10	102	70	130			
ert-Butylbenzene	9.78	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			
,3-Dichlorobenzene ,4-Dichlorobenzene	10.1	1	10	101	70 70	130			
1,4-Dichlorobenzene 1-Isopropyltoluene	9.44 10.1	1 1	10 10	94 101	70 70	130 130			
1,2-Dichlorobenzene	10.1 8.96	1 1	10 10	101 90	70 70	130			
n-Butylbenzene	10.3	1	10	103	70 70	130			
1,2-Dibromo-3-chloropropane (DBCP)	40.3	3	50	81	70 70	130			
1,2,4-Trichlorobenzene	7.06	2	10	71	70	130			
Naphthalene	4.17	2	10	42	70(70)	130		L	
Hexachlorobutadiene	16.9	2	20	84	70	130			
1,2,3-Trichlorobenzene	6.66	2	10	67	70(70)	130		L	
Surr: 1,2-Dichloroethane-d4	9.95	_	10	100	70	130			



Date: 10-Nov-2010	QC S	QC Summary Report						
Surr: Toluene-d8	9.82	10	98	70	130			
Surr: 4-Bromofluorobenzene	10.1	10	101	70	130			



Surr: Toluene-d8

Alpha Analytical, Inc.

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



Date: 10-Nov-2010	QC	Summary Re	port			Work Order: 10110205
Surr: 4-Bromofluorobenzene	48.8	50	98	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

OC Summary Report 10110205 10-Nov-2010 Test Code: EPA Method SW8260B Type MSD Sample Matrix Spike Duplicate Analysis Date: 11/08/2010 14:34 File ID: 10110808.D Batch ID: MS15W1108M Prep Date: 11/08/2010 14:34 Sample ID: 10110205-02AMSD Units: µg/L Run ID: MSD_15_101108A SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte Result PQL 13 167 39.99 6.6(20)Dichlorodifluoromethane 37.5 2.5 50 0 75 36.05 5.8(20) Chloromethane 10 50 68 28 145 34 4.2(20)106 43 134 55.21 Vinyl chloride 52.9 2.5 50 n 39 154 50.3 4.4(20)Chloroethane 48.1 2.5 50 0 96 2.9(20)Bromomethane 44.7 10 50 0 89 19 176 43.39 5.8(20) 160 51.14 Trichlorofluoromethane n 96 34 48.2 2.5 50 1,1-Dichloroethene 46.2 2.5 50 92 60 130 49.01 6.0(20)5.1(20) 45.66 130 87 68 Dichloromethane 43.4 10 50 0 Freon-113 0 104 49 141 54.63 4.7(20) 2.5 50 52.2 5.8(20) trans-1,2-Dichloroethene 50 95 63 130 50.1 47.3 2.5 Methyl tert-butyl ether (MTBE) 90 56 141 45.85 1.9(20)0 45 1.3 50 130 49.33 4.9(20)1,1-Dichloroethane 47 2.5 50 0 94 682.8 1.8(20)70 20 182 2-Butanone (MEK) 695 50 1000 0 10.5(20) cis-1.2-Dichloroethene 0 88 70 130 49.08 44.2 2.5 50 48.24 Bromochloromethane 47.2 2.5 50 94 70 130 2.1(20)47.99 3.9(20)Chloroform 92 67 130 46.2 2.5 50 0 2.8(20) 2,2-Dichloropropane 2.5 50 0 91 30 152 46.8 45.5 4.8(20) 1,2-Dichloroethane 2.5 50 0 94 60 135 49.47 47.1 95 49.99 4.8(20)1 1 1-Trichloroethane 2.5 50 O 59 137 47.7 1,1-Dichloropropene 97 63 130 51.33 5.4(20) 48.7 2.5 50 0.7(20)48.05 147 Carbon tetrachloride 48.4 2.5 50 0 97 50 Benzene 67 130 48.84 5.1(20)46.4 1.3 50 0 93 Dibromomethane 45.2 2.5 50 90 69 133 46.45 2.8(20)47.81 4.9(20)69 1.2-Dichloropropane O 91 130 45.5 2.5 50 48.85 5.6(20) Trichloroethene 46.2 2.5 50 0 92 69 130 52.08 3.6(20)Bromodichloromethane 50.3 2.5 50 101 66 134 4-Methyl-2-pentanone (MIBK) 82 20 182 102.8 0.6(20)102 13 125 O cis-1,3-Dichloropropene 88 130 45.01 2.8(20)43.8 2.5 50 3.0(20)trans-1,3-Dichloropropene 82 66 42.13 40.9 2.5 50 0 131 1,1,2-Trichloroethane 0 89 68 130 45.19 2.1(20)44.3 2.5 50 47.19 3.8(20)Toluene 45.4 91 66 130 1.3 50 46.62 2.0(20)1,3-Dichloropropane 70 130 45.7 2.5 50 0 91 130 45.01 0.3(20)Dibromochloromethane 44.9 2.5 50 0 90 70 2.2(20) 1,2-Dibromoethane (EDB) 90.2 100 0 90 70 130 92.16 Tetrachloroethene 61 134 47.98 2.3(20)2.5 ٥ 94 46.9 50 1,1,1,2-Tetrachloroethane 48.3 2.5 50 0 97 130 49.11 1.6(20)47.75 3.4(20)Chlorobenzene 46.2 2.5 50 0 92 70 130 Ethylbenzene 47 2 1.3 50 O 94 68 130 49.07 3.9(20)m.p-Xylene 93 64 130 48.29 3.9(20)46.4 1.3 50 0 **Bromoform** 85 64 42.42 0.6(20)138 42.7 2.5 50 0 Styrene 47.8 2.4(20)46.7 2.5 50 0 93 69 130 o-Xvlene 45.4 50 0 91 70 130 47.95 5.6(20)1.3 1,1,2,2-Tetrachloroethane 131 43.8 3.2(20)42.4 2.5 50 0 85 65 1,2,3-Trichloropropane 88 70 130 88.68 1.1(20)87.7 10 100 Isopropylbenzene 47.67 2.4(20)46.6 2.5 50 0 93 64 138 Bromobenzene 3.8(20)46.9 2.5 0 94 70 130 48.72 50 n-Propylbenzene 48.5 2.5 97 66 132 50.29 3.7(20)50 0 4-Chlorotoluene 1.2(20) 70 48 26 47.7 2.5 95 130 50 0 2-Chlorotoluene 48.1 2.5 0 96 70 130 48.89 1.6(20)50 1.7(20) 1,3,5-Trimethylbenzene 49.04 48.2 2.5 50 0 96 66 136 tert-Butylbenzene 47.12 0.9(20)0 93 65 137 46.7 2.5 50 1,2,4-Trimethylbenzene 49.01 2.1(20)48 2.5 50 0 96 65 137 sec-Butvlbenzene 48.5 49.16 1.4(20)2.5 50 0 97 66 134 1,3-Dichlorobenzene 49.3 2.5 50 0 99 70 130 49.1 0.4(20)1.4-Dichlorobenzene 46.2 92 130 45.97 0.5(20)2.5 50 0 70 4-Isopropyltoluene 47.7 2.5 50 0 95 66 137 48.33 1.4(20) 1,2-Dichlorobenzene 45.2 2.5 50 0 90 70 130 44.92 0.6(20)n-Butvlbenzene 49.62 49.5 2.5 50 0 99 60 142 0.2(20)1,2-Dibromo-3-chloropropane (DBCP) 250 84 130 204.7 2.6(20)210 15 0 67 1,2,4-Trichlorobenzene 39.5 10 79 36.7 7.3(20)50 0 137 Naphthalene 23 6 10 0 47 40 167 20 16.4(20) 50 Hexachlorobutadiene 91.2 10 100 0 91 61 130 87.54 4.1(20)1.2.3-Trichlorobenzene 37.1 10 50 74 51 144 33.79 9.3(20)Surr: 1,2-Dichloroethane-d4 493 50 99 70 130 Surr: Toluene-d8 49.6 50 130



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

Date: 10-Nov-2010	QC Summary Report							
Surr: 4-Bromofluorobenzene	49.2	50	98	70	130			

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

Alpha Analytical, Inc

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

Report Attention David Conner (614) 424-4899 x (619) 726-7311 x Phone Number cutice@batelle.org connerd@battelle.org EMail Address

Battelle Memorial Institute

655 West Broadway

Page: 1 of 2

WorkOrder: BMIS10110205

Report Due By: 5:00 PM On: 16-Nov-2010

EDD Required: Yes

Sampled by: Chase Brogdon

Cooler Temp Samples Received 02-Nov-2010 02-Nov-2010 Date Printed

Client's COC #: 25750, 25739

Job: G005862/JPL Groundwater Monitoring

Shane Walton

(614) 424-4117 x

waltons@battelle.org

San Diego, CA 92101

218013

Alpha Sample ID QC Level: DS4 BMI10110205-06A EB-08-10/2910 BMI10110205-01A MW-4-5 BMI10110205-10A MW-3-3 BMI10110205-09A BMI10110205-08A MW-3-5 BMI10110205-07A BMI10110205-05A MW-4-1 BMI10110205-04A BMI10110205-03A MW-4-3 BMI10110205-02A MW-4-2 MW-3-4 MW-4-4 Client Security seals intact. Frozen ice. Temp Blank #8985 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.; MS/MSD).: TB-08-10/29/10 Sample ID = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates AQ 10/29/10 09:13 à å à å å å Matrix Date Ą å ğ 11/01/10 09:16 11/01/10 10:29 11/01/10 10:06 10/29/10 07:00 10/29/10 10:46 10/29/10 10:55 10/29/10 10:05 10/29/10 09:42 Collection No. of Bottles 10/29/10 10:28 Alpha Sub G S S G 5 Ç G G 0 0 0 0 0 0 0 0 0 0 ΤAΤ 6 6 6 6 6 6 5 6 6 6 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W Perchlorate METALS_D VOC_TIC_ Ç Ç Q Ç Ω Ç VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 10/7/10 Sample Remarks Level IV QC MS/MSD

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.

Elizabeth

HdCox

Alpha Analytical, Inc. Company

11-2-10 1154

Date/Time

Print Nam

Comments

Logged in by:

limabith (ld cox

Matrix Type: AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) 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 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

WorkOrder: BMIS10110205

Page: 2 of 2

Alpha Analytical, Inc.

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

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

Report Attention Betsy Cutie David Conner Phone Number (614) 424-4899 x (619) 726-7311 x cutiee@batelle.org connerd@battelle.org EMail Address

Battelle Memorial Institute

655 West Broadway

Suite 1420

EDD Required: Yes

Report Due By: 5:00 PM On: 16-Nov-2010

Sampled by: Chase Brogdon

Cooler Temp Samples Received 02-Nov-2010 02-Nov-2010

Date Printed

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

G005862/JPL Groundwater Monitoring

Client's COC #: 25750, 25739

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

218013

								Requested Tests		
Alpha Sample ID	Client Sample ID	Collection Matrix Date	Collection No. of Bottles x Date Alpha Sub TAT	S TAT	314_W	METALS_D W	METALS_D VOC_TIC_	voc_w	Samp	Sample Remarks
BMI10110205-11A MW-3-2	MW-3-2	AQ 11/01/10 10:50	5	10	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110205-12A MW-3-1	MW-3-1	AQ 11/01/10 11:22	5	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110205-13A DUPE-04-4Q10	DUPE-04-4Q10	AQ 11/01/10 00:00	5	10	Perchlorate	Ct	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110205-14A EB-09-11/01/10	EB-09-11/01/10	AQ 11/01/10 11:07	5	10	Perchlorate	δ	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110205-15A TB-09-11/01/10	TB-09-11/01/10	AQ 11/01/10 07:00	1 0	10			VOC by 524 Criteria	VOC by 524 Criteria	Reno Tri	Reno Trip Blank 8/12/10

Comments:

Security seals intact. Frozen ice. Temp Blank #8985 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

	Logged in by:	
=	Censonth	
(()dcax	Signature
	Elizabeth	Print Name
	F	
	Alpha Analytical, Inc.	Company
	112-10 1154	Date/Time

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. 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.

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

City, State, Zip Columbus, off 4320 Name GERALD TOMOKINS/BATTELLE Billing Information: Phone Number Address _ 2460 ADDITIONAL INSTRUCTIONS: ato City, State, Zip Sa~ カルでしゅ Client Name ATTEZLE DA 1/21/01 9401 1018 200 09/3 19/29/ Sampled Sampled ASSESTO DED TOWN AVE C-205 Relinquished by Received by Relinquished by Received by Relinquished Received by me 12/10 DQ 505 KIZG AVE See Key AQ AQ Below Matrix Signature Sampled by SE BULBON DMIDIDADO DAVID CONNER Lab ID Number 92110 Fax -03 mw-4-3 Ó 1-H-MMCO 0+ Mw-4-2 02/mw-4-4 73-08-10/29, MW-4-5 (6,2%) E13-08 Report Attentior P.O. # EMail Address 1 218013 726-7311 Sample Description Print Name 255 Glendale Avenue, Suite 21 Alpha Analytical, Inc. Fax (775) 355-0406 Phone (775) 355-1044 Sparks, Nevada 89431-5778 Job# 605862 Fax # TAT 'n Total and type of 3v, 20 30,20 ** See below containers 2/0 × AZ Ö Samples Collected From Which State? Company **9** CA X NV Analyses Required OTHER Date COMPHENT BLANK MS/MSD QC LEVEL III Trip BLANK Global ID # EDD / EDF? YES Page # Required QC Level? REMARKS 25750 = 元 1330 Time Q š ₹

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

*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

**: L-Liter

V-Voa

S-Soil Jar

0-Orbo

T-Tedlar

B-Brass

P-Plastic

OT-Other

1				
GEMINISTONA	16	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	AZ CA X NV WA ID OR OTHER	WA Page # / Of /
City, State, Zip (St. L. VIA) Phone Number Fax		Phone (775) 355-1044 Fax (775) 355-0406	Analyses Required	
Client Name / DAVID CONNER	PO.# 218013	# doc # doc	[1,	
D Town A	EMail Address		42	/ / II (III)IV
IEGO CA	Phone # 726 - 7311	Fax #	6	EDD / EDF? YES NO
Matrix* Sampled by See Key	tion	Total and type of containers	[Set	Giobal ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below	<u> </u>	REMARKS
0916 1/10 AQ O8	MW-3-5	3v, 2p		
Pas	MW-3-4		XXX	
D)-) MW-3-3		X	
050	MW-3-2		×××	
12 - 12	2 MW-3-1	•	XXX	
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ADDITIONAL INSTRUCTIONS:				
Signature	Print Name	i	Company	Date lime
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Relinquished by	Thi xabath	Hdcx	lepha	11.2.10 1154
Received by		To deliver the second s		
Relinquished by				
Received by				
*Kev: AQ - Aqueous SO - Soil WA - Waste	ste OT - Other AR - Air	**: L-Liter V-Voa S-Soil Jar	ar O-Orbo T-Tedlar B-Brass	ss P-Plastic OT-Other

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.

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



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

Date: 15-Nov-10 David Conner

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Suite 1420

CASE NARRATIVE

(619) 726-7311

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10110304

Cooler Temp:

0°C

Alpha's Sample	ID	Client's Sample ID	Matrix
10110304-01	A	MW-12-5	Aqueous
10110304-02	A	MW-12-4	Aqueous
10110304-03	A	MW-12-3	Aqueous
10110304-04	A	MW-12-2	Aqueous
10110304-05	A	MW-12-1	Aqueous
10110304-06	A	DUPE-05-4Q10	Aqueous
10110304-07	A	EB-10-11/02/10	Aqueous
10110304-08	A	TB-10-11/02/10	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.

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

Roger Scholl

Kandy Saulner

Dalter Hirihour



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/03/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-12-5 Lab ID: BMI10110304-01A Date Sampled 11/02/10 08:43	Perchlorate	1.89	1.00 µg/L	11/04/10 13:08	11/04/10 18:41
Client ID: MW-12-4 Lab ID: BMI10110304-02A Date Sampled 11/02/10 09:07	Perchlorate	3.25	1.00 µg/L	11/04/10 13:08	11/04/10 19:36
Client ID: MW-12-3 Lab ID: BMI10110304-03A Date Sampled 11/02/10 09:39	Perchlorate	1.81	1.00 µg/L	11/04/10 13:08	11/04/10 19:55
Client ID: MW-12-2 Lab ID: BMI10110304-04A Date Sampled 11/02/10 10:10	Perchlorate	6.11	1.00 µg/L	11/04/10 13:08	11/04/10 20:13
Client ID: MW-12-1 Lab ID: BMI10110304-05A Date Sampled 11/02/10 10:34	Perchlorate	ND	1.00 µg/L	11/04/10 13:08	11/04/10 20:32
Client ID: DUPE-05-4Q10 Lab ID: BMI10110304-06A Date Sampled 11/02/10 00:00	Perchlorate	1.55	1.00 μg/L	11/04/10 13:08	11/04/10 20:50
Client ID: EB-10-11/02/10 Lab ID: BMI10110304-07A Date Sampled 11/02/10 10:23	Perchlorate	ND	1.00 µg/L	11/04/10 13:08	11/04/10 21:08

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/03/10

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: BMI10110304-01A Date Sampled 11/02/10 08:43	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 01:16
Client ID: MW-12-4 Lab ID: BMI10110304-02A Date Sampled 11/02/10 09:07	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 01:43
Client ID: MW-12-3 Lab ID: BMI10110304-03A Date Sampled 11/02/10 09:39	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 01:49
Client ID: MW-12-2 Lab ID: BMI10110304-04A Date Sampled 11/02/10 10:10	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 01:55
Client ID: MW-12-1 Lab ID: BM110110304-05A Date Sampled 11/02/10 10:34	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 02:00
Client ID: DUPE-05-4Q10 Lab ID: BMI10110304-06A Date Sampled 11/02/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 02:06
Client ID: EB-10-11/02/10 Lab ID: BMI10110304-07A Date Sampled 11/02/10 10:23	Chromium (Cr)	ND	0.0050 mg/L	11/04/10 12:29	11/05/10 02:11

ND = Not Detected

Roger Scholl Kandys

Walter Hinkow

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

Date: 10-Nov-2010

David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

(619) 726-7311

BMI10110304

Cooler Temp:

0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
10110304-01A	MW-12-5	Aqueous
10110304-02A	MW-12-4	Aqueous
10110304-03A	MW-12-3	Aqueous
10110304-04A	MW-12-2	Aqueous
10110304-05A	MW-12-1	Aqueous
10110304-06A	DUPE-05-4Q10	Aqueous
10110304-07A	EB-10-11/02/10	Aqueous
10110304-08A	TB-10-11/02/10	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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Roger Scholl

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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 Pho

Attn: David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

Job: G005862/JPL Groundwater Monitoring

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: BMI10110304-01A Date Received: 11/03/10 Date Sampled: 11/02/10 08:43	*** None Found ***	ND	2.0 µg/L	11/09/10 03:56	11/09/10 03:56
Client ID : MW-12-4 Lab ID : BMI10110304-02A Date Received : 11/03/10 Date Sampled : 11/02/10 09:07	*** None Found ***	ND	2.0 μg/L	11/09/10 04:18	11/09/10 04:18
Client ID : MW-12-3 Lab ID : BMI10110304-03A Date Received : 11/03/10 Date Sampled : 11/02/10 09:39	*** None Found ***	ND	2.0 μg/L	11/09/10 04:40	11/09/10 04:40
Client ID: MW-12-2 Lab ID: BMI10110304-04A Date Received: 11/03/10 Date Sampled: 11/02/10 10:10	*** None Found ***	ND	2.0 μg/L	11/09/10 05:02	11/09/10 05:02
Client ID: MW-12-1 Lab ID: BMI10110304-05A Date Received: 11/03/10 Date Sampled: 11/02/10 10:34	*** None Found ***	ND	2.0 μg/L	11/09/10 05:23	11/09/10 05:23
Client ID: DUPE-05-4Q10 Lab ID: BMI10110304-06A Date Received: 11/03/10 Date Sampled: 11/02/10 00:00	*** None Found ***	ND	2.0 μg/L	11/09/10 05:45	11/09/10 05:45
Client ID: EB-10-11/02/10 Lab ID: BMI10110304-07A Date Received: 11/03/10 Date Sampled: 11/02/10 10:23	*** None Found ***	ND	2.0 μg/L	11/09/10 02:51	11/09/10 02:51
Client ID : TB-10-11/02/10 Lab ID : BMI10110304-08A Date Received : 11/03/10 Date Sampled : 11/02/10 07:00	*** None Found ***	ND	2.0 μg/L	11/09/10 02:29	11/09/10 02:29



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Kandy

Walter Hinkow

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11/15/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-01A

Client I.D. Number: MW-12-5

Attn: **David Conner**

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/02/10 08:43

Received: 11/03/10

Extracted: 11/09/10 03:56 Analyzed: 11/09/10 03:56

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	0.51		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 (DBCI	P) 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	Q	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	105		(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						

μg/L

μg/L

μg/L

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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Report Date



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

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-02A

Client I.D. Number: MW-12-4

Attn: David Conner Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/02/10 09:07

Received: 11/03/10

Extracted: 11/09/10 04:18 Analyzed: 11/09/10 04:18

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	_imit		Compound	Concentration	Re	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	0.59		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	0.99		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 (DBCI	P) 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	Q	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	106		(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						
~~	50 11 11				-						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

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0.50

1.0

μg/L

μg/L

μg/L

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11/15/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-03A

Client I.D. Number: MW-12-3

David Conner Attn:

(619) 726-7311 Phone:

(614) 458-6641 Fax:

Sampled: 11/02/10 09:39

Received: 11/03/10

Extracted: 11/09/10 04:40 Analyzed: 11/09/10 04:40

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
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-Tetrachioroethane	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	0.78		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	0.56		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 (DBC	P) 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	Q	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 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	107		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	ua/l						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

µg/L

0.50

1.0

0.50

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.

11/15/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-04A

Client I.D. Number: MW-12-2

David Conner

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/02/10 10:10

Received: 11/03/10

Extracted: 11/09/10 05:02 Analyzed: 11/09/10 05:02

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting I	_imit		Compound	Concentration	Re	eporting Li	mit
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 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 (DBC			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	Q	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	106		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

μg/L

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.

Report Date Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-05A

Client I.D. Number: MW-12-1

Attn: David Conner

(619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 11/02/10 10:34

Received: 11/03/10

Extracted: 11/09/10 05:23 Analyzed: 11/09/10 05:23

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachioroethane	ND		0.50	µg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	107		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	ua/L			•		_	

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachioroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

μg/L

1.0

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.

11/15/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110304-06A

Client I.D. Number: DUPE-05-4Q10

Sampled: 11/02/10 00:00

Received: 11/03/10

Extracted: 11/09/10 05:45 Analyzed: 11/09/10 05:45

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	_imit		Compound	Concentration	Re	eporting Li	mit
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	NĐ		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-Tetrachioroethane	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	0.94		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	0.77		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 (DBC			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	Q	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	107		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info(@alpha-analytical.com

μg/L

1.0

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-07A

Client I.D. Number: EB-10-11/02/10

Attn: **David Conner**

Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 11/02/10 10:23

Received: 11/03/10

Extracted: 11/09/10 02:51 Analyzed: 11/09/10 02:51

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	_imit		Compound	Concentration	Re	eporting Li	mit
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	Chiorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) 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	Q	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	106		(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						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

μg/L

1.0

0.50

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110304-08A

Client I.D. Number: TB-10-11/02/10

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/02/10 07:00

Received: 11/03/10

Extracted: 11/09/10 02:29 Analyzed: 11/09/10 02:29

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting !	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	µg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	µg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND		2.5	μg/L
25	Trichloroethene	ND		0.50	μg/L	60	1,2,4-Trichtorobenzene	ND		1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	Q	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	107		(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	ua/L						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

μg/L

1.0

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.

11/15/10

Report Date



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VOC Sample Preservation Report

Work Order: BMI10110304 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
10110304-01A	MW-12-5	Aqueous	2	
10110304-02A	MW-12-4	Aqueous	2	
10110304-03A	MW-12-3	Aqueous	2	
10110304-04A	MW-12-2	Aqueous	2	
10110304-05A	MW-12-1	Aqueous	2	
10110304-06A	DUPE-05-4Q10	Aqueous	2	
10110304-07A	EB-10-11/02/10	Aqueous	2	
10110304-08A	TB-10-11/02/10	Aqueous	2	

11/15/10



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Date: 09-Nov-10		(QC S	Summ	ary F	Repor	t				Work Ord 1011030	
Method Bla	ank		Туре	MBLK		Code: EF ID: 2540		hod 314.0	Analy	sis Date:	11/04/2010 14:04	
Sample ID:	MB-25408	Units : µg/L		Run ID:	IC_3_	101104 /	١		Prep	Date:	11/04/2010 13:08	
Analyte		Result	PQL	Spk\	/al Spl	kRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory	Fortified Blank		Туре	LFB	Test 0	Code: EF	A Met	hod 314.0				
File ID: 15					Batch	ID: 254 0	8(Analy	sis Date:	11/04/2010 14:23	
Sample ID:	LFB-25408	Units : µg/L		Run ID	: IC_3_	101104 A	١		Prep	Date:	11/04/2010 13:08	
Analyte		Result	PQL	Spk\	/al Spl	<refval< td=""><td>%REC</td><td>LCL(ME)</td><td>UCL(ME)</td><td>RPDRef</td><td>Val %RPD(Limit)</td><td>Qual</td></refval<>	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.7		2	25		103	85	115			
Sample Ma	trix Spike		Туре	LFM	Test 0	Code: EF	A Met	hod 314.0				
File ID: 30					Batch	ID: 254 0	8(Analy	sis Date:	11/04/2010 18:59	
Sample ID:	10110304-01ALFM	Units : µg/L		Run ID	: IC_3_	101104A	١.		Prep	Date:	11/04/2010 13:08	
Analyte		Result	PQL	Spk\	/al Spl	kRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		26.6		2	25	1.887	99	80	120			
Sample Ma	trix Spike Duplicate		Туре	LFMD	Test (Code: EF	A Met	hod 314.0				
File ID: 31	•				Batch	ID: 254 0	8		Analy	sis Date:	11/04/2010 19:18	
Sample ID:	10110304-01ALFMD	Units : µg/L		Run ID	: IC_3_	101104 <i>A</i>	١		Prep	Date:	11/04/2010 13:08	
Analyte		Result	PQL	Spk\	/al Spl	kRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		28		2	25	1.887	104	80	120	26.6	2 4.9(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: 11-Nov-10	(QC S	ummar	y Repor	t				Work Orde 10110304	•
Method Blank File ID: 110410.B\035_M.D\		Type N		est Code: EF		thod 200.8	Analysis	s Date:	11/05/2010 00:48	, ,
Sample ID: MB-25407	Units : mg/L		Run ID: IC	P/MS_10110	04E		Prep Da	ate:	11/04/2010 12:29	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) R	PDRefv	/al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike File ID: 110410.B\036 M.D\		Type L		est Code: Ef		thod 200.8	Analysis	s Date:	11/05/2010 00:53	
Sample ID: LCS-25407	Units : mg/L		Run ID: IC	P/MS 1011	04E		Prep Da		11/04/2010 12:29	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) R	PDRefv	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0527	0.005	5 0.05		105	85	115			
Sample Matrix Spike File ID: 110410.B\041_M.D\		Type N		est Code: EF atch ID: 2540		thod 200.8	Analysis	s Date:	11/05/2010 01:21	
Sample ID: 10110304-01AMS	Units : mg/L		Run ID: IC	P/MS_10110	04E		Prep Da	ate:	11/04/2010 12:29	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) R	PDRefv	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0456	0.00	5 0.05	0	91	70	130			
Sample Matrix Spike Duplicate File ID: 110410.B\042_M.D\		Type I		est Code: EF		thod 200.8	Δnalvei	s Date.	11/05/2010 01:27	
Sample ID: 10110304-01AMSD	Units : mg/L			P/MS_1011			Prep Da		11/04/2010 12:29	
Analyte	Result	PQL		_		LCL(ME)			/al %RPD(Limit)	Qual
Chromium (Cr)	0.0432	0.00	·		86	70	130	0.0455		

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: 10-Nov-2010		(QC Sur	nmary Rep	ort			Work Orde 10110304	
Method Bla			Туре МВ		: EPA Metho				
File ID: 10110	0837.D			Batch ID: I	NS15W1108	V	Analysis Date:	11/09/2010 01:02	
Sample ID:	MBLK MS15W1108N	Units : µg/L	R	ın ID: MSD_15 _1	01108B		Prep Date:	11/09/2010 01:02	
Analyte		Result	PQL			CL(ME) U	CL(ME) RPDRef	Val %RPD(Limit)	Qua
Dichlorodifluo	romothono	ND		<u> </u>					
Chloromethar		ND ND	0.5 1						
Vinyl chloride		ND	0.5						
Chloroethane		ND	0.5						
Bromomethar		ND	1						
Trichlorofluore	omethane	ND	0.5						
1,1-Dichloroe	thene	ND	0.5						
Dichlorometh	ane	ND	1						
Freon-113		ND	0.5						
trans-1,2-Dich		ND	0.5						
	utyl ether (MTBE)	ND	0.5						
1,1-Dichloroe 2-Butanone (I		ND	0.5						
cis-1,2-Dichlo		ND ND	10 0.5					•	
Bromochloror		ND ND	0.5 0.5						
Chloroform		ND	0.5						
2,2-Dichlorop	ropane	ND	0.5						
1,2-Dichloroe		ND	0.5						
1,1,1-Trichlor		ND	0.5						
1,1-Dichlorop	ropene	ND	0.5						
Carbon tetrac	chloride	ND	0.5						
Benzene		ND	0.5						
Dibromometh		ND	0.5						
1,2-Dichlorop		ND	0.5						
Trichloroethe		ND	0.5						
Bromodichlor		ND	0.5						
	entanone (MIBK)	ND	2.5						
cis-1,3-Dichlotrans-1,3-Dich		ND	0.5						
1,1,2-Trichlor		ND ND	0.5 0.5						
Toluene	Cethane	ND	0.5						
1,3-Dichlorop	propane	ND	0.5						
Dibromochlor	-	ND	0.5						
	ethane (EDB)	ND	1						
Tetrachloroet		ND	0.5						
1,1,1,2-Tetra	chloroethane	ND	0.5						
Chlorobenzer	ne	ND	0.5						
Ethylbenzene	e	ND	0.5						
m,p-Xylene		ND	0.5						
Bromoform		ND	0.5						
Styrene		ND	0.5						
o-Xylene	alala aa atta a	ND	0.5						
1,1,2,2-Tetra 1,2,3-Trichlor		ND ND	0.5						
Isopropylben:	• •	ND ND	1 0.5						
Bromobenzei		ND	0.5 0.5						
n-Propylbenz		ND ND	0.5 0.5						
4-Chlorotolue		ND ND	0.5						
2-Chlorotolue		ND	0.5						
1,3,5-Trimeth		ND	0.5						
tert-Butylben:	· ·	ND	0.5						
1,2,4-Trimeth		ND	0.5						
sec-Butylben	zene	ND	0.5						
1,3-Dichlorob		ND	0.5						
1,4-Dichlorob		ND	0.5						
4-Isopropylto		ND	0.5						
1,2-Dichlorob		ND	0.5						
n-Butylbenze		ND	0.5						
	3-chloropropane (DBCP)	ND	2.5						
1,2,4-Trichlor		ND ND	1						
Naphthalene		ND ND	1						
Hexachlorobu		ND ND	1						
	robenzene hloroethane-d4	ND 10.1	1	10	101	70	130		
SHIFT I July	11101061110110 - U 4	10.1		(U	11/1	111	1.107		



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Date: 10-Nov-2010	(QC Su	ımmar	y Report			Work Ord 1011030	
Laboratory Control Spike		Type LO	CS T	est Code: EPA Meth	nod SW8	260B		
File ID: 10110832.D			Ва	atch ID: MS15W110	8N	Analysis Da	ate: 11/08/2010 23:14	•
Sample ID: LCS MS15W1108N	Units : µg/L	!	Run ID: M	SD_15_101108B		Prep Date:	11/08/2010 23:14	•
Analyte	Result	PQL			LCL(ME)	UCL(ME) RPDF	RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	7.74	1	10	77	70	130		
Chloromethane	6.7	2	10	67	70(70)	130		L50
Vinyl chloride	10.4	1	10	104	70	130		
Chloroethane	10.1	1	10	101	70	130		
Bromomethane	6.39	2	10	64	70(70)	130		L50
Trichlorofluoromethane	10.5	1	10	105	70	130		
1,1-Dichloroethene	10.1	1	10	101	70	130		
Dichloromethane	9.29	2	10	93	70	130 141		
Freon-113 trans-1,2-Dichloroethene	11.1 10.2	1 1	10 10	111 102	67 70	130		
Methyl tert-butyl ether (MTBE)	9.11	0.5	10	91	70 70	130		
1,1-Dichloroethane	10.3	1	10	103	70	130		
2-Butanone (MEK)	179	10	200	90	70	130		
cis-1,2-Dichloroethene	10.2	1	10	102	70	130		
Bromochloromethane	9.82	1	10	98	70	130		
Chloroform	10.1	1	10	101	70	130		
2,2-Dichloropropane 1,2-Dichloroethane	9.5	1	10	95 403	70 70	130 130		
1,1,1-Trichloroethane	10.2 10.3	1 1	10 10	102 103	70 70	130		
1,1-Dichloropropene	10.8	1	10	103	70 70	130		
Carbon tetrachloride	9.97	1	10	99.7	70	130		
Benzene	10.1	0.5	10	101	70	130		
Dibromomethane	9.71	1	10	97	70	130		
1,2-Dichloropropane	10.1	1	10	101	70	130		
Trichloroethene	10.7	1	10	107	70	130		
Bromodichloromethane	10.9	1	10	109	70 20	130 182		
4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene	22.1 9.53	2.5 1	25 10	88 95	20 70	130		
trans-1,3-Dichloropropene	8.85	1	10	89	70 70	130		
1,1,2-Trichloroethane	9.46	1	10	95	70	130		
Toluene	9.87	0.5	10	99	70	130		
1,3-Dichloropropane	9.74	1	10	97	70	130		
Dibromochloromethane	9.27	1	10	93	70	130		
1,2-Dibromoethane (EDB)	19	2	20	95	70	130		
Tetrachloroethene 1,1,1,2-Tetrachloroethane	10.2	1	10	102 104	70 70	130 130		
Chlorobenzene	10.4 10.2	1	10 10	104	70 70	130		
Ethylbenzene	10.4	0.5	10	102	70	130		
m,p-Xylene	10.1	0.5	10	101	70	130		
Bromoform	8.44	1	10	84	70	130		
Styrene	10.1	1	10	101	70	130		
o-Xylene	10	0.5	10	100	70	130		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	8.81	1	10	88	70 70	130		
Isopropylbenzene	18.5 10.4	2	20 10	93 104	70 70	130 130		
Bromobenzene	10.4	1	10	104	70	130		
n-Propylbenzene	10.8	1	10	108	70	130		
4-Chlorotoluene	10.4	1	10	104	70	130		
2-Chlorotoluene	10.6	1	10	106	70	130		
1,3,5-Trimethylbenzene	10.6	1	10	106	70	130		
tert-Butylbenzene	10.2	1	10	102	70	130		
1,2,4-Trimethylbenzene sec-Butylbenzene	10.5	1	10	105	70 70	130		
1,3-Dichlorobenzene	10.6 10.5	1	10 10	106 105	70 70	130 130		
1,4-Dichlorobenzene	9.89	1	10	99	70 70	130		
4-Isopropyltoluene	10.4	1	10	104	70	130		
1,2-Dichlorobenzene	9.65	1	10	97	70	130		
n-Butylbenzene	10.6	1	10	106	70	130		
1,2-Dibromo-3-chloropropane (DBCP)	43.4	3	50	87	70	130		
1,2,4-Trichlorobenzene	7.96	2	10	80	70	130		1.50
Naphthalene	4.38	2		44	70(70)	130		L50
Hexachlorobutadiene	18.8	2	20	94	70	130		
1,2,3-Trichlorobenzene	7.36	2	10	74	70	130		



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Date: 10-Nov-2010	QC S	Summary Re	port			Work Order: 10110304
Surr: Toluene-d8	9.78	10	98	70	130	
Surr: 4-Bromofluorobenzene	9.92	10	99	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

QC Summary Report 10-Nov-2010 Test Code: EPA Method SW8260B Sample Matrix Spike File ID: 10110838.D Analysis Date: 11/09/2010 01:24 Batch ID: MS15W1108N Prep Date: 11/09/2010 01:24 Sample ID: 10110406-03AMS Units: µg/L Run ID: MSD 15 101108B SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte Result **PQL** Dichlorodifluoromethane 37.7 2.5 Chloromethane 33.8 Vinyl chloride 52.1 2.5 Chloroethane 49.9 2.5 99.7 Bromomethane 39.2 Trichlorofluoromethane 50.6 2.5 1.1-Dichloroethene 47.8 2.5 Dichloromethane 44.5 Freon-113 52.5 2.5 trans-1,2-Dichloroethene 47.5 2.5 Methyl tert-butyl ether (MTBE) 1.3 1,1-Dichloroethane 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 2.5 47.4 Bromochloromethane 47.2 2.5 Chloroform 47.7 2.5 2,2-Dichloropropane 37.7 2.5 1.2-Dichloroethane 2.5 48.2 1.1.1-Trichloroethane 48.4 2.5 1,1-Dichloropropene 49.8 2.5 99.6 Carbon tetrachloride 47 9 2.5 Benzene 47.8 1.3 Dibromomethane 45.6 2.5 1,2-Dichloropropane 46.5 2.5 Trichloroethene 46.5 Bromodichloromethane 50.4 2.5 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene 2.5 42.5 trans-1,3-Dichloropropene 39.2 2.5 1,1,2-Trichloroethane Toluene 45.3 1.3 1,3-Dichloropropane 45.3 2.5 Dibromochloromethane 43.3 2.5 1.2-Dibromoethane (EDB) 89.6 Tetrachloroethene 2.5 46.6 1,1,1,2-Tetrachloroethane 48.2 2.5 Chlorobenzene 46.7 2.5 Ethylbenzene 47.5 1.3 m,p-Xylene 46.7 1.3 **Bromoform** 41.2 2.5 Styrene 46.5 2.5 o-Xylene 46.2 1.3 1,1,2,2-Tetrachloroethane 41.8 2.5 1,2,3-Trichloropropane 86.7 Isopropylbenzene 46.9 2.5 Bromobenzene 48.5 n-Propylbenzene 2.5 4-Chlorotoluene 47.4 2.5 2-Chlorotoluene 48.4 2.5 1,3,5-Trimethylbenzene 48.4 2.5 tert-Butylbenzene 46.6 2.5 1.2.4-Trimethylbenzene 2.5 48.1 sec-Butylbenzene 48.4 2.5 1.3-Dichlorobenzene 48.5 1,4-Dichlorobenzene 45.4 2.5 4-Isopropyltoluene 47.4 2.5 1.2-Dichlorobenzene 44.1 2.5 n-Butylbenzene 48 1 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene 36.6 Naphthalene 20.7 Hexachlorobutadiene 84.1 1,2,3-Trichlorobenzene 34.6 Surr: 1,2-Dichloroethane-d4 49.9 99.7 Surr: Toluene-d8 48.7



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Date: 10-Nov-2010	QC	Summary Rep	ort			Work Order: 10110304
Surr: 4-Bromofluorobenzene	48.1	50	96	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

QC Summary Report 10-Nov-2010 10110304 Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate Analysis Date: 11/09/2010 01:45 File ID: 10110839.D Batch ID: MS15W1108N Prep Date: 11/09/2010 01:45 Sample ID: 10110406-03AMSD Run ID: MSD 15 101108B Units: µg/L SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte Result **PQL** 37.68 167 2.9(20)Dichlorodifluoromethane 38.8 2.5 33.78 1.9(20) Chloromethane 0 69 28 145 34.4 10 50 52.13 3.8(20)Vinvl chloride 54.1 2.5 50 0 108 43 134 49.85 2.6(20)Chloroethane 51.2 50 0 102 39 154 176 39.23 15.7(20) Bromomethane 0 19 45.9 10 50 92 50.56 2.1(20)Trichlorofluoromethane 51.6 2.5 50 0 103 34 160 1,1-Dichloroethene 49.5 2.5 50 0 99 60 130 47.83 3.5(20)Dichloromethane 0 90 68 130 44.52 0.6(20)44.8 10 50 Freon-113 52.5 2.5 50 0 105 49 141 52.45 0.0(20)47.46 3.8(20) trans-1,2-Dichloroethene 130 49.3 2.5 50 0 99 63 Methyl tert-butyl ether (MTBE) 46 4 1.3 0 93 56 141 45.03 3.0(20)50 1,1-Dichloroethane 0 98 61 130 48.04 2.5(20)49.2 2.5 50 2-Butanone (MEK) 1000 0 20 182 697.1 1.1(20)71 705 50 cis-1,2-Dichloroethene 70 47.35 2.0(20)48.3 2.5 50 0 97 130 47.16 3.9(20)Bromochloromethane 49 2.5 50 0 98 70 130 Chloroform 67 47.67 1.2(20)48.3 2.5 0 97 130 50 2,2-Dichloropropane 77 152 37.68 2.2(20)38.5 2.5 50 0 1.2-Dichloroethane 48.18 2.2(20)49.3 2.5 50 0 99 60 135 3.3(20)1,1,1-Trichloroethane 50.1 0 100 59 137 48.41 2.5 50 1,1-Dichloropropene 50.6 0 101 63 130 49.79 1.5(20)50 Carbon tetrachloride 147 47.88 5.8(20) 102 50 50.8 2.5 50 0 Benzene 48.3 1.3 50 0 97 67 130 47.75 1.2(20)2.3(20) Dibromomethane 93 45.6 46.7 2.5 50 0 69 133 1,2-Dichloropropane 0 96 69 130 46.51 2.9(20)47 9 50 2.5 Trichloroethene 0 97 69 130 46.47 3.9(20)48.3 2.5 50 50.41 Bromodichloromethane 0 105 66 134 44(20)52.7 2.5 50 101.9 2.6(20)4-Methyl-2-pentanone (MIBK) 105 13 125 0 84 20 182 42.46 cis-1,3-Dichloropropene 44.1 2.5 0 88 63 130 3.7(20)50 trans-1,3-Dichloropropene 0 131 39.19 4.8(20)41.1 2.5 50 82 66 1,1,2-Trichloroethane 45.3 2.5 50 0 91 68 130 45.01 0.7(20)Toluene 45.31 2.6(20)46.5 1.3 50 0 93 66 130 1,3-Dichloropropane 47.3 0 95 70 130 45.3 4.2(20)2.5 50 Dibromochloromethane 2.5 0 92 70 130 43.29 6.1(20)46 50 1.2-Dibromoethane (EDB) 89.6 4.4(20)0 94 70 130 93.6 5 100 Tetrachloroethene 96 46.59 3.0(20)48 2.5 50 0 61 134 1,1,1,2-Tetrachloroethane 130 48.23 5.8(20) 51.1 2.5 50 0 102 70 Chlorobenzene 70 130 46.66 3.5(20)2.5 n 97 48 3 50 Ethylbenzene 49 2 1.3 50 0 98 68 130 47.5 3.5(20)m,p-Xylene 46.74 2.6(20)0 48 1.3 50 96 64 130 Bromoform 44.4 2.5 0 89 64 138 41.19 7.6(20)50 Styrene 2.5 0 96 69 130 46.54 3.2(20)48.1 50 o-Xvlene 46.15 3.9(20)48 1.3 50 0 96 70 130 1,1,2,2-Tetrachloroethane 43.6 2.5 50 0 87 65 131 41.81 4.3(20)1,2,3-Trichloropropane 91 10 0 91 70 130 86.65 4.9(20)100 Isopropylbenzene 47.7 95 138 46 91 1.6(20)2.5 50 0 64 Bromobenzene 49.4 2.5 50 0 99 70 130 48.52 1.9(20)n-Propylbenzene 49.8 2.5 50 0 99.6 66 132 49 1.6(20)4-Chlorotoluene 70 47.37 2.8(20) 48 7 2.5 0 97 130 50 2-Chlorotoluene 49.2 50 0 98 70 130 48.42 1.5(20)1,3,5-Trimethylbenzene 48.35 49.2 98 66 1.8(20)2.5 50 0 136 tert-Butylbenzene 47.5 2.5 50 0 95 65 137 46.56 2.0(20)1,2,4-Trimethylbenzene 1.6(20) 48.9 2.5 50 0 98 65 137 48.13 sec-Butylbenzene 48.4 1.5(20)49 1 2.5 50 0 Q8 66 134 1,3-Dichlorobenzene 48.45 2.9(20)49.9 2.5 50 0 99.8 70 130 1.4-Dichlorobenzene 70 45.35 47.3 2.5 50 0 95 130 4.2(20)4-Isopropyltoluene 48.2 0 96 66 137 47.39 1.6(20)2.5 50 1.2-Dichlorobenzene 46.4 2.5 50 0 93 70 130 44.11 5.0(20)n-Butylbenzene 49.6 0 99 60 48.12 3.0(20)2.5 50 142 1,2-Dibromo-3-chloropropane (DBCP) 6.3(20)217 15 250 0 87 67 130 203.4 1.2.4-Trichlorobenzene 40.7 10 50 0 81 61 137 36.61 10.7(20) Naphthalene 24.6 10 50 0 49 40 167 20.66 17.4(20) Hexachlorobutadiene 0 91 8.1(20) 10 100 61 130 84.11 1,2,3-Trichlorobenzene 38.2 10 50 0 76 51 144 34.59 9.9(20)Surr: 1,2-Dichloroethane-d4 50 100 70 130 50 Surr: Toluene-d8 49.1 98 70 130



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Date: 10-Nov-2010	QC	Summary Rep	ort			Work Order: 10110304
Surr: 4-Bromofluorobenzene	48	50	96	70	130	

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

Alpha Analytical, Inc.

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

Battelle Memorial Institute San Diego, CA 92101 655 West Broadway Suite 1420

PO: 218013

Client's COC #: 29182

TEL: (775) 355-1044 FAX: (775) 355-0406 Phone Number EMail Address

Report Attention

(619) 726-7311 x

connerd@battelle.org

Shane Walton **Betsy Cutie**

(614) 424-4117 x (614) 424-4899 x

waltons@battelle.org cutice@batelle.org

Job: G005862/JPL Groundwater Monitoring

Page: 1 of 1

WorkOrder: BMIS10110304

Report Due By: 5:00 PM On: 16-Nov-2010

EDD Required: Yes

Sampled by: Chase Brogdon

Cooler Temp Samples Received

03-Nov-2010 03-Nov-2010 Date Printed

The state of the s										Requested Tests	Tests	
Alpha	Client	C	Collection	No. of Bottles		! ! 	314_W	METALS_	METALS_D VOC_TIC_	VOC_W		
Sample ID	Sample ID	Matrix Date	Date	Alpha Sub		TAT		4	*			Sample Remarks
BMI10110304-01A MW-12-5	MW-12-5	AQ 1	AQ 11/02/10 08:43	G 1	0	9	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-02A	MW-12-4	AQ 1	11/02/10 09:07	ű	0	ဖ	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-03A	MW-12-3	Αρ	11/02/10 09:39	ڻ.	0	ဖ	Perchlorate	δ	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-04A	MW-12-2	à	11/02/10 10:10	G	0	9	Perchlorate	Ω	Criteria	VOC by 524 Criteria		
BMI10110304-05A	MW-12-1	à	11/02/10 10:34	51	0	9	Perchlorate	Ç	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-06A	DUPE-05-4Q10	à	11/02/10 00:00	ڻ.	0	9	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-07A	EB-10-11/02/10	Αρ	11/02/10 10:23	S	0	9	Perchlorate	Ct	VOC by 524 Criteria	VOC by 524 Criteria		
BMI10110304-08A TB-10-11/02/10	TB-10-11/02/10	AQ 1	11/02/10 07:00	_	0	9			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 8/12/10

Comments:

Security scals intact. Frozen ice. Temp Blank #8964 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

	Logged in by:	
	Chabath (Ideax	Signature
MARKATAN AND AND AND AND AND AND AND AND AND A	7	Print Name
The state of the s	Alpha Analytical, Inc.	Company
	11:3:10 1148	Date/Time

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

Uilling Information.			Villa Callected Brom	Which states 29182
TOMPKIN	Alpha An: 255 Glendale	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	AZ CA X NV WA OTHER	ž
e, Zip <i>LoLu</i>	Phone (775) 355-1044 Fax (775) 355-0406	355-1044 5-0406	Analyses Required	uired /
Client Harne / DAVID COUNEN	P.O. # 218013 Job #	# 6005862	2000	7 OC Ter
OWN AVE, C-205	Phone #/ A D C D D Fax #	**	24. (20 514.	
Matrix* Sample by	Report Attention	Total and type of		EDD/EDF? YES NO
d Sampled See Key Below	Sample Description	TAT Field ** See below	100 Co	REMARKS
10 4050110110110101010101010101010101010101	MW-12-5	30,20	× × ×	
	MW-12-4		× ×	
699	MW-12-3		× ×	
010	Т.	4	XX	
1034 4	HW-12-1	3,2p X	X	
1/01/10 · Ole	Dupe-05 - 4010	3v,2p X	XX	DupHCATE
.07	CB-10-11/02/10	30,29 >	×	EGNIPHENT BLAIM
Ofen 1/67/aAQ	TB-10-11/02/10	c ×		TRIP BUNK
ADDITIONAL INSTRUCTIONS:				
7				
Signature	Print Name		Company	Date Time
Relinquished	CHASE BROOKS	Inpract C	CIM	11/04/10 1230
Received by	Anthony other	Hik. A	retri	(1/2/10 /720
Relinquished by	1	2 11		W/40 1730
Received by Chabith (LaCery Relinquished by	Elizabeth Adax	- Cu	oha	11.3.10 1148
Received by				
*Key: AQ - Aqueous SO - Soil WA - Waste	e OT - Other AR - Air **: L-Liter	er V-Voa S-Soil Jar	O-Orbo T-Tedlar B-B	B-Brass P-Plastic OT-Other

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.

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



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

Date: 10-Nov-10 David Conner

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10110406

Cooler Temp:

1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
10110406-01A	MW-24-5	Aqueous
10110406-02A	MW-24-4	Aqueous
10110406-03A	MW-24-3	Aqueous
10110406-04A	MW-24-2	Aqueous
10110406-05A	MW-24-1	Aqueous
10110406-06A	DUPE-06-4Q10	Aqueous
10110406-07A	EB-11-11/03/10	Aqueous
10110406-08A	TB-11-11/03/10	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulner

Dalter Finhon



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

David Conner Attn: (619) 726-7311 Phone: Fax: (614) 458-6641

Date Received: 11/04/10

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: BMI10110406-05A	Chloride	71	50 mg/L	11/04/10 11:46	11/04/10 19:26
Date Sampled 11/03/10 10:30	Nitrite (NO2) - N	ND	0.25 mg/L	11/04/10 11:46	11/04/10 19:26
-	Nitrate (NO3) - N	1.2	0.25 mg/L	11/04/10 11:46	11/04/10 19:26
	Phosphate, ortho - P	ND	0.50 mg/L	11/04/10 11:46	11/04/10 19:26
	Sulfate (SO4)	47	0.50 mg/L	11/04/10 11:46	11/04/10 19:26

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/04/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-24-5 Lab ID: BMI10110406-01A Date Sampled 11/03/10 08:43	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 15:29
Client ID: MW-24-4 Lab ID: BMI10110406-02A Date Sampled 11/03/10 09:18	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 15:48
Client ID: MW-24-3 Lab ID: BMI10110406-03A Date Sampled 11/03/10 09:46	Perchlorate	ND	1.00 μg/L	11/09/10 12:42	11/09/10 16:06
Client ID: MW-24-2 Lab ID: BMI10110406-04A Date Sampled 11/03/10 10:07	Perchlorate	11.1	1.00 μg/L	11/09/10 12:42	11/09/10 16:25
Client ID: MW-24-1 Lab ID: BMI10110406-05A Date Sampled 11/03/10 10:30	Perchlorate	9.18	1.00 μg/L	11/09/10 12:42	11/09/10 16:43
Client ID: DUPE-06-4Q10 Lab ID: BMH0110406-06A Date Sampled 11/03/10 00:00	Perchlorate	ND	1.00 μg/L	11/09/10 12:42	11/09/10 17:01
Client ID: EB-11-11/03/10 Lab ID: BMI10110406-07A Date Sampled 11/03/10 10:21	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 17:20

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/04/10

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: BMI10110406-01A Date Sampled 11/03/10 08:43	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 19:48
Client ID: MW-24-4 Lab ID: BMI10110406-02A Date Sampled 11/03/10 09:18	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 19:53
Client ID: MW-24-3 Lab ID: BMI10110406-03A Date Sampled 11/03/10 09:46	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 19:03
Client ID: MW-24-2 Lab ID: BMI10110406-04A Date Sampled 11/03/10 10:07	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 19:59
Client ID: MW-24-1 Lab ID: BMI10110406-05A Date Sampled 11/03/10 10:30	Chromium (Cr)	0.0060	0.0050 mg/L	11/05/10 16:28	11/05/10 20:05
Client ID: DUPE-06-4Q10 Lab ID: BMI10110406-06A Date Sampled 11/03/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 20:10
Client ID: EB-11-11/03/10 Lab ID: BMI10110406-07A Date Sampled 11/03/10 10:21	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 20:16

ND = Not Detected

Roger Scholl Kandy Saulu

Walter Hinkon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/16/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311 (614) 458-6641 Fax:

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-24-5 Lab ID: BMII0110406-01A Date Received: 11/04/10 Date Sampled: 11/03/10 08:43	*** None Found ***	ND	2.0 μg/L		11/09/10 06:07
Client ID: MW-24-4 Lab ID: BMI10110406-02A Date Received: 11/04/10 Date Sampled: 11/03/10 09:18	*** None Found ***	ND	2.0 μg/L	11/09/10 06:29	11/09/10 06:29
Client ID: MW-24-3 Lab ID: BMI10110406-03A Date Received: 11/04/10 Date Sampled: 11/03/10 09:46	*** None Found ***	ND	2.0 μg/L	11/09/10 06:51	11/09/10 06:51
Client ID: MW-24-2 Lab ID: BMI10110406-04A Date Received: 11/04/10 Date Sampled: 11/03/10 10:07	*** None Found ***	ND	2.0 μg/L	11/09/10 07:13	11/09/10 07:13
Client ID: MW-24-1 Lab ID: BMI10110406-05A Date Received: 11/04/10 Date Sampled: 11/03/10 10:30	*** None Found ***	ND	2.0 μg/L	11/09/10 07:34	11/09/10 07:34
Client ID : DUPE-06-4Q10 Lab ID : BMI10110406-06A Date Received : 11/04/10 Date Sampled : 11/03/10 00:00	Sulfur dioxide	2.5	2.0 μg/L	11/09/10 07:56	11/09/10 07:56
Client ID: EB-11-11/03/10 Lab ID: BMI10110406-07A Date Received: 11/04/10 Date Sampled: 11/03/10 10:21	*** None Found ***	ND	2.0 μg/L	11/09/10 03:35	11/09/10 03:35
Client ID: TB-11-11/03/10 Lab ID: BMI10110406-08A Date Received: 11/04/10 Date Sampled: 11/03/10 07:00	*** None Found ***	ND	2.0 μg/L	11/09/10 03:13	11/09/10 03:13



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/16/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110406-01A

Client I.D. Number: MW-24-5

Attn: **David Conner**

(619) 726-7311 Phone: Fax:

(614) 458-6641

Sampled: 11/03/10 08:43

Received: 11/04/10

Extracted: 11/09/10 06:07 Analyzed: 11/09/10 06:07

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	R	eporting Li	mit
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-Xvlene	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	Isopropyibenzene	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-Propyibenzene	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 (DBC	P) 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	Q	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	107		(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						
22	Dibasas a salala assas alla assas										

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

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0.50

1.0

0.50

μg/L

μg/L

µg/L

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.

11/16/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Attn:

David Conner (619) 726-7311 Phone:

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110406-02A

Client I.D. Number: MW-24-4

Sampled: 11/03/10 09:18

Received: 11/04/10 Extracted: 11/09/10 06:29

Analyzed: 11/09/10 06:29

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	—_ μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	µg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	µg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	106		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L			•			
33	Dibromochloromethane	ND		0.50	μg/L						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger Scholl

11/16/10 Report Date

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

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

1.0

μg/L

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



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110406-03A

Client I.D. Number: MW-24-3

Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 11/03/10 09:46

Received: 11/04/10 Extracted: 11/09/10 06:51 Analyzed: 11/09/10 06:51

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	µg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	,	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 (DBC)	, I		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	Q	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	106		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

11/16/10

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

1.0

0.50

μg/L

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.

Report Date



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

ANALYTICAL REPORT

Phone:

Fax:

David Conner

(619) 726-7311

(614) 458-6641

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job: G005862/JPL Groundwater Monitoring

go, CA 92101

Alpha Analytical Number: BMI10110406-04A

Client I.D. Number: MW-24-2

Sampled: 11/03/10 10:07 Received: 11/04/10

Extracted: 11/09/10 07:13 Analyzed: 11/09/10 07:13

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	imit
1	Dichlorodifluoromethane	ND	***************************************	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L.
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	106		(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						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulun

Walter Arrihour

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

µg/L

11/16/10 Report Date



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 655 West Broadway

Client I.D. Number: MW-24-1

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110406-05A

Phone:

David Conner (619) 726-7311

Fax:

(614) 458-6641

Sampled: 11/03/10 10:30

Received: 11/04/10

Extracted: 11/09/10 07:34 Analyzed: 11/09/10 07:34

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	imit
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-Xvlene	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	2.3		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 (DBC	P) 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	Q	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	106		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

1,2-Dibromoethane (EDB)

Tetrachloroethene

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento. CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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.

11/16/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110406-06A

Client I.D. Number: DUPE-06-4Q10

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 11/03/10 00:00

Received: 11/04/10 Extracted: 11/09/10 07:56 Analyzed: 11/09/10 07:56

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	105		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kundy Saulner

Walter Atrihun

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/16/10 Report Date

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

10

µg/L



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110406-07A

Client I.D. Number: EB-11-11/03/10

Sampled: 11/03/10 10:21

Received: 11/04/10

Extracted: 11/09/10 03:35 Analyzed: 11/09/10 03:35

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/L.
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCl	P) 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	Q	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	107		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

μg/L

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110406-08A

Client I.D. Number: TB-11-11/03/10

David Conner Attn:

Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/03/10 07:00

Received: 11/04/10

Extracted: 11/09/10 03:13 Analyzed: 11/09/10 03:13

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	µg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	µg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	NĐ		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 (DBCI	P) 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	Q	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	107		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachioroethene

1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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

11/16/10 **Report Date** Page 1 of 1



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: BMI10110406 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
10110406-01A	MW-24-5	Aqueous	2
10110406-02A	MW-24-4	Aqueous	2
10110406-03A	MW-24-3	Aqueous	2
10110406-04A	MW-24-2	Aqueous	2
10110406-05A	MW-24-1	Aqueous	2
10110406-06A	DUPE-06-4Q10	Aqueous	2
10110406-07A	EB-11-11/03/10	Aqueous	2
10110406-08A	TB-11-11/03/10	Aqueous	2



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

Date: 09-Nov-10	C)C Sı	ımmar	y Repor	t				Work Orde 10110406	
Method Blank		Туре М	BLK T	est Code: El	A Met	hod 300.0		·		
File ID: 21			Ва	atch ID: 254 0)6		Analys	sis Date:	11/04/2010 11:24	
Sample ID: MB-25406	Units : mg/L		Run ID: IC	1 101104A	١		Prep D	Date:	11/04/2010 11:46	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefV	al %RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P Sulfate (SO4)	ND ND	0.5 0.5								
		Type LI	ED T	est Code: El	DA Mot	hod 300 0				_
Laboratory Fortified Blank File ID: 22		Type L		est Code. E r atch ID: 254 0		110u 300.0	Δnalve	sie Date:	11/04/2010 11:43	
Sample ID: LFB-25406	Units : mg/L			_1_101104#			Prep D		11/04/2010 11:46	
Analyte	Result	PQL				I CL (ME)	•		'al %RPD(Limit)	Qual
Chloride	48.3	0.5	50 50	Spriterval	97	90	110	IN DINEIV	ai /oiti D(Liitit)	Quai
Nitrite (NO2) - N	46.3 4.68	0.25	50		97 94	90	110			
Nitrate (NO3) - N	4.67	0.25	5		93	90	110			
Phosphate, ortho - P	4.58	0.5	5		92	90	110			
Sulfate (SO4)	96.5	0.5	100		96	90	110			
Sample Matrix Spike		Type LI	FM T	est Code: El	PA Met	hod 300.0				
File ID: 25			В	atch ID: 254 0	06		Analys	sis Date:	11/04/2010 12:38	
Sample ID: 10110421-01ALFM	Units : mg/L		Run ID: IC	_1_1011044	١		Prep [Date:	11/04/2010 11:46	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefV	al %RPD(Limit)	Qual
Chloride	728	0.5	50	839.8	-220	80	120			M3
Nitrite (NO2) - N	5.45	0.25	5	0	109	80	120			
Nitrate (NO3) - N	4.78	0.25	5	0	96	80	120			
Phosphate, ortho - P	6.18	0.5	5	0	124	80	120			M1
Sulfate (SO4)	235	0.5	100	176.5	59	80	120			M2
Sample Matrix Spike Duplicate		Type LI	FMD T	est Code: El	PA Met	hod 300.0				
File ID: 26			В	atch ID: 254 6	06		Analys	sis Date:	11/04/2010 12:57	
Sample ID: 10110421-01ALFMD	Units : mg/L		Run ID: IC	_1_101104	١.		Prep [Date:	11/04/2010 11:46	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	/al %RPD(Limit)	Qual
Chloride	730	0.5	50	839.8	-220	80	120	728	0.3(15)	M3
Nitrite (NO2) - N	5.48	0.25	5	0	110	80	120	5.449	0.6(15)	
Nitrate (NO3) - N	4.84	0.25	5	0	97	80	120	4.784	` ,	
Phosphate, ortho - P	6.65	0.5	5	0	133	80	120	6.18	7.4(15)	M1
Sulfate (SO4)	236	0.5	100	176.5	60	80	120	235.2	0.4(15)	M2

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.
- M2 = Matrix spike recovery was low, the method control sample recovery was acceptable.
- M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date: 16-Nov-10		(QC S	ummaı	y Repor	t			Work O 10110	
Method Bla	nk		Type I		est Code: E		thod 314.0			
File ID: 14				E	Batch ID: 254	39		Analysis Da	te: 11/09/2010 13:	39
Sample ID:	MB-25439	Units : µg/L		Run ID: 10	C_3_101109	A		Prep Date:	11/09/2010 12:	42
Analyte		Result	PQL	SpkVa	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDR	RefVal %RPD(Limit	Qual
Perchlorate		ND		1						
Laboratory	Fortified Blank		Type L	LFB 1	Test Code: E	PA Met	thod 314.0			
File ID: 15				E	Batch ID: 254	39		Analysis Da	te: 11/09/2010 13:	58
Sample ID:	LFB-25439	Units : μg/L		Run ID: IC	C_3_101109	A		Prep Date:	11/09/2010 12:	42
Analyte		Result	PQL	SpkVa	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDR	RefVal %RPD(Limit	Qual
Perchlorate		22.9	- :	2 25	;	91	85	115		
Sample Mar	trix Spike		Type I	LFM 7	est Code: E	PA Met	thod 314.0			
File ID: 30				E	Batch ID: 254	39		Analysis Da	te: 11/09/2010 18:	34
Sample ID:	10110503-01ALFM	Units : µg/L		Run ID: I	C_3_101109	A		Prep Date:	11/09/2010 12:	42
Analyte		Result	PQL	SpkVa	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDR	RefVal %RPD(Limit	Qual
Perchlorate		26.4		2 25	2.319	96	80	120		
Sample Mar	trix Spike Duplicate		Type I	LFMD 1	est Code: E	PA Met	thod 314.0			
File ID: 31				E	Batch ID: 254	39		Analysis Da	te: 11/09/2010 18:	52
Sample ID:	10110503-01ALFMD	Units : µg/L		Run ID: I	C_3_101109	A		Prep Date:	11/09/2010 12:	42
Analyte		Result	PQL	SpkVa	l SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDF	RefVal %RPD(Limit) Qual
Perchlorate		28.7		2 25	2.319	106	80	120 26	6.36 8.6(15)	

Comments:

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Date: 15-Nov-10	(QC S	ummar	y Repor	t				Work Orde 10110406	
Method Blank File ID: 110510.B\018_M.D\		Type N		est Code: El		hod 200.8	Analysis	Date:	11/05/2010 18:35	
Sample ID: MB-25419	Units : mg/L		Run ID: IC	P/MS_1011	05D		Prep Da	te:	11/05/2010 16:28	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RI	PDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	ı							
Laboratory Control Spike File ID: 110510.B\019_M.D\		Type L		est Code: Ef		thod 200.8	Analysis	Date:	11/05/2010 18:41	
Sample ID: LCS-25419	Units : mg/L		Run ID: IC	P/MS_1011	05D		Prep Da	te:	11/05/2010 16:28	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RI	PDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	0.0493	0.005	0.05		99	85	115			
Sample Matrix Spike		Type N	IS To	est Code: El	PA Met	hod 200.8				
File ID: 110510.B\024_M.D\			Ba	atch ID: 254	19		Analysis	Date:	11/05/2010 19:08	
Sample ID: 10110406-03AMS	Units: mg/L		Run ID: IC	P/MS_1011	05D		Prep Da	te:	11/05/2010 16:28	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) R	PDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	0.0445	0.005	0.05	0	89	70	130			
Sample Matrix Spike Duplicate		Type N	ISD T	est Code: El	PA Met	thod 200.8				
File ID: 110510.B\025_M.D\			Ва	atch ID: 254	19		Analysis	Date:	11/05/2010 19:14	
Sample ID: 10110406-03AMSD	Units : mg/L		Run ID: IC	P/MS_1011	05D		Prep Da	ite:	11/05/2010 16:28	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) R	PDRefV	al %RPD(Limit)	Qual
Chromium (Cr)	0.043	0.005	0.05	0	86	70	130	0.0444	8 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.



Date: 10-Nov-10	(QC Sumn	ary Report		Work Order: 10110406
Method Blank	***	Type MBLK	Test Code: EPA Method	d SW8260B	
File ID: 10110837.D			Batch ID: MS15W1108N	l Analysis Da	ite: 11/09/2010 01:02
Sample ID: MBLK MS15W1108N	Units : µg/L	Run II): MSD_15_101108B	Prep Date:	11/09/2010 01:02
Analyte	Result	PQL Spk	Val SpkRefVal %REC LC	CL(ME) UCL(ME) RPDF	RefVal %RPD(Limit) Qua
Dichlorodifluoromethane	ND	0.5			
Chloromethane	ND	1			
Vinyl chloride Chloroethane	ND ND	0.5			
Bromomethane	ND ND	0.5 1			
Trichlorofluoromethane	ND	0.5			
1,1-Dichloroethene	ND	0.5			
Dichloromethane	ND	1			
Freon-113	ND	0.5			
trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE)	ND	0.5			
1,1-Dichloroethane	ND ND	0.5 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 1,1,1-Trichloroethane	ND ND	0.5 0.5			
1,1-Dichloropropene	ND ND	0.5 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 4-Methyl-2-pentanone (MIBK)	ND ND	0.5			
cis-1,3-Dichloropropene	ND ND	2.5 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 1,2-Dibromoethane (EDB)	ND ND	0.5 1			
Tetrachloroethene	ND 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 Styrene	ND	0.5			
o-Xylene	ND ND	0.5 0.5			
1,1,2,2-Tetrachloroethane	ND	0.5 0.5			
1,2,3-Trichloropropane	ND	1			
Isopropylbenzene	ND	0.5			
Bromobenzene	ND	0.5			
n-Propylbenzene 4-Chlorotoluene	ND ND	0.5			
4-Chlorotoluene 2-Chlorotoluene	ND ND	0.5 0.5			
1,3,5-Trimethylbenzene	ND	0.5 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 4-Isopropyltoluene	ND ND	0.5			
1,2-Dichlorobenzene	ND ND	0.5 0.5			
n-Butylbenzene	ND ND	0.5 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 Surr: 1,2-Dichloroethane-d4	ND 10.1	1	10 404	70 420	
Surr: Toluene-d8	10.1 10.6		10 101 10 106	70 130 70 130	
	10.0		100	, 5 100	



Date: _10-Nov-10	QC	Summary Re	port			Work Order: 10110406
Surr: 4-Bromofluorobenzene	10.3	10	103	70	130	



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Date: 10-Nov-10	(QC S	ummar	y Report			Work 0 10110	
Laboratory Control Spike		Type L	.cs T	est Code: EPA Met	hod SW82	260B		
File ID: 10110832.D			В	atch ID: MS15W110)8N	Analysis	Date: 11/08/2010 23:	14
Sample ID: LCS MS15W1108N	Units : µg/L			SD_15_101108B		Prep Da	te: 11/08/2010 23:	14
Analyte	Result	PQL			LCL(ME)	UCL(ME) RI	PDRefVal %RPD(Limit)) Qua
Dichlorodifluoromethane	7.74			77	70	130		
Chloromethane	6.7	2		67	70(70)	130		L50
Vinyl chloride	10.4	7		104	70	130		
Chloroethane	10.1			101	70	130		
Bromomethane	6.39	2		64	70(70)	130		L50
Trichlorofluoromethane	10.5		1 10	105	70	130		
1,1-Dichloroethene	10.1	1		101	70	130		
Dichloromethane	9.29	2		93	70	130		
Freon-113 trans-1,2-Dichloroethene	11.1	1	-	111	67 70	141		
Methyl tert-butyl ether (MTBE)	10.2 9.11	0.5		102 91	70 70	130 130		
1,1-Dichloroethane	10.3	0.0		103	70 70	130		
2-Butanone (MEK)	179	10		90	70	130		
cis-1,2-Dichloroethene	10.2	1		102	70	130		
Bromochloromethane	9.82	1		98	70	130		
Chloroform	10.1	1	10	101	70	130		
2,2-Dichloropropane 1,2-Dichloroethane	9.5	1	10	95	70 70	130		
1,1,1-Trichloroethane	10.2 10.3		i 10 i 10	102 103	70 70	130 130		
1,1-Dichloropropene	10.8	-		103	70 70	130		
Carbon tetrachloride	9.97	1		99.7	70	130		
Benzene	10.1	0.5		101	70	130		
Dibromomethane	9.71	1		97	70	130		
1,2-Dichloropropane	10.1	1		101	70	130		
Trichloroethene	10.7	1		107	70	130		
Bromodichloromethane 4-Methyl-2-pentanone (MIBK)	10.9	1		109	70	130		
cis-1,3-Dichloropropene	22.1 9.53	2.5		88 95	20 70	182 130		
trans-1,3-Dichloropropene	8.85	-		89 89	70	130		
1,1,2-Trichloroethane	9.46	1		95	70	130		
Toluene	9.87	0.5		99	70	130		
1,3-Dichloropropane	9.74	1	-	97	70	130		
Dibromochloromethane	9.27	1		93	70	130		
1,2-Dibromoethane (EDB) Tetrachloroethene	19	2		95	70	130		
1,1,1,2-Tetrachloroethane	10.2 10.4	1		102 104	70 70	130 130		
Chlorobenzene	10.4			104	70 70	130		
Ethylbenzene	10.4	0.5		104	70	130		
m,p-Xylene	10.1	0.5	5 10	101	70	130		
Bromoform	8.44	1		84	70	130		
Styrene	10.1	1		101	70	130		
o-Xylene 1,1,2,2-Tetrachloroethane	10	0.5		100	70 70	130		
1,2,3-Trichloropropane	8.81 18.5	1		88 93	70 70	130 130		
Isopropylbenzene	10.4	1		104	70	130		
Bromobenzene	10.4	1		104	70	130		
n-Propylbenzene	10.8	1		108	70	130		
4-Chlorotoluene	10.4	1		104	70	130		
2-Chlorotoluene	10.6	1		106	70	130		
1,3,5-Trimethylbenzene tert-Butylbenzene	10.6	1		106	70 70	130		
1,2,4-Trimethylbenzene	10.2 10.5	1		102 105	70 70	130 130		
sec-Butylbenzene	10.5	1		106	70	130		
1,3-Dichlorobenzene	10.5	. 1		105	70	130		
1,4-Dichlorobenzene	9.89	1		99	70	130		
4-Isopropyltoluene	10.4	1		104	70	130		
1,2-Dichlorobenzene	9.65	1		97	70	130		
n-Butylbenzene	10.6	1		106	70	130		
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	43.4	3	50	87 90	70 70	130		
Naphthalene	7.96 4.38	2		80 44	70 70(70)	130 130		L50
Hexachlorobutadiene	4.36 18.8	2		94	70(70)	130		200
1,2,3-Trichlorobenzene	7.36	2		94 74	70 70	130		
Surr: 1,2-Dichloroethane-d4	10.1	2	10	101	70 70	130		



Date: 10-Nov-10	QC	Summary Rep	port			 Work Order: 10110406
Surr: Toluene-d8 Surr: 4-Bromofluorobenzene	9.78 9.92	10 10	98 99	70 70	130 130	



Date:

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Work Order:

QC Summary Report 10-Nov-10 Test Code: EPA Method SW8260B Sample Matrix Spike Type MS File ID: 10110838.D Analysis Date: 11/09/2010 01:24 Batch ID: MS15W1108N Sample ID: 10110406-03AMS Units: µg/L Run ID: MSD 15 101108B Prep Date: 11/09/2010 01:24 Analyte **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result Qual Dichlorodifluoromethane 37.7 2.5 Chloromethane 33.8 Vinyl chloride 2.5 52.1 Chloroethane 49.9 2.5 99.7 Bromomethane 39.2 Trichlorofluoromethane 50.6 2.5 1,1-Dichloroethene 47.8 2.5 Dichloromethane 44.5 Freon-113 52.5 2.5 trans-1,2-Dichloroethene 47.5 2.5 Methyl tert-butyl ether (MTBE) 1.3 1.1-Dichloroethane 2.5 2-Butanone (MEK) cis-1,2-Dichloroethene 47.4 2.5 Bromochloromethane 47.2 2.5 Chloroform 47.7 2.5 2,2-Dichloropropane 37.7 1,2-Dichloroethane 48.2 2.5 1,1,1-Trichloroethane 48.4 2.5 1,1-Dichloropropene 49.8 2.5 99.6 Carbon tetrachloride 47.9 2.5 Benzene 47.8 1.3 Dibromomethane 2.5 45.6 1,2-Dichloropropane 46.5 2.5 Trichloroethene 46.5 2.5 Bromodichloromethane 50.4 2.5 4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene 42.5 2.5 trans-1,3-Dichloropropene 39.2 2.5 1,1,2-Trichloroethane 2.5 Toluene 45.3 1.3 1,3-Dichloropropane 45.3 2.5 Dibromochloromethane 43.3 2.5 1,2-Dibromoethane (EDB) 89.6 Tetrachloroethene 46.6 2.5 1,1,1,2-Tetrachloroethane 48.2 2.5 Chlorobenzene 46.7 2.5 Ethylbenzene 47.5 1.3 m.p-Xylene 46.7 1.3 **Bromoform** 41.2 2.5 Styrene 46.5 o-Xylene 46.2 1.3 1,1,2,2-Tetrachloroethane 41.8 2.5 1,2,3-Trichloropropane 86.7 Isopropylbenzene 46.9 2.5 Bromobenzene 48.5 2.5 n-Propylbenzene 2.5 4-Chlorotoluene 47.4 2.5 2-Chlorotoluene 1.3.5-Trimethylbenzene 2.5 48.4 tert-Butylbenzene 2.5 46.6 1,2,4-Trimethylbenzene 48.1 2.5 sec-Butylbenzene 48.4 2.5 1,3-Dichlorobenzene 48.5 2.5 1.4-Dichlorobenzene 45.4 2.5 4-Isopropyltoluene 47 4 2.5 1,2-Dichlorobenzene 44.1 2.5 n-Butylbenzene 48.1 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene Naphthalene 20.7 Hexachlorobutadiene 84.1 1,2,3-Trichlorobenzene 34.6 Surr: 1,2-Dichloroethane-d4 49.9 99.7 Surr: Toluene-d8 48.7



Date: 10-Nov-10	QC	Summary Re	port			Work Order: 10110406
Surr: 4-Bromofluorobenzene	48.1	50	96	70	130	



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Type MSD	Date: 10-Nov-10	(QC Sı	ummary	Report					Work Ordo 10110406	
Sample ID: 10110408-03AMSD	Sample Matrix Spike Duplicate		Type M	I SD Te	st Code: EP	A Met	hod SW82	260B			
Dichlorodifluoromethane 38.8 2.5 50 78 13 167 37.68 2.9(20)	File ID: 10110839.D			Ba	tch ID: MS1	5W110	08N	Analy	sis Date: 1	1/09/2010 01:45	
Dichloromethane	Sample ID: 10110406-03AMSD	Units : µg/L		Run ID: MS	D_15_1011	08B		Prep	Date: 1	1/09/2010 01:45	
Chloromethane 34.4 10.50 0.69 89.28 145 337.8 148, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20	Analyte	Result	PQL	SpkVal	SpkRefVal 9	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloromethane 34.4 10 50 0 69 28 145 33.78 1.9(20) Whyl chloride 54.1 2.5 50 0 108 33 145 48,85 2.6(21) Stronomethane 51.2 2.5 50 0 102 39 154 48,85 2.6(22) Trichlorofluoromethane 51.6 2.5 50 0 103 34 160 50.6 39.2 31 57,722 Trichlorofluoromethane 51.6 2.5 50 0 103 34 160 50.6 39.2 31 57,722 Trichloromethane 44.8 10 50 0 99 88 80 130 44.8 11 50 0 99 88 80 130 44.8 11 50 0 99 88 80 130 44.8 12 50 0 99 88 80 130 44.8 13 50 0 99 88 80 130 45.8 14 45.8 15 50 0 99 88 80 130 14 55.8 15 50 0 99 88 80 130 15 50 0 99 88 80 130 16 50 0 99 88 80 130 17 50 0 99 88 80 130 18 50	Dichlorodifluoromethane	38.8	2.5	50	0	78	13	167	37.68	2.9(20)	
Chiorechane		34.4				69		145	33.78	1.9(20)	
Bromomethane	•				_						
Trichloroflucromethane											
1,1-Dichloroethene 49.5 2.5 50 0 99 60 130 47.83 3.5/20) Dichloromethane 44.8 10 50 0 68 130 44.52 0.0(20) Freon-113 52.5 5.5 50 0 105 49 141 52.45 0.0(20) Inama-1,2-Dichloroethane 49.3 2.5 50 0 93 56 141 45.03 3.0(20) 1-Dichloroethane 49.2 2.5 50 0 98 61 130 48.04 2.5(20) 2-Butanone (MEK) 705 50 1000 0 71 20 182 697.1 1.1(20) 2-Butanone (MEK) 705 50 1000 71 20 182 697.1 1.1(20) 2-Butanone (MEK) 70 30 48.3 2.5 50 0 98 70 130 47.67 1.2(20) 2-Chichroene 48.3 2.5					-						
Dichioromethane											
trans-1,2-Dichloroethene											
Methyl terr-butyl ether (NTBE)											
1,1-Dichloroethane 49,2 2,5 50 0 8,8 61 130 48,04 2,5(20) cls-1,2-Dichloroethane 48,3 2,5 50 0 9,7 7 0 130 47,45 2,0(20) cls-1,2-Dichloroethane 48,3 2,5 50 0 9,7 7 0 130 47,16 3,9(20) Chloroform 48,3 2,5 50 0 9,7 7 0 130 47,67 1,2(20) Chloroform 48,3 2,5 50 0 9,7 67 130 47,67 1,2(20) 1,2-Dichloroptopane 18,5 2,5 50 0 9,7 67 130 47,67 1,2(20) 1,2-Dichloroptopane 18,5 2,5 50 0 9,7 67 130 47,67 1,2(20) 1,2-Dichloroptopane 19,3 2,5 50 0 9,9 60 135 48,18 2,2(20) 1,1-Dichloroptopane 10,1-Tichloroptopane 10,1-Tichl					_						
2-Butanone (MEK)											
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Bromochloromethane											
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1,3,5-Trimethylbenzene 49.2 2.5 50 0 98 66 136 48.35 1.8(20) tert-Butylbenzene 47.5 2.5 50 0 95 65 137 46.56 2.0(20) 1,2,4-Trimethylbenzene 48.9 2.5 50 0 98 65 137 48.13 1.6(20) sec-Butylbenzene 49.1 2.5 50 0 98 66 134 48.4 1.5(20) 1,3-Dichlorobenzene 49.9 2.5 50 0 99.8 70 130 48.45 2.9(20) 1,4-Dichlorobenzene 47.3 2.5 50 0 95 70 130 45.35 4.2(20) 4-Isopropyltoluene 48.2 2.5 50 0 96 66 137 47.39 1.6(20) 1,2-Dichlorobenzene 46.4 2.5 50 0 93 70 130 44.11 5.0(20)					-						
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1,2,4-Trimethylbenzene 48.9 2.5 50 0 98 65 137 48.13 1.6(20) sec-Butylbenzene 49.1 2.5 50 0 98 66 134 48.4 1.5(20) 1,3-Dichlorobenzene 49.9 2.5 50 0 99.8 70 130 48.45 2.9(20) 1,4-Dichlorobenzene 47.3 2.5 50 0 95 70 130 45.35 4.2(20) 4-Isopropyltoluene 48.2 2.5 50 0 96 66 137 47.39 1.6(20) 1,2-Dichlorobenzene 46.4 2.5 50 0 93 70 130 44.11 5.0(20)											
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4-Isopropyltoluene 48.2 2.5 50 0 96 66 137 47.39 1.6(20) 1,2-Dichlorobenzene 46.4 2.5 50 0 93 70 130 44.11 5.0(20)	•										
1,2-Dichlorobenzene 46.4 2.5 50 0 93 70 130 44.11 5.0(20)											
1011 200 00 10 100 100 100 100 100 100 1											
- 1 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	n-Butylbenzene	49.6	2.5		0	99	60	142	48.12	3.0(20)	
1,2-Dibromo-3-chloropropane (DBCP) 217 15 250 0 87 67 130 203.4 6.3(20)											
1,2,4-Trichlorobenzene 40.7 10 50 0 81 61 137 36.61 10.7(20)		40.7	10	50		81	61	137	36.61	10.7(20)	
Naphthalene 24.6 10 50 0 49 40 167 20.66 17.4(20)	•										
Hexachlorobutadiene 91.2 10 100 0 91 61 130 84.11 8.1(20)											
1,2,3-Trichlorobenzene 38.2 10 50 0 76 51 144 34.59 9.9(20) Surr: 1,2-Dichloroethane-d4 50 50 100 70 130			10		0				34.59	9.9(20)	
Surr: Toluene-d8 49.1 50 98 70 130											



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

Date: 10-Nov-10	QC	Summary Re	port			Work Order: 10110406
Surr: 4-Bromofluorobenzene	48	50	96	70	130	

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:

Client:

Battelle Memorial Institute

655 West Broadway

Suite 1420

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

 Report Attention
 Phone Number
 EMail Address

 David Conner
 (619) 726-7311 x
 connerd@battelle.org

 Betsy Cutie
 (614) 424-4899 x
 cutiee@batelle.org

 Shane Walton
 (614) 424-4117 x
 waltons@battelle.org

orkOrde

WorkOrder: BMIS10110406

Page: 1 of 1

Report Due By: 5:00 PM On: 17-Nov-2010

EDD Required : Yes

Cooler Temp Samples Received

1 or 04-Nov-2010

Sampled by: Chase Brogdon

l °C 04-Nov-2010 04-Nov-2010

Date Printed

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

Job: G005862/JPL Groundwater Monitoring

Client's COC #: 29191

PO: 218013

San Diego, CA 92101

BMI10110406-01A MW-24-5 Sample ID BMI10110406-06A BMI10110406-05A MW-24-1 BMI10110406-04A BMI10110406-08A TB-11-11/03/10 BMI10110406-07A BMI10110406-03A MW-24-3 BMI10110406-02A DUPE-06-4Q10 MW-24-2 EB-11-11/03/10 MW-24-4 Sample ID Client à ğ Matrix Date å å ద్ద AQ 11/03/10 08:43 å Š 11/03/10 10:30 11/03/10 07:00 11/03/10 00:00 11/03/10 09:18 11/03/10 10:07 11/03/10 09:46 Collection No. of Bottles 11/03/10 Alpha Ġ G S Ŋ G S Ŋ Sub 0 0 0 0 0 0 0 ΤAΤ ဖ 9 9 9 ဖ 9 ဖ 9 NO2, NO3, Perchlorate SO4, PO4, Cl 300_0_W Perchlorate Perchlorate Perchlorate Perchlorate 314_W Perchlorate Perchlorate METALS_D VOC_TIC_ Ω Ç Ç Ç Ţ, Ç Ç VOC by 524 VOC by 524 Criteria Criteria Requested Tests VOC_W Reno Trip Blank 8/12/10 Sample Remarks Level IV QC

Comments: Security seals intact. Frozen ice. Temp Blank #8529 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

	Logged in by:	
V 7-10-10-10-10-10-10-10-10-10-10-10-10-10-	("lmpa,buth	Signat
(() de se	ure
	Elizabuth	Pri
	Hdcox	Print Name
	Alpha Analytical, Inc.	Company
	11-4-10 140+	Date/Time

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

3illing Information: lame <u>(プロペル) アペタイパン/ Ban 16</u> 2LE		Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	mples Collected	Which State? 29191
ss SOS KING QUES tate, Zip QOCLAN BYS, OH Number Fax			Analyses Required	Page # / _ of _
Client Name Client Name Client Name Client Name	P.O.# 2/18013 Job#	# (2055)	2	Required QC Level:
(2)	EMail Address	0.00	37.70	/
1 1	Phone #(6/9) 7-76-731/ Fax #	#	Q	EDD / EDF? YESNO_
Matrix* Sample		Total and type of	The Control of the Co	Global ID #
Below	Sample Description	TAT Filtered ** See below	M CONTE	REMARKS
101040, 1010400, 1010400, 101040, 101040, 101040, 101040, 101040, 101040, 101040, 1010	MW-24-5	30,20	×××	
	AN-24-WM		X	
<i>944</i> .	MW-24-3	~	×	OR LEVEL III
10	MW-24-2		XX	
030	MW-24-1		X X X	
1 06	DUDE - B - 30M	•	XXX	DAPLICATE
1021	ers-11 -11 /03 /10	34,20	XXX	FOMPMENT BLANK
0700 1/8/1/9 AR OF	B773-11-11/03/10	-\(\cdot\)		TRIP BLANK
ADDITIONAL INSTRUCTIONS:				
Relinquished W		١	. 9	, lie
Received by	And Awaren	, 0		11/2/10/10
Relinquished by) }	W	11/3/10 (200
Received by Complex Control Co	Elizabeth Ada	tox	Wha	11/4/10 1404
Received by				
Kev: AQ - Aqueous SO - Soil WA - Waste	te OT - Other AR - Air **. I -I iter	er V-Voa S-Soil.lar	O-Orbo T-Tedlar R-B	R-Rrass P-Plastic OT-Other

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.

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



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

Date 10-Nov-10

David Conner Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101 (619) 726-7311

Suite 1420

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10110503

Cooler Temp:

3 °C

Alpha's Sample ID	Client's Sample ID	Matrix
10110503-01A	MW-23-5	Aqueous
10110503-02A	MW-23-4	Aqueous
10110503-03A	MW-23-3	Aqueous
10110503-04A	MW-23-2	Aqueous
10110503-05A	MW-23-1	Aqueous
10110503-06A	DUPE-07-4O10	Aqueous
10110503-07A	EB-12-11/04/10	Aqueous
10110503-08A	TB-12-11/04/10	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulner

Walter Sterihour



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 11/05/10

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-23-5 Lab ID: BMI10110503-01A Date Sampled 11/04/10 08:23	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 18:15
Client ID: MW-23-4 Lab ID: BMI10110503-02A Date Sampled 11/04/10 08:45	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 19:10
Client ID: MW-23-3 Lab ID: BMI10110503-03A Date Sampled 11/04/10 09:04	Perchlorate	2.19	1.00 µg/L	11/09/10 12:42	11/09/10 19:29
Client ID: MW-23-2 Lab ID: BMI10110503-04A Date Sampled 11/04/10 09:26	Perchlorate	4.40	1.00 µg/L	11/09/10 12:42	11/09/10 19:47
Client ID: MW-23-1 Lab ID: BMI10110503-05A Date Sampled 11/04/10 09:58	Perchlorate	30.4	1.00 µg/L	11/09/10 12:42	11/09/10 20:06
Client ID: DUPE-07-4Q10 Lab ID: BMI10110503-06A Date Sampled 11/04/10 00:00	Perchlorate	29.9	1.00 µg/L	11/09/10 12:42	11/09/10 20:24
Client ID: EB-12-11/04/10 Lab ID: BMI10110503-07A Date Sampled 11/04/10 09:44	Perchlorate	ND	1.00 µg/L	11/09/10 12:42	11/09/10 20:42

ND = Not Detected

Roger Scholl Kandy Sadur

Walter Hirkory

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Date Received: 11/05/10

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		El A Metrod 200.8			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-23-5 Lab ID: BMI10110503-01A Date Sampled 11/04/10 08:23	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 20:43
Client ID: MW-23-4 Lab ID: BMI10110503-02A Date Sampled 11/04/10 08:45	Chromium (Cr)	ND .	0.0050 mg/L	11/05/10 16:28	11/05/10 20:49
Client ID: MW-23-3 Lab ID: BMI10110503-03A Date Sampled 11/04/10 09:04	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 20:55
Client ID: MW-23-2 Lab ID: BMI10110503-04A Date Sampled 11/04/10 09:26	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 21:00
Client ID: MW-23-1 Lab ID: BMI10110503-05A Date Sampled 11/04/10 09:58	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 21:06
Client ID: DUPE-07-4Q10 Lab ID: BMI10110503-06A Date Sampled 11/04/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 21:11
Client ID: EB-12-11/04/10 Lab ID: BMI10110503-07A Date Sampled 11/04/10 09:44	Chromium (Cr)	ND	0.0050 mg/L	11/05/10 16:28	11/05/10 21:17

ND = Not Detected

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

 $Sacramento, CA \bullet (916)\ 366-9089 \ /\ Las\ Vegas, NV \bullet (702)\ 736-7522 \ /\ Carson, CA \bullet (714)\ 386-2901 \ /\ info@alpha-analytical.com$

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (619) 726-7311 (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

	<u> </u>	11.1	Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID: MW-23-5 Lab ID: BMI10110503-01A Date Received: 11/05/10 Date Sampled: 11/04/10 08:23	*** None Found ***	ND	2.0 μg/L	11/09/10 20:05	11/09/10 20:05
Client ID: MW-23-4 Lab ID: BMI10110503-02A Date Received: 11/05/10 Date Sampled: 11/04/10 08:45	*** None Found ***	ND	2.0 μg/L	11/09/10 20:26	11/09/10 20:26
Client ID: MW-23-3 Lab ID: BMI10110503-03A Date Received: 11/05/10 Date Sampled: 11/04/10 09:04	*** None Found ***	ND	2.0 μg/L	11/09/10 20:48	11/09/10 20:48
Client ID: MW-23-2 Lab ID: BMI10110503-04A Date Received: 11/05/10 Date Sampled: 11/04/10 09:26	*** None Found ***	ND	2.0 μg/L	11/09/10 21:10	11/09/10 21:10
Client ID: MW-23-1 Lab ID: BMI10110503-05A Date Received: 11/05/10 Date Sampled: 11/04/10 09:58	*** None Found ***	ND	2.0 μg/L	11/09/10 21:31	11/09/10 21:31
Client ID : DUPE-07-4Q10 Lab ID : BMI10110503-06A Date Received : 11/05/10 Date Sampled : 11/04/10 00:00	*** None Found ***	ND	2.0 μg/L	11/09/10 21:53	11/09/10 21:53
Client ID : EB-12-11/04/10 Lab ID : BMI10110503-07A Date Received : 11/05/10 Date Sampled : 11/04/10 09:44	*** None Found ***	ND	2.0 μg/L	11/09/10 19:43	11/09/10 19:43
Client ID : TB-12-11/04/10 Lab ID : BMI10110503-08A Date Received : 11/05/10 Date Sampled : 11/04/10 07:00	* * * None Found * * *	ND	2.0 μg/L	11/09/10 19:21	11/09/10 19:21



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Kan

Walter Airchner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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11/17/10

Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110503-01A

Client I.D. Number: MW-23-5

David Conner Attn: Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/04/10 08:23

Received: 11/05/10

Extracted: 11/09/10 20:05 Analyzed: 11/09/10 20:05

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	ound Concentration			Reporting Limit		Compound	Concentration	R	eporting Li	mit
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	Isopropyibenzene	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 (DBCI	P) 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	j	0.50	μg/L	61	Naphthalene	ND	QJ	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	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			•			

µg/L

μg/L

0.50

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

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

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Report Date

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



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ANALYTICAL REPORT

Phone: (619) 726-7311

Attn:

Fax:

David Conner

(614) 458-6641

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110503-02A

Client I.D. Number: MW-23-4

Sampled: 11/04/10 08:45

Received: 11/05/10

Extracted: 11/09/10 20:26 Analyzed: 11/09/10 20:26

Volatile Organics by GC/MS EPA Method SW8260B

Compound		Concentration	Reporting Limit			Compound Cond		Concentration	R	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyitoluene	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 (DBCI	P) 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	Q	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	105		(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					/	
					·						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulmen

Walter Findens

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

μg/L

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.

11/17/10

Report Date

Page 1 of 1



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

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110503-03A

Client I.D. Number: MW-23-3

Sampled: 11/04/10 09:04

Received: 11/05/10

Extracted: 11/09/10 20:48 Analyzed: 11/09/10 20:48

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	R	eporting L	imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	µg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	1.0	μg/L
27	4-Methyi-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	104		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L			,		, ,	
02	1,5-Dicilioroproparie	ND		0.50	µg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Salan

Walter Hinkow

toger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

0.50

1.0

μg/L

μg/L

μg/L

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.

11/17/10

Report Date

Page 1 of 1



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

Client I.D. Number: MW-23-2

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110503-04A

Attn:

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Sampled: 11/04/10 09:26

Received: 11/05/10

Extracted: 11/09/10 21:10 Analyzed: 11/09/10 21:10

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		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	0.61		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 (DBCI	P) 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	Q	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	107		(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	101		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L	. •				, -/	
33	Dibromochloromethane	ND		0.50	μg/L						
0.4	4.0 Dileman (EDD)				·						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger Scholl Kandy Saulur

Walter Hinkow

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

11/17/10

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

µg/L

μg/L

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110503-05A

Client I.D. Number: MW-23-1

David Conner Attn: Phone: (619) 726-7311

(614) 458-6641 Fax:

Sampled: 11/04/10 09:58

Received: 11/05/10

Extracted: 11/09/10 21:31 Analyzed: 11/09/10 21:31

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting Limit			Compound		Concentration	Reporting Limit		imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	µg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoiuene	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 (DBCI	P) 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	Q	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	104		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L			1		(· · · · · · · · · · · · · · · · · · ·	
		1									

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

µg/L

1.0

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.

11/17/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn:

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110503-06A

Client I.D. Number: DUPE-07-4Q10

Sampled: 11/04/10 00:00

Received: 11/05/10

Extracted: 11/09/10 21:53 Analyzed: 11/09/10 21:53

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting Limit		Compound Co		Concentration	R	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 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 (DBCI	P) 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	Q	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	103		(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98		(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L						

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/10 **Report Date**

0.50

1.0

0.50

μg/L

μg/L

µg/L



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

655 West Broadway San Diego, CA 92101

ob: G005862/JPL Groundwater Monitoring

Attn: D
Phone: (6

David Conner e: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110503-07A

Client I.D. Number: EB-12-11/04/10

Sampled: 11/04/10 09:44

Received: 11/05/10 Extracted: 11/09/10 19:43

Analyzed: 11/09/10 19:43

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration		Reporting	Limit		Compound	Concentration	R	eporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	μg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND		0.50	µg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	μg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND		0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	µg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	µg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	: ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	Q	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	105		(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						

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

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Santur

Walter Stinkner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

0.50

μg/L

µg/L

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.

11/17/10 Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110503-08A

Client I.D. Number: TB-12-11/04/10

David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 11/04/10 07:00

Received: 11/05/10 Extracted: 11/09/10 19:21

Analyzed: 11/09/10 19:21

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting Limit			mit Compound		Concentration	Reporting Limit		imit
1	Dichlorodifluoromethane	ND		0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND		0.50	μg/L
2	Chloromethane	ND	Q	1.0	µg/L	37	Chlorobenzene	ND		0.50	μg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND		0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND		0.50	µg/L
5	Bromomethane	ND	Q	1.0	μg/L	40	Bromoform	ND		0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND		0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND		0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND		0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND		1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND		0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND		0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND		0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND		0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND		0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND		0.50	µg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND		0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND		0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND		0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND		0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	. ND		0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND		0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND		0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND		0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) 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	Q	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	105		(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						

μg/L

μg/L

1.0

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

ND

ND

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Koger Scholl

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/10 Report Date

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



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VOC Sample Preservation Report

Work Order: BMI10110503 Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН
10110503-01A	MW-23-5	Aqueous	2
10110503-02A	MW-23-4	Aqueous	2
10110503-03A	MW-23-3	Aqueous	2
10110503-04A	MW-23-2	Aqueous	2
10110503-05A	MW-23-1	Aqueous	2
10110503-06A	DUPE-07-4Q10	Aqueous	2
10110503-07A	EB-12-11/04/10	Aqueous	2
10110503-08A	TB-12-11/04/10	Aqueous	2



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Date: 16-Nov-10		QC Summary Report								Work Order: 10110503	
Method Blan	nk		Type: N		est Code: El atch ID: 254		thod 314.0	Analysis Date	: 11/09/2010 13:39		
Sample ID:	MB-25439	Units : µg/L		Run ID: IC	_3_101109/	4		Prep Date:	11/09/2010 12:42		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual	
Perchlorate		ND		1							
Laboratory	Fortified Blank		Type: L	.FB T	est Code: El	PA Me	thod 314.0				
File ID: 15				В	atch ID: 254	39		Analysis Date	: 11/09/2010 13:58		
Sample ID:	LFB-25439	Units : µg/L		Run ID: IC	_3_101109/	4		Prep Date:	11/09/2010 12:42		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual	
Perchlorate		22.9	2	2 25		91	85	115			
Sample Mat	rix Spike		Type: L	.FM T	est Code: El	PA Met	thod 314.0				
File ID: 30				В	atch ID: 254	39		Analysis Date	: 11/09/2010 18:34		
Sample ID:	10110503-01ALFM	Units : μg/L		Run ID: IC	_3_101109	١.		Prep Date:	11/09/2010 12:42		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual	
Perchlorate		26.4	2	2 25	2.319	96	80	120			
Sample Mat	rix Spike Duplicate		Туре: L	FMD T	est Code: El	A Me	thod 314.0				
File ID: 31				В	atch ID: 254 :	39		Analysis Date	: 11/09/2010 18:52		
Sample ID:	10110503-01ALFMD	Units : µg/L		Run ID: IC	_3_101109	\		Prep Date:	11/09/2010 12:42		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual	
Perchlorate		28.7	2	2 25	2.319	106	80	120 26.			

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: 15-Nov-10	QC Summary Report	Work Order: 10110503
Method Blank File ID: 110510.B\018_M.D\	Type MBLK Test Code: EPA Method 200.8 Batch ID: 25419 Analysis Date: 1	11/05/2010 18:35
Sample ID: MB-25419	Units: mg/L Run ID: ICP/MS_101105D Prep Date: 1	11/05/2010 16:28
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVa	al %RPD(Limit) Qual
Chromium (Cr)	ND 0.005	
Laboratory Control Spike	Type LCS Test Code: EPA Method 200.8	
File ID: 110510.B\019_M.D\	Batch ID: 25419 Analysis Date: 1	11/05/2010 18:41
Sample ID: LCS-25419	Units: mg/L Run ID: ICP/MS_101105D Prep Date: 1	11/05/2010 16:28
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVa	al %RPD(Limit) Qual
Chromium (Cr)	0.0493 0.005 0.05 99 85 115	
Sample Matrix Spike	Type MS Test Code: EPA Method 200.8	
File ID: 110510.B\024_M.D\	Batch ID: 25419 Analysis Date: 1	11/05/2010 19:08
Sample ID: 10110406-03AMS	Units: mg/L Run ID: ICP/MS_101105D Prep Date: 1	11/05/2010 16:28
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVa	al %RPD(Limit) Qual
Chromium (Cr)	0.0445 0.005 0.05 0 89 70 130	
Sample Matrix Spike Duplicate	Type MSD Test Code: EPA Method 200.8	
File ID: 110510.B\025_M.D\	Batch ID: 25419 Analysis Date: 1	11/05/2010 19:14
Sample ID: 10110406-03AMSD	Units: mg/L Run ID: ICP/MS_101105D Prep Date: 1	11/05/2010 16:28
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal	al %RPD(Limit) Qual
Chromium (Cr)	0.043 0.005 0.05 0 86 70 130 0.04448	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.



10-Nov-10		(Work Order: 10110503					
Method Bla	nk		Type N	IBLK	Test Code: EPA Met	hod SW82	60B		
File ID: 10110	0912.D				Batch ID: MS15W110	9M	Analysis Date:	11/09/2010 17:10	
Sample ID:	MBLK MS15W1109M	Units : µg/L		Run ID	: MSD_15_101109B		Prep Date:	11/09/2010 17:10	
Analyte		Result	PQL		Val SpkRefVal %REC	LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qua
Dichlorodifluo	romethane	ND	0.5				<u> </u>		
Chloromethar		ND	0.0	•					
Vinyl chloride		ND	0.5	;					
Chloroethane		ND	0.5						
Bromomethar	ne	ND	1						
Trichlorofluore		ND	0.5						
1,1-Dichloroe		ND	0.5						
Dichlorometh	ane	ND	1						
Freon-113 trans-1,2-Dich	aloroothono	ND ND	0.5						
	ityl ether (MTBE)	ND	0.5 0.5						
1,1-Dichloroe		ND	0.5						
2-Butanone (I		ND	10						
cis-1,2-Dichlo		ND	0.5						
Bromochloror		ND	0.5						
Chloroform		ND	0.5						
2,2-Dichlorop		ND	0.5						
1,2-Dichloroe		ND	0.5						
1,1,1-Trichlore		ND ND	0.5						
1,1-Dichlorop		ND ND	0.5						
Benzene	riionde	ND ND	0.5 0.5						
Dibromometh	ane	ND	0.5						
1,2-Dichlorop		ND	0.5						
Trichloroether		ND	0.5						
Bromodichlore	omethane	ND	0.5						
4-Methyl-2-pe	entanone (MIBK)	ND	2.5	i					
cis-1,3-Dichlo		ND	0.5						
trans-1,3-Dich		ND	0.5						
1,1,2-Trichlor	oethane	ND	0.5						
Toluene 1,3-Dichlorop	ronana	ND ND	0.5 0.5						
Dibromochlor		ND	0.5						
1,2-Dibromoe		ND	0.0						
Tetrachloroet		ND	0.5						
1,1,1,2-Tetrac	chloroethane	ND	0.5						
Chlorobenzer		ND	0.5	5					
Ethylbenzene	•	ND	0.5						
m,p-Xylene		ND	0.5						
Bromoform		ND	0.5						
Styrene		ND ND	0.5						
o-Xylene 1,1,2,2-Tetrac	chloroethane	ND ND	0.5 0.5						
1,1,2,2-1ellac		ND ND	0.0						
Isopropylbenz	•	ND	0.5						
Bromobenzer		ND	0.5						
n-Propylbenze		ND	0.5						
4-Chlorotolue	ne	ND	0.5	;					
2-Chlorotolue		ND	0.5						
1,3,5-Trimeth		ND	0.5						
tert-Butylbenz		ND	0.5						
1,2,4-Trimethy sec-Butylbenz		ND ND	0.5						
1,3-Dichlorob		ND ND	0.5 0.5						
1,4-Dichlorob		ND ND	0.5						
4-Isopropyltol		ND	0.5						
1,2-Dichlorob		ND	0.5						
n-Butylbenzer		ND	0.5						
1,2-Dibromo-3	3-chloropropane (DBCP)	ND	2.5						
1,2,4-Trichlore	obenzene	ND	1						
Naphthalene	4	ND	1						
Hexachlorobu		ND	1						
1,2,3-Trichlor	obenzene iloroethane-d4	ND	1		40 400	70	130		
	IIOTOHINANA-NA	10.6			10 106	70	7:2(1		



Date: 10-Nov-10	QC	Work Order: 10110503				
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130	



Date:

Alpha Analytical, Inc.

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

Work Order:

QC Summary Report 10-Nov-10 Type LCS Test Code: EPA Method SW8260B Laboratory Control Spike File ID: 10110908.D Batch ID: MS15W1109M Analysis Date: 11/09/2010 15:34 Sample ID: LCS MS15W1109M Units: µg/L Run ID: MSD_15_101109B Prep Date: 11/09/2010 15:34 SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Qual Result **PQL** Dichlorodifluoromethane 7.36 L50 Chloromethane 70(70) 5.13 Vinyl chloride 9.66 Chloroethane 10.2 L50 Bromomethane 4.19 70(70) Trichlorofluoromethane 10.3 1,1-Dichloroethene 10.2 Dichloromethane 9.08 Freon-113 10.8 trans-1,2-Dichloroethene 10.2 Methyl tert-butyl ether (MTBE) 8.76 0.5 1,1-Dichloroethane 9.94 2-Butanone (MEK) cis-1,2-Dichloroethene 9.87 Bromochloromethane 9.4 Chloroform 9.97 99.7 2,2-Dichloropropane 9.78 1,2-Dichloroethane 9.82 1.1.1-Trichloroethane 1,1-Dichloropropene 10.6 Carbon tetrachloride 9.93 Benzene 9.88 0.5 Dibromomethane 9.25 1,2-Dichloropropane 9.68 Trichloroethene 10.1 Bromodichloromethane 10.4 4-Methyl-2-pentanone (MIBK) 21.7 2.5 cis-1,3-Dichloropropene 9.32 trans-1,3-Dichloropropene 8.38 1,1,2-Trichloroethane 9.08 Toluene 9.68 0.5 1.3-Dichloropropane 9.13 Dibromochloromethane 8 94 1,2-Dibromoethane (EDB) 18.3 Tetrachloroethene 10.2 1,1,1,2-Tetrachloroethane 10.1 Chlorobenzene 9.96 99.6 Ethylbenzene 10.1 0.5 m,p-Xylene 9.96 99.6 0.5 Bromoform 8.08 Styrene 9.77 o-Xylene 9.84 1,1,2,2-Tetrachloroethane 8.44 1,2,3-Trichloropropane 17.9 Isopropylbenzene Bromobenzene 10.1 n-Propylbenzene 10.5 4-Chlorotoluene 10.1 2-Chlorotoluene 1,3,5-Trimethylbenzene 10.3 tert-Butylbenzene 9.82 1,2,4-Trimethylbenzene 10.2 sec-Butylbenzene 10.4 1,3-Dichlorobenzene 10.2 1,4-Dichlorobenzene 9.56 4-Isopropyltoluene 10.1 1,2-Dichlorobenzene 9.37 n-Butylbenzene 10.4 1,2-Dibromo-3-chloropropane (DBCP) 42.3 1,2,4-Trichlorobenzene 7.81 Naphthalene 4.64 70(70) L50 Hexachlorobutadiene 17.9 1.2.3-Trichlorobenzene 7.25 Surr: 1,2-Dichloroethane-d4 9.97 99.7



Date: 10-Nov-10	QC Summary Report							
Surr: Toluene-d8	9.78	10	98	70	130			
Surr: 4-Bromofluorobenzene	9.78	10	98	70	130			



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Date:
10-Nov-10QC Summary ReportWork Order:
10110503

File ID: 10110913_D Sample ID: 10110930-01AMS	040 47 00
Analyte Result PQL SpkVal SpkXelVal %REC LCL(ME) UCL(ME) RPDRetVal %RED Lch(Me) UCL(
Dichlorodifluoromethane	010 17:32
Chloromethane	D(Limit) Q
Vinyl chloride	
Chioroethane	
Bromomethane	
Trichlorofluoromethane 1.1-Dichloromethene 4.8.3 2.5 50 0 97 60 130 Dichloromethane 4.3.5 10 50 0 87 68 130 Frenr-113 5.3.7 2.5 50 0 107 49 141 Trans-1.2-Dichloromethane 4.4.4 2.5 50 0 107 49 141 Trans-1.2-Dichloromethane 4.4.4 2.5 50 0 97 63 130 Methyl terl-butyl ether (MTBE) 4.7.7 1.3 50 0 95 56 141 1.1-Dichloromethane 4.7.9 2.5 50 0 96 61 130 2-Bulanone (MEK) 7.38 50 1000 0 74 20 182 2-Bulanone (MEK) 7.38 50 1000 0 74 20 182 2-Bulanone (MEK) 7.38 50 1000 0 74 20 182 2-Bulanone (MEK) 7.38 50 1000 0 74 20 182 2-Bulanone (MEK) 7.38 50 1000 0 77 10 130 Promochloromethane 4.7.1 2.5 50 0 94 77 130 Promochloromethane 4.7.1 2.5 50 0 94 67 130 2-2-Dichloropropane 4.2.8 2.5 50 0 94 67 130 2-2-Dichloropropane 4.2.8 2.5 50 0 99 60 135 1.1-1-Trichloroethane 4.8.5 2.5 50 0 99 60 135 1.1-1-Trichloroethane 4.8.6 2.5 50 0 99 60 135 1.1-1-Trichloropropane 4.8.8 2.5 50 0 99 60 135 1.1-1-Trichloropropane 4.8.8 2.5 50 0 99 60 135 1.1-1-Trichloropropane 4.8.1 2.5 50 0 99 60 135 1.1-1-Trichloropropane 4.8.2 2.5 50 0 99 60 130 1.1-1-Trichloropropane 4.8.3 2.5 50 0 99 60 130 1.1-1-Trichloropropane 4.8.4 2.5 50 0 99 80 130 1.1-1-Trichloropropane 4.8.5 2.5 50 0 99 80 130 1.1-1-Trichloropropane 4.8.6 2.5 50 0 99 80 130 1.1-1-Trichloropropane 4.8.1 2.5 50 0 99 80 130 1.1-1-Trichloropropane 4.6 1.3 50 0 95 67 130 1.1-1-Trichloropropane 4.6 1.3 50 0 94 68 131 1.1-1-Trichloropropane 4.6 1.3 50 0 95 67 130 1.1-1-Trichloropropane 4.6 1 0 0 0 0 0 0 0 0 0 0	
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m,p-Xylene 48.2 1.3 50 0 96 64 130 Bromoform 42.9 2.5 50 0 86 64 138 Styrene 48 2.5 50 0 96 69 130 o-Xylene 47 1.3 50 0 94 70 130 1,1,2,2-Tetrachloroethane 44.8 2.5 50 0 90 65 131 1,2,3-Trichloropropane 93.5 10 100 0 94 70 130 Isopropylbenzene 44.6 2.5 50 0 89 64 138 Bromobenzene 46.5 2.5 50 0 93 70 130 n-Propylbenzene 46.5 2.5 50 0 93 70 130 n-Propylbenzene 45.5 2.5 50 0 91 70 130 2-Chlorotoluene 45.5 2.5 50 0 91 70 130 1,3,5-Trimethylbenzene 46.1 2.5	
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Styrene 48 2.5 50 0 96 69 130 o-Xylene 47 1.3 50 0 94 70 130 1,1,2,2-Tetrachloroethane 44.8 2.5 50 0 90 65 131 1,2,3-Trichloropropane 93.5 10 100 0 94 70 130 Isopropylbenzene 44.6 2.5 50 0 89 64 138 Bromobenzene 46.5 2.5 50 0 93 70 130 n-Propylbenzene 46.5 2.5 50 0 93 66 132 4-Chlorotoluene 45.5 2.5 50 0 91 70 130 2-Chlorotoluene 45.7 2.5 50 0 91 70 130 1,3,5-Trimethylbenzene 46.1 2.5 50 0 92 66 136 tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47<	
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1,1,2,2-Tetrachloroethane 44.8 2.5 50 0 90 65 131 1,2,3-Trichloropropane 93.5 10 100 0 94 70 130 Isopropylbenzene 44.6 2.5 50 0 89 64 138 Bromobenzene 46.5 2.5 50 0 93 70 130 n-Propylbenzene 46.5 2.5 50 0 93 66 132 4-Chlorotoluene 45.5 2.5 50 0 91 70 130 2-Chlorotoluene 45.7 2.5 50 0 91 70 130 1,3,5-Trimethylbenzene 46.1 2.5 50 0 92 66 136 tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47 2.5 50 0 94 65 137	
Isopropylbenzene	
Bromobenzene 46.5 2.5 50 0 93 70 130 n-Propylbenzene 46.5 2.5 50 0 93 66 132 4-Chlorotoluene 45.5 2.5 50 0 91 70 130 2-Chlorotoluene 45.7 2.5 50 0 91 70 130 1,3,5-Trimethylbenzene 46.1 2.5 50 0 92 66 136 tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47 2.5 50 0 94 65 137	
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2-Chlorotoluene 45.7 2.5 50 0 91 70 130 1,3,5-Trimethylbenzene 46.1 2.5 50 0 92 66 136 tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47 2.5 50 0 94 65 137	
1,3,5-Trimethylbenzene 46.1 2.5 50 0 92 66 136 tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47 2.5 50 0 94 65 137	
tert-Butylbenzene 44.3 2.5 50 0 89 65 137 1,2,4-Trimethylbenzene 47 2.5 50 0 94 65 137	
sec-Butylbenzene 46.2 2.5 50 0 92 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 45.2 2.5 50 0 90 66 137	
4-Isopropyltoluene 45.2 2.5 50 0 90 66 137 1,2-Dichlorobenzene 43.8 2.5 50 0 88 70 130	
n-Butylbenzene 46.8 2.5 50 0 94 60 142	
1,2-Dibromo-3-chloropropane (DBCP) 210 15 250 0 84 67 130	
1,2,4-Trichlorobenzene 37.8 10 50 0 76 61 137	
Naphthalene 22.3 10 50 0 45 40 167	
Hexachlorobutadiene 83.7 10 100 0 84 61 130	
1,2,3-Trichlorobenzene 35.6 10 50 0 71 51 144	
Surr: 1,2-Dichloroethane-d4 52.1 50 104 70 130 Surr: Toluene-d8 48.6 50 97 70 130	



Date: 10-Nov-10	QC	Work Order: 10110503				
Surr: 4-Bromofluorobenzene	47.1	50	94	70	130	



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Work Order:

Date: QC Summary Report 10110503 10-Nov-10 Type MSD Test Code: EPA Method SW8260B Sample Matrix Spike Duplicate Analysis Date: 11/09/2010 17:54 File ID: 10110914.D Batch ID: MS15W1109M Prep Date: 11/09/2010 17:54 Sample ID: 10110503-01AMSD Units: µg/L Run ID: MSD_15_101109B SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result **PQL** Qual Dichlorodifluoromethane 84 13 167 15.4(20) 41.9 2.5 50 0 21.06 2.3(20)Chloromethane 20.6 10 50 0 41 28 145 15.4(20) Vinyl chloride 2.5 50 0 125 43 134 53.68 62.7 Chloroethane 39 49.5 16.6(20) 58.4 2.5 50 0 117 154 **R58** Bromomethane 27.4 10 50 0 55 19 176 17.34 45.1(20) 51.64 Trichlorofluoromethane 60.1 2.5 50 0 120 34 160 15.1(20) 48.25 15.9(20) 60 1,1-Dichloroethene 56.6 2.5 50 0 113 130 Dichloromethane 50.3 10 0 101 68 130 43.51 14.5(20) 50 Freon-113 62.3 2.5 50 0 125 49 141 53.69 14.9(20) 48.35 15.2(20) trans-1,2-Dichloroethene 63 130 56.3 2.5 50 0 113 47.74 12.7(20) Methyl tert-butyl ether (MTBE) 0 108 56 141 54.2 1.3 50 47.92 14.6(20) 1,1-Dichloroethane 55.5 2.5 50 0 61 130 737.8 13.2(20) 2-Butanone (MEK) 842 50 1000 0 84 20 182 48.35 11.9(20) cis-1,2-Dichloroethene 54.5 2.5 0 109 70 130 50 Bromochloromethane 55.6 2.5 50 0 111 70 130 47.08 16.7(20) Chloroform 47.2 15.3(20) 50 0 110 67 130 55 2.5 2,2-Dichloropropane 42.81 17.8(20) 51.2 2.5 50 0 102 30 152 60 49.45 14.1(20) 1,2-Dichloroethane 57 2.5 50 0 114 135 1.1.1-Trichloroethane 57.4 137 48.52 16.7(20) 2.5 0 115 59 50 1,1-Dichloropropene 63 130 49.5 17.7(20) 59.1 2.5 50 0 118 Carbon tetrachloride 48.21 19.9(20) 58.9 2.5 50 0 118 50 147 14.9(20) Benzene 55.2 1.3 50 0 110 67 130 47.58 47.99 13.3(20) Dibromomethane 2.5 0 69 133 54.9 50 110 1.2-Dichloropropane 54.8 2.5 0 110 69 130 46.48 16.4(20) 50 47.14 17.9(20) Trichloroethene 56.4 2.5 50 0 113 69 130 Bromodichloromethane 50.74 17.0(20) 60.2 2.5 50 0 120 66 134 4-Methyl-2-pentanone (MIBK) 0 101 20 182 111.7 12.4(20) 13 125 126 cis-1,3-Dichloropropene 0 104 63 130 44.33 16.2(20) 2.5 50 15.8(20) 41.81 trans-1,3-Dichloropropene 49 2.5 50 O 98 66 131 11.8(20) 1,1,2-Trichloroethane 53.1 2.5 0 106 68 130 47.21 50 11.9(20) Toluene 52.6 1.3 50 0 105 66 130 46.67 47.31 12.2(20) 1,3-Dichloropropane 2.5 50 0 107 70 130 53.4 Dibromochloromethane 53.2 2.5 50 0 106 70 130 44.88 16.9(20) 93.96 13.4(20) 1,2-Dibromoethane (EDB) 107 100 0 107 70 130 5 Tetrachloroethene 2.5 61 134 47.03 16.0(20) 55.2 0 110 50 1,1,1,2-Tetrachloroethane 57.2 2.5 50 0 114 70 130 48.3 16.8(20) 70 46.9 15.2(20) Chlorobenzene 54.6 2.5 50 0 109 130 Ethylbenzene 112 68 130 48.39 14.6(20) 56 1.3 50 0 m,p-Xylene 54.7 0 64 48.15 12.8(20) 1.3 50 109 130 **Bromoform** 51.2 2.5 50 0 102 64 138 42.9 17.6(20) 47.98 14.0(20) Styrene 0 110 69 130 55.2 2.5 50 o-Xylene 1.3 0 107 70 130 47 12.8(20) 50 1,1,2,2-Tetrachloroethane 44.77 10.0(20) 0 99 65 49.5 2.5 50 131 1,2,3-Trichloropropane 93.5 10.1(20) 103 10 100 0 103 70 130 44.6 Isopropylbenzene 16.9(20) 52.8 2.5 50 0 106 64 138 Bromobenzene 70 130 46.51 16.0(20) 54.6 2.5 0 109 50 n-Propylbenzene 66 132 46.52 18.0(20) 55.7 2.5 50 0 111 4-Chlorotoluene 54.1 2.5 50 0 108 70 130 45.45 17.3(20) 2-Chlorotoluene 54.1 2.5 50 0 108 70 130 45.65 17.0(20) 1,3,5-Trimethylbenzene 0 109 66 136 46.14 17.0(20) 54.7 2.5 50 tert-Butylbenzene 53.2 2.5 65 137 44.28 18.2(20) 50 0 106 1,2,4-Trimethylbenzene 54.4 2.5 50 0 109 65 137 47 14.5(20) sec-Butylbenzene 46.18 54.4 2.5 0 109 66 134 16.4(20) 50 1,3-Dichlorobenzene 46.74 17.3(20) 2.5 50 0 70 130 55.6 111 1,4-Dichlorobenzene 44.19 16.4(20) 52.1 2.5 50 0 104 70 130 18.5(20) 4-Isopropyltoluene 2.5 54.4 50 0 109 66 137 45.22 1,2-Dichlorobenzene 51.9 2.5 50 0 104 70 130 43.84 16.9(20) n-Butvlbenzene 56 2.5 50 0 112 60 142 46.84 17.7(20) 1,2-Dibromo-3-chloropropane (DBCP) 248 250 0 67 130 210.5 16.4(20) 15 99 1,2,4-Trichlorobenzene 45.8 10 50 0 92 61 137 37.79 19.1(20) Naphthalene **R58** 30.1 10 50 0 60 40 167 22.31 29.7(20) Hexachlorobutadiene 10 100 0 102 61 130 83.71 19.6(20) 102 1.2.3-Trichlorobenzene 35.55 19.0(20) 43 10 50 0 86 51 144 Surr: 1,2-Dichloroethane-d4 50.5 101 70 130 50



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Date: 10-Nov-10	QC	Summary Re	port			Work Order: 10110503
Surr: Toluene-d8 Surr: 4-Bromofluorobenzene	48.4 47.3	50 50	97 95	70 70	130 130	
Surr: 4-Bromonuorobenzene	47.3	50	90	70	150	

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.

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical,

Report Due By: 5:00 PM On: 18-Nov-2010

WorkOrder: BMIS10110503

Page: 1 of 1

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

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

Report Attention Phone Number (614) 424-4899 (619) 726-7311 x cutiee@batelle.org connerd@battelle.org EMail Address

Battelle Memorial Institute

655 West Broadway

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

EDD Required: Yes

Sampled by: Chase Brogdon

Cooler Temp Samples Received 05-Nov-2010 05-Nov-2010 Date Printed

QC Level: DS4 Client's COC #: 29190 DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

Alpha Sample ID BMI10110503-07A BMI10110503-06A BMI10110503-05A MW-23-1 BMI10110503-04A BMI10110503-03A MW-23-3 BMI10110503-02A MW-23-4 BMI10110503-01A MW-23-5 BMI10110503-08A TB-12-11/04/10 EB-12-11/04/10 DUPE-07-4Q10 MW-23-2 Client Sample ID Š å á Matrix Date å å Š Š å 11/04/10 07:00 11/04/10 08:23 11/04/10 08:45 11/04/10 09:44 11/04/10 00:00 11/04/10 09:04 Collection No. of Bottles 11/04/10 11/04/10 09:26 09:58 Alpha Ŋ G S G G G S Sub 0 0 0 0 0 0 0 0 TAT 9 9 9 9 9 9 9 9 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç ζ Ç Ç Ç Ç VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 8/12/10 Sample Remarks

Comments: Security seals intact. Frozen ice. Temp Blank #7197 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

Logged in by:	
Cempbeth	Sign
Collex	ature
Elizabeth	Print Name
n HdCox)
Alpha Analytical, Inc.	Company
11.5.10 1214	Date/Time

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

siling information: lame <u>くめいれた 70MPKIハシ/第477ほれら</u> odress ちのち KING・AIRE、		22 .? 	Samples Collected From Which State?
te, Z	Phone (775) 355-1044 Fax (775) 355-0406	-0406 / Table 10406	Analyses Required
Client Name BATTELLE / DAUD CONNET	P.O.# 218013 Job#	G005862	Required QC Level
010 Lan	! ≍	4.2	
	Phone #(6/9) 726 - 7311 Fax #		
Matrix* Sampled by See Key	l	Total and type of	Global ID #
sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Field "See below See below	REMARKS
22 1/4/2 AP BMI 1011050301	MW-23-5	$ 3y,2p \times x \times$	
	~		
	3 HW-23-3	××××	
10.	MW-23-2	×	
.05	MW-23-1	X	
*	Dupe- 07-4010	▼ × ×	2 DupHonte
D. O.	16B-12-11/04/10	3070 XXX	
THO 1/14/10 AQ - O	873-12-11/04/10	\ \ \	Trap Brank
ADDITIONAL INSTRUCTIONS:			
Signature	Print Name	Company	Date Time
Relinquished by	CHASE BROWN)	INSMET EEC THE	c 11/04/10 1130
Received by	Inthon that	Apple Anstru	11/1
Relinquished by		2	11/4/10
Received by Canada Stan Adcex Relinquished by	Elizabeth Adcox	Olpho	11/5/10 1214
Received by			

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.

*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

**: L-Liter

V-Voa

S-Soil Jar

0-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



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Date: 17-Nov-10 David Conner

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101 (619) 726-7311 **Suite 1420**

CASE NARRATIVE

Job:

G005862/JPL Groundwater Monitoring

Work Order:

BMI10110905

Cooler Temp:

4°C

Alpha's Sample ID	Client's Sample ID	Matrix	
10110905-01A	MW-26-2	Aqueous	
10110905-02A	MW-26-1	Aqueous	
10110905-03A	DUPE-08-4Q10	Aqueous	
10110905-04A	EB-13-11/05/10	Aqueous	
10110905-05A	TB-13-11/05/10	Aqueous	
10110905-06A	MW-25-5	Aqueous	
10110905-07A	MW-25-4	Aqueous	
10110905-08A	MW-25-3	Aqueous	
10110905-09A	MW-25-2	Aqueous	
10110905-10A	MW-25-1	Aqueous	
10110905-11A	MW-19-5	Aqueous	
10110905-12A	MW-19-4	Aqueous	
10110905-13A	MW-19-3	Aqueous	
10110905-14A	MW-19-2	Aqueous	
10110905-15A	MW-19-1	Aqueous	
10110905-16A	EB-14-11/08/10	Aqueous	
10110905-17A	TB-14-11/08/10	Aqueous	

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulmer

Walter Hinkman



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Attn:

David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/09/10

Job:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-26-2 Lab ID: BMI10110905-01A Date Sampled 11/05/10 08:31	Perchlorate	ND	1.00 μg/L	11/10/10 10:54	11/10/10 14:13
Client ID: MW-26-1 Lab ID: BMI10110905-02A Date Sampled 11/05/10 09:06	Perchlorate	2.97	1.00 μg/L	11/10/10 10:54	11/10/10 14:31
Client ID: DUPE-08-4Q10 Lab ID: BMI10110905-03A Date Sampled 11/05/10 00:00	Perchlorate	2.51	1.00 µg/L	11/10/10 10:54	11/10/10 14:50
Client ID: EB-13-11/05/10 Lab ID: BMI10110905-04A Date Sampled 11/05/10 08:51	Perchlorate	ND	1.00 µg/L	11/10/10 10:54	11/10/10 15:08
Client ID: MW-25-5 Lab ID: BMI10110905-06A Date Sampled 11/05/10 10:18	Perchlorate	ND	1.00 μg/L	11/10/10 10:54	11/10/10 15:27
Client ID: MW-25-4 Lab ID: BMI10110905-07A Date Sampled 11/05/10 10:56	Perchlorate	8.31	1.00 μg/L	11/10/10 10:54	11/10/10 15:45
Client ID: MW-25-3 Lab ID: BMI10110905-08A Date Sampled 11/05/10 11:18	Perchlorate	10.0	1.00 µg/L	11/10/10 10:54	11/10/10 16:41
Client ID: MW-25-2 Lab ID: BMI10110905-09A Date Sampled 11/05/10 11:37	Perchlorate	14.5	1.00 µg/L	11/10/10 10:54	11/10/10 16:59
Client ID: MW-25-1 Lab ID: BMI10110905-10A Date Sampled 11/05/10 11:59	Perchlorate	10.5	1.00 µg/L	11/10/10 10:54	11/10/10 17:17
Client ID: MW-19-5 Lab ID: BMI10110905-11A Date Sampled 11/08/10 08:57	Perchlorate	3.34	1.00 µg/L	11/10/10 10:54	11/10/10 18:13
Client ID: MW-19-4 Lab ID: BMI10110905-12A Date Sampled 11/08/10 09:19	Perchlorate	3.16	1.00 μg/L	11/10/10 10:54	11/10/10 18:31



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Client ID: MW-19-3 Lab ID: BMI10110905-13A Date Sampled 11/08/10 09:50	Perchlorate	3.61	1.00 µg/L	11/10/10 10:54 11	1/10/10 18:49
Client ID: MW-19-2 Lab ID: BMI10110905-14A Date Sampled 11/08/10 10:14	Perchlorate	5.98	1.00 μg/L	11/10/10 10:54 11	1/10/10 19:08
Client ID: MW-19-1 Lab ID: BMI10110905-15A Date Sampled 11/08/10 10:39	Perchlorate	8.97	1.00 μg/L	11/10/10 10:54 11	1/10/10 19:26
Client ID: EB-14-11/08/10 Lab ID: BMI1 0110905-16A Date Sampled 11/08/10 10:30	Perchlorate	ND	1.00 μg/L	11/10/10 10:54 11	1/10/10 19:45

ND = Not Detected

Roger Scholl Kandy Soulur

Walter Stirkner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn: I

David Conner

Phone:

(619) 726-7311

Fax:

(614) 458-6641

Date Received: 11/09/10

Job:

G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		EPA Method 200.8			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-26-2 Lab ID: BMI10110905-01A Date Sampled 11/05/10 08:31	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:26
Client ID: MW-26-1 Lab ID: BMI10110905-02A Date Sampled 11/05/10 09:06	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:31
Client ID: DUPE-08-4Q10 Lab ID: BMI10110905-03A Date Sampled 11/05/10 00:00	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:37
Client ID: EB-13-11/05/10 Lab ID: BMI10110905-04A Date Sampled 11/05/10 08:51	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:42
Client ID: MW-25-5 Lab ID: BMI10110905-06A Date Sampled 11/05/10 10:18	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:48
Client ID: MW-25-4 Lab ID: BMI10110905-07A Date Sampled 11/05/10 10:56	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 19:58
Client ID: MW-25-3 Lab ID: BMI10110905-08A Date Sampled 11/05/10 11:18	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:54
Client ID: MW-25-2 Lab ID: BMI10110905-09A Date Sampled 11/05/10 11:37	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 20:59
Client ID: MW-25-1 Lab ID: BMI10110905-10A Date Sampled 11/05/10 11:59	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:05
Client ID: MW-19-5 Lab ID: BMI10110905-11A Date Sampled 11/08/10 08:57	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:11
Client ID: MW-19-4 Lab ID: BMI10110905-12A Date Sampled 11/08/10 09:19	Chromium (Cr)	ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:38



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Client ID: MW-19-3 Lab ID: BMI10110905-13A Chromium (Control Control	r) ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:44
Client ID: MW-19-2 Lab ID: BMI10110905-14A Chromium (Control Control	r) ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:50
Client ID: MW-19-1 Lab ID: BMI10110905-15A Chromium (Control Control	r) ND	0.0050 mg/L	11/09/10 16:21	11/09/10 21:55
Client ID: EB-14-11/08/10 Lab ID: BMI10110905-16A Chromium (Client Sampled 11/08/10 10:30	r) ND	0.0050 mg/L	11/09/10 16:21	11/09/10 22:01

ND = Not Detected

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/22/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Job:

G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (619) 726-7311

(614) 458-6641 Fax:

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID: MW-26-2 Lab ID: BMI10110905-01A Date Received: 11/09/10 Date Sampled: 11/05/10 08:31	*** None Found ***	ND	2.0 μg/L	11/15/10 23:36	11/15/10 23:36
Client ID : MW-26-1 ab ID : BMI10110905-02A Date Received : 11/09/10 Date Sampled : 11/05/10 09:06	*** None Found ***	ND	2.0 μg/L	11/15/10 23:57	11/15/10 23:57
Client ID: DUPE-08-4Q10 Lab ID: BMI10110905-03A Date Received: 11/09/10 Date Sampled: 11/05/10 00:00	*** None Found ***	ND	2.0 μg/L	11/16/10 00:21	11/16/10 00:21
Client ID : EB-13-11/05/10 ab ID : BMI10110905-04A Date Received : 11/09/10 Date Sampled : 11/05/10 08:51	*** None Found ***	ND	2.0 μg/L	11/15/10 21:47	11/15/10 21:47
Client ID: TB-13-11/05/10 ab ID: BMI10110905-05A Date Received: 11/09/10 Date Sampled: 11/05/10 07:00	*** None Found ***	ND	2.0 μg/L	11/15/10 21:26	11/15/10 21:26
Client ID: MW-25-5 ab ID: BMI10110905-06A Date Received: 11/09/10 Date Sampled: 11/05/10 10:18	*** None Found ***	ND	2.0 μg/L	11/16/10 00:43	11/16/10 00:43
Client ID: MW-25-4 ab ID: BMI10110905-07A Date Received: 11/09/10 Date Sampled: 11/05/10 10:56	*** None Found ***	ND	2.0 μg/L	11/16/10 01:05	11/16/10 01:05
Client ID: MW-25-3 ab ID: BMI10110905-08A Date Received: 11/09/10 Date Sampled: 11/05/10 11:18	*** None Found ***	ND	2.0 μg/L	11/16/10 01:26	11/16/10 01:26
lient ID : MW-25-2 ab ID : BMI10110905-09A late Received : 11/09/10 late Sampled : 11/05/10 11:37	*** None Found ***	ND	2.0 μg/L	11/16/10 01:47	11/16/10 01:47



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Client ID: MW-25-1 Lab ID: BMI10110905-10A Date Received: 11/09/10 Date Sampled: 11/05/10 11:59	*** None Found ***	ND	2.0 μg/L	11/16/10 02:09 11/16/10 02:09
Client ID: MW-19-5 Lab ID: BMI10110905-11A Date Received: 11/09/10 Date Sampled: 11/08/10 08:57	*** None Found ***	ND	2.0 μg/L	11/16/10 02:31 11/16/10 02:31
Client ID: MW-19-4 Lab ID: BMI10110905-12A Date Received: 11/09/10 Date Sampled: 11/08/10 09:19	*** None Found ***	ND	2.0 μg/L	11/16/10 02:52 11/16/10 02:52
Client ID: MW-19-3 Lab ID: BMI10110905-13A Date Received: 11/09/10 Date Sampled: 11/08/10 09:50	*** None Found ***	ND	2.0 μg/L	11/16/10 03:14 11/16/10 03:14
Client ID: MW-19-2 Lab ID: BMI10110905-14A Date Received: 11/09/10 Date Sampled: 11/08/10 10:14	*** None Found ***	ND	2.0 μg/L	11/16/10 03:36 11/16/10 03:36
Client ID: MW-19-1 Lab ID: BMI10110905-15A Date Received: 11/09/10 Date Sampled: 11/08/10 10:39	*** None Found ***	ND	2.0 μg/L	11/16/10 03:58 11/16/10 03:58
Client ID : EB-14-11/08/10 Lab ID : BMI10110905-16A Date Received : 11/09/10 Date Sampled : 11/08/10 10:30	Acetone	15 *	10 μg/L	11/15/10 22:31 11/15/10 22:31
Client ID: TB-14-11/08/10 Lab ID: BMI10110905-17A Date Received: 11/09/10 Date Sampled: 11/08/10 07:00	*** None Found ***	ND	2.0 μg/L	11/15/10 22:09 11/15/10 22:09

^{*} No other TICs were found at a reporting limit of 2.0 $\mu\text{g/L}.$

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/22/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

: G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110905-01A

Client I.D. Number: MW-26-2

Sampled: 11/05/10 08:31

Received: 11/09/10

Extracted: 11/15/10 23:36 Analyzed: 11/15/10 23:36

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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-Xvlene	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 (DBC		2.5	μg/l
25	Trichloroethene	ND	0.50	ug/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)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	104	(70-130)	%RE
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L μg/L	00	Can Diomondoropenzene	102	(10-130)	/UI \L

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

33 Dibromochloromethane

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Sanlar

ND

ND

Walter Hindrey

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1.0

µg/L

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11/22/10



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

Client I.D. Number: MW-26-1

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-02A

Attn: David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

onitoring

Received: 11/09/10

Extracted: 11/15/10 23:57 Analyzed: 11/15/10 23:57

Sampled: 11/05/10 09:06

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBC)	P) 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	104	(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			,	. ,	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

ND

ND

Walter Hiridan

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11/22/10

Report Date
Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110905-03A

Client I.D. Number: DUPE-08-4Q10

Sampled: 11/05/10 00:00

Received: 11/09/10 Extracted: 11/16/10 00:21 Analyzed: 11/16/10 00:21

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBCI	P) 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	105	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

0.76

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

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.

11/22/10 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-04A

Client I.D. Number: EB-13-11/05/10

Attn: David Conner Phone: (619) 726-7311

Fax: (614) 458-6641

Sampled: 11/05/10 08:51

Received: 11/09/10 Extracted: 11/15/10 21:47 Analyzed: 11/15/10 21:47

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBCI	P) 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	104	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC
20	1,3-Dichloropropane	ND	0.50	. •				• •	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Sulver

ND

ND

Walter Hindren

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/22/10

Report Date



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 655 West Broadway San Diego, CA 92101

David Conner Phone: (619) 726-7311

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-05A Client I.D. Number: TB-13-11/05/10

Sampled: 11/05/10 07:00

Received: 11/09/10

Extracted: 11/15/10 21:26 Analyzed: 11/15/10 21:26

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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-Xvlene	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 (DBC	P) 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	104	(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	ua/L				. ,	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

33 Dibromochloromethane

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916) \ 366 - 9089 \ / \ Las \ Vegas, NV \bullet (702) \ 736 - 7522 \ / \ Carson, CA \bullet (714) \ 386 - 2901 \ / \ info@alpha-analytical.com$

0.50

1.0

μg/L

μg/L

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11/22/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Alpha Analytical Number: BMI10110905-06A

Client I.D. Number: MW-25-5

Sampled: 11/05/10 10:18 Received: 11/09/10

Extracted: 11/16/10 12:43 Analyzed: 11/16/10 12:43

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBCI	P) 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	104	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L	. •		1	(/	
33	Dibromochloromethane	ND	0.50	μg/L					
24	1.2 Dibromoothone (EDD)	115							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas, NV \bullet (702)\ 736-7522\ /\ Carson, CA \bullet (714)\ 386-2901\ /\ info@alpha-analytical.com$

1.0

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.

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-07A

Client I.D. Number: MW-25-4

David Conner Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/05/10 10:56

Received: 11/09/10

Extracted: 11/16/10 01:05 Analyzed: 11/16/10 01:05

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBCI	P) 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	104	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•	. ,	
33	Dibromochloromethane	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

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11/22/10 **Report Date**



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

Attn:

Fax:

Phone:

ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

(619) 726-7311 (614) 458-6641

David Conner

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-08A

Client I.D. Number: MW-25-3

Sampled: 11/05/10 11:18

Received: 11/09/10

Extracted: 11/16/10 01:26 Analyzed: 11/16/10 01:26

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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-Xvlene	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 (DBC)	P) 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	105	(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			•	•	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

ND

ND

Walter Hirihan

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

µg/L

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.

11/22/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-09A

Client I.D. Number: MW-25-2

Attn: **David Conner** Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/05/10 11:37

Received: 11/09/10 Extracted: 11/16/10 01:47 Analyzed: 11/16/10 01:47

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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 (DBC	P) 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: Tojuene-d8	103	(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					
0.4	4.0.000 (1							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

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.

μg/L

11/22/10

Report Date Page 1 of 1



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 655 West Broadway San Diego, CA 92101

F

Attn:

Phone: (619) 726-7311 Fax: (614) 458-6641

David Conner

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-10A

Client I.D. Number: MW-25-1

Sampled: 11/05/10 11:59

Received: 11/09/10

Extracted: 11/16/10 02:09 Analyzed: 11/16/10 02:09

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachioroethane	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-Xvlene	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 (DBC)		2.5	μg/L
25	Trichloroethene	2.9	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	104	(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	. •	-	1	(/55)	
33	Dibromochloromethane	ND	0.50	μg/L					
21	1.2 Dibromosthana (EDD)		-:						

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulmin

ND

Walter Finden

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

1.0

μg/L

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.

11/22/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-11A Client I.D. Number: MW-19-5

David Conner Phone: (619) 726-7311 Fax:

(614) 458-6641

Sampled: 11/08/10 08:57

Received: 11/09/10 Extracted: 11/16/10 02:31 Analyzed: 11/16/10 02:31

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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-Butvlbenzene	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 (DBC)	P) 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	106	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,	,,	
33	Dibromochloromethane	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / 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.

11/22/10 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Attn: Phone: **David Conner**

(619) 726-7311

Fax:

(614) 458-6641

Alpha Analytical Number: BMI10110905-12A

Client I.D. Number: MW-19-4

Sampled: 11/08/10 09:19

Received: 11/09/10

Extracted: 11/16/10 02:52 Analyzed: 11/16/10 02:52

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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	13.
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	
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	
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xvlene	ND	0.50	
8	Dichloromethane	ND	1.0	µg/L	43	1.1.2.2-Tetrachloroethane	ND	0.50	
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 (DBCI	1	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	104	(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	43	Tana and a second second	,	(10 100)	,011LQ
33	Dibromochloromethane	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer $Sacramento, CA \bullet (916)\ 366-9089\ /\ Las\ Vegas, NV \bullet (702)\ 736-7522\ /\ Carson, CA \bullet (714)\ 386-2901\ /\ info@alpha-analytical.com$

1.0

μg/L

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.

11/22/10

Report Date



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

ANALYTICAL REPORT

David Conner

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

Phone: (619) 726-7311 Fax:

Attn:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-13A

Client I.D. Number: MW-19-3

Sampled: 11/08/10 09:50 Received: 11/09/10

Extracted: 11/16/10 03:14 Analyzed: 11/16/10 03:14

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
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	Stvrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	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	Bromochioromethane	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-Butvlbenzene	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 (DBCI	P) 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	105	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μα/L				,,	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

33 Dibromochloromethane

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

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μg/L

µg/L

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.

11/22/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-14A

Client I.D. Number: MW-19-2

Attn: David Conner

Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 11/08/10 10:14

Received: 11/09/10 Extracted: 11/16/10 03:36

Extracted: 11/16/10 03:36 Analyzed: 11/16/10 03:36

Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	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-Isopropyitoluene	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 (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	1.6	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	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	106	(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			1	,,	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulaur

ND

ND

Walter Arridmen

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μg/L

μg/L

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.

Report Date

Page 1 of 1

11/22/10



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway

Client I.D. Number: MW-19-1

Attn: Phone:

David Conner (619) 726-7311

San Diego, CA 92101

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-15A

Sampled: 11/08/10 10:39

Received: 11/09/10

Extracted: 11/16/10 03:58 Analyzed: 11/16/10 03:58

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-Isopropyitoluene	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 (DBCI		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	103	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	105	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L			1	(1010)	
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

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11/22/10

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI10110905-16A

Client I.D. Number: EB-14-11/08/10

David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Sampled: 11/08/10 10:30

Received: 11/09/10 Extracted: 11/15/10 22:31 Analyzed: 11/15/10 22:31

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-Xvlene	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-Butvlbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichiorobenzene	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	104	(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.					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

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1.0

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11/22/10

Report Date