ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS (SUMMARY SHEETS)

This attachment contains the groundwater monitoring well results from 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: 25-Jul-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110 (818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09072241

Cooler Temp:

Alpha's Sample ID	Client's Sample ID	Matrix
09072241-01A	MW-19-5	Aqueous
09072241-02A	MW-19-4	Aqueous
09072241-03A	MW-19-3	Aqueous
09072241-04A	MW-19-2	Aqueous
09072241-05A	MW-19-1	Aqueous
09072241-06A	DUPE-1-3Q09	Aqueous
09072241-07A	EB-1-7/21/09	Aqueous
09072241-08A	TB-1-07/21/09	Aqueous

Manually Integrated Analytes

			
Alpha's Sample ID	Test Reference	<u>Analyte</u>	
09072241-01A	EPA Method 314.0	Perchlorate	
09072241-02A	EPA Method 314.0	Perchlorate	
09072241-03A	EPA Method 314.0	Perchlorate	
09072241-04A	EPA Method 314.0	Perchlorate	
09072241-05A	EPA Method 314.0	Perchlorate	
09072241-06A	EPA Method 314.0	Perchlorate	

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



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ANALYTICAL REPORT

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

Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/22/09

Job#:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-19-5 BMI0907224I-01A	Perchlorate	2.51	1.00 μg/L	07/21/09	07/23/09
Client ID: Lab ID:	MW-19-4 BMI09072241-02A	Perchlorate	2.58	1.00 μg/L	07/21/09	07/23/09
Client ID: Lab ID:	MW-19-3 BMI09072241-03A	Perchlorate	2.62	1.00 µg/L	07/21/09	07/23/09
Client ID: Lab ID:	MW-19-2 BMI09072241-04A	Perchlorate	4.81	1.00 μg/L	07/21/09	07/23/09
Client ID: Lab ID:	MW-19-1 BMI09072241-05A	Perchlorate	7.10	1.00 µg/L	07/21/09	07/23/09
Client ID : Lab ID :	DUPE-1-3Q09 BMI09072241-06A	Perchlorate	4.80	1.00 μg/L	07/21/09	07/23/09
Client ID:	EB-1-7/21/09					

ND

ND = Not Detected

Lab ID:

BMI09072241-07A Perchlorate

 $1.00~\mu\text{g/L}$

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

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

8/4/09

07/21/09 07/23/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (818) 393-2808

Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID: Lab ID:	MW-19-5 BMI09072241-01A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID: Lab ID:	MW-19-4 BMI09072241-02A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID: Lab ID:	MW-19-3 BMI09072241-03A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID: Lab ID:	MW-19-2 BMI09072241-04A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID: Lab ID:	MW-19-1 BMI09072241-05A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID : Lab ID :	DUPE-1-3Q09 BMI09072241-06A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09
Client ID : Lab ID :	EB-1-7/21/09 BMI09072241-07A	Tertiary Butyl Alcohol (TBA)	94	10 μg/L	07/22/09	07/21/09	07/28/09
Client ID : Lab ID :	TB-1-07/21/09 BMI09072241-08A	*** None Found ***	ND	2.0 μg/L	07/22/09	07/21/09	07/28/09

ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Atrihum

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

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-01A

Client I.D. Number: MW-19-5

Attn: David Conner Phone: (818) 393-2808

Fax: (614) 458-6641

(614) 438-0041

Sampled: 07/21/09 Received: 07/22/09

Analyzed: 07/28/09

Volatile Organics by GC/MS

	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	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 (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	2.0	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	97	(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			1	•	
33	Dibromochloromethane	ND	0.50	ua/L					

ND = Not Detected

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saw

ND

Walter Firehour

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

1.0

μg/L

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8/4/09 Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-02A

nalytical Number DMI00073241 024

Client I.D. Number: MW-19-4

Attn: David Conner Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/21/09 Received: 07/22/09

Analyzed: 07/28/09

Volatile Organics by GC/MS

	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	Chioroethane	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	2.0	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	97	(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					
0.4	4.0 Dib	i		. •					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Kandy Saulur

Walter Hirihow

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

1.0

µg/L

μg/L

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8/4/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110 Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-03A

Client I.D. Number: MW-19-3

Attn: David Conner (818) 393-2808 Phone:

Fax:

(614) 458-6641

Sampled: 07/21/09

Received: 07/22/09 Analyzed: 07/28/09

Volatile Organics by GC/MS

	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	μ g /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	2.0	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	97	(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			•		
33	Dibromochłoromethane	ND	0.50	μg/L					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

1.0

μg/L

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8/4/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-04A Client I.D. Number: MW-19-2

Attn: David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 07/21/09 Received: 07/22/09

Analyzed: 07/28/09

Volatile Organics by GC/MS

2 Ch 3 Vii 4 Ch	ichlorodifluoromethane hloromethane inyl chloride hloroethane romomethane richlorofluoromethane 1-Dichloroethene ichloromethane	ND ND ND ND ND ND	0.50 1.0 0.50 0.50 1.0	µg/L µg/L µg/L µg/L µg/L	36 37 38 39	1,1,1,2-Tetrachloroethane Chlorobenzene Ethylbenzene m,p-Xylene	ND ND ND ND	0.50 0.50 0.50	µg/L µg/L µg/L
3 Vii 4 Ch	inyl chloride hloroethane romomethane richlorofluoromethane .1-Dichloroethene ichloromethane	ND ND ND ND ND	0.50 0.50 1.0 0.50	µg/L µg/L µg/L µg/L	38 39	Ethylbenzene	ND	0.50	
4 Ch	hloroethane romomethane richlorofluoromethane .1-Dichloroethene ichloromethane	ND ND ND ND	0.50 1.0 0.50	μg/L μg/L μg/L	39	•			ua/L
	romomethane richlorofluoromethane .1-Dichloroethene ichloromethane	ND ND ND	1.0 0.50	μg/L μg/L		m n Vidono	ND	0.50	
5 Br	richlorofluoromethane 1-Dichloroethene ichloromethane	ND ND	0.50	μg/L	40	III,p-Aylerie	ND	0.50	μg/L
	1-Dichloroethene ichloromethane	ND			40	Bromoform	ND	0.50	μg/L
6 Tri	ichloromethane		0.50	μg/L	41	Styrene	ND	0.50	μg/L
7 1,1		ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8 Die	reon_113	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9 Fr	IQQII-110	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10 tra	ans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11 Me	lethyl 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 2-1	-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14 cis	s-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15 Br	romochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16 Ch	hloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17 2,2	2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18 1,2	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 Ca	arbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22 Be	enzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23 Di	ibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24 1,2	2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25 Tr	richloroethene	0.94	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26 Br	romodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27 4-1	-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28 cis	s-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29 tra	ans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	96	(70-130)	%REC
30 1,	1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	104	(70-130)	%REC
31 To	oluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC
32 1,3	,3-Dichloropropane	ND	0.50	μg/L					

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

1.0

μg/L

μg/L

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8/4/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-05A Client I.D. Number: MW-19-1

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

Sampled: 07/21/09

Received: 07/22/09 Analyzed: 07/28/09

Volatile Organics by GC/MS

	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	1.0	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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	96	(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	105	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		
33	Dibromochloromethane	ND	0.50	⊔a/L					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

ND

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

μg/L

μg/L

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8/4/09

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 3990 Old Town Ave San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-06A

Client I.D. Number: DUPE-1-3Q09

David Conner Attn: Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/21/09 Received: 07/22/09

Analyzed: 07/28/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	1.1	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L				. ,	

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

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

1.0

μg/L

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

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.

8/4/09 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-07A

Client I.D. Number: EB-1-7/21/09

Attn: David Conner Phone: (818) 393-2808

(614) 458-6641 Fax:

Sampled: 07/21/09

Received: 07/22/09 Analyzed: 07/28/09

Volatile Organics by GC/MS

	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-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 tetrachioride	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	2.0	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	97	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•	•	
33	Dibromochioromethane	ND	0.50	μg/L					
~ 4	4.0.00								

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

μg/L

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8/4/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072241-08A Client I.D. Number: TB-1-07/21/09

Attn:

David Conner Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/21/09

Received: 07/22/09 Analyzed: 07/28/09

Volatile Organics by GC/MS

	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
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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	μ g /L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μ g/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	2.0	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	90	(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	108	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

8/4/09

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Report Date

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μg/L

μg/L

1.0



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: BMI09072241 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample 1D	Matrix	pН
09072241-01A	MW-19-5	Aqueous	2
09072241-02A	MW-19-4	Aqueous	2
09072241-03A	MW-19-3	Aqueous	2
09072241-04A	MW-19-2	Aqueous	2
09072241-05A	MW-19-1	Aqueous	2
09072241-06A	DUPE-1-3Q09	Aqueous	2
09072241-07A	EB-1-7/21/09	Aqueous	2
09072241-08A	TB-I-07/21/09	Aqueous	2
	1 2 3 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2		-



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Date: 25-Jul-09		(QC S	umm	ary	Repor	t				Work Orde 09072241	er:
Method Bla File ID: 14 Sample ID:	nk MB-22395	Units : µg/L	Туре		Bate	et Code: EF ch ID: 223 9 3_090723 <i>A</i>	95	thod 314.0	Analy Prep		07/23/2009 13:27 07/23/2009	
Analyte		Result	PQL	Spk	Val S	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory File ID: 15	Fortified Blank		Туре	LFB		t Code: EF ch ID: 223 9		thod 314.0	Analy	sis Date:	07/23/2009 13:45	
Sample ID: Analyte	LFB-22395	Units : µg/L Result	PQL			3_090723<i>A</i> SpkRefVal		CLCL(ME)	Prep UCL(ME)		07/23/2009 Val %RPD(Limit)	Qual
Perchlorate		23.1		2	25		92	85	115			
Sample Mat	rix Spike		Туре	LFM		t Code: EF ch ID: 223 9	-	thod 314.0	Analy	sis Date:	07/23/2009 16:49	
Sample ID: Analyte	09072241-02ALFM	Units : µg/L Result	PQL		_	3 _090723 A SpkRefVal		CLCL(ME)	Prep UCL(ME)		07/23/2009 Val %RPD(Limit)	Qual
Perchlorate		26		2	25	2.579	94	80	120			
Sample Mat	rix Spike Duplicate		Туре	LFMD		t Code: EF		thod 314.0	Analy	sis Date:	07/23/2009 17:08	
Sample ID:	09072241-02ALFMD	Units : µg/L		Run ID	: IC_;	3_090723 <i>A</i>			Prep	Date:	07/23/2009	
Analyte		Result	PQL	Spk	Val S	_ SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.8		2	25	2.579	93	80	120	25.9	7 0.5(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.



Date: 04-Aug-09	(QC Sι	ımma	ry Report			Work Ord 0907224	
Method Blank		Type M	IBLK	Test Code:				
File ID: 09072805.D				Batch ID: MS15W0	728M	Analysis Dat	e: 07/28/2009 11:59	
Sample ID: MBLK MS15W0728M	Units : µg/L		Run ID:	MSD_15_090728A		Prep Date:	07/28/2009	
Analyte	Result	PQL		al SpkRefVal %RE	C LCL(ME)) UCL(ME) RPDR	efVal %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 Freon-113	ND ND	1						
trans-1,2-Dichloroethene	ND ND	0.5 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 1,1-Dichloropropene	ND ND	0.5						
Carbon tetrachloride	ND ND	0.5 0.5						
Benzene	ND ND	0.5 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 1,3-Dichloropropane	ND	0.5						
Dibromochloromethane	ND ND	0.5						
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	ND	0.5						
Bromoform	ND	0.5						
Styrene	ND	0.5						
o-Xylene	ND	0.5						
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ND ND	0.5						
Isopropylbenzene	ND ND	1 0.5						
Bromobenzene	ND ND	0.5 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	2.5						
1,2,4-Trichlorobenzene	ND	2.3						
Naphthalene	ND	1						
Hexachlorobutadiene	ND	i						
1,2,3-Trichlorobenzene	ND	1						
Surr: 1,2-Dichloroethane-d4	9.54			0 95		130		
Surr: Toluene-d8	10.1		1	0 101	70	130		



Date: 04-Aug-09	(QC Su	ımmar	y Report			Work Ord 0907224	
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		
Laboratory Control Spike		Type LC	S Te	est Code:				
File ID: 09072802.D			Ва	atch ID: MS15W0 7	28M	Analysis [Date: 07/28/2009 10:52	!
Sample ID: LCS MS15W0728M	Units : µg/L	I	Run ID: MS	SD_15_090728A		Prep Date	e: 07/28/2009	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPI	DRefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	9.36	1	10	94	70	130		
Chloromethane	9.92	2	10	99	70	130		
Vinyl chloride	9.4	1	10	94	70 70	130		
Chloroethane Bromomethane	9.38 8.52	1 2	10 10	94 85	70 70	130 130		
Trichlorofluoromethane	9.88	1	10	99	70	130		
1,1-Dichloroethene	10.4	1	10	104	70	130		
Dichloromethane	9.45	2	10	95	70	130		
trans-1,2-Dichloroethene	11.1	1	10	111	70	130		
Methyl tert-butyl ether (MTBE)	10.1	0.5	10	101	70	130		
1,1-Dichloroethane cis-1,2-Dichloroethene	10.9	1	10	109	70 70	130 130		
Bromochloromethane	10.9 10.1	1	10 10	109 101	70 70	130		
Chloroform	10.5	1	10	105	70	130		
2,2-Dichloropropane	11.8	1	10	118	70	130		
1,2-Dichloroethane	9.79	1	10	98	70	130		
1,1,1-Trichloroethane	11.2	1	10	112	70	130		
1,1-Dichloropropene	11.4	1	10	114	70 70	130		
Carbon tetrachloride Benzene	10.8	1	10	108	70 70	130		
Dibromomethane	10.7 9.52	0.5 1	10 10	107 95	70 70	130 130		
1,2-Dichloropropane	10.9	1	10	109	70	130		
Trichloroethene	10.3	1	10	103	70	130		
Bromodichloromethane	9.48	1	10	95	70	130		
cis-1,3-Dichloropropene	9.6	1	10	96	70	130		
trans-1,3-Dichloropropene	9.02	1	10	90	70	130		
1,1,2-Trichloroethane Toluene	9.55	1	10	96	70 70	130		
1,3-Dichloropropane	9.98 9.98	0.5 1	10 10	99.8 99.8	70 70	130 130		
Dibromochloromethane	8.82	1	-10	88	70	130		
1,2-Dibromoethane (EDB)	18.5	2	20	93	70	130		
Tetrachloroethene	10	1	10	100	70	130		
1,1,1,2-Tetrachloroethane	9.73	1	10	97	70	130		
Chlorobenzene	10	1	10	100	70	130		
Ethylbenzene m,p-Xylene	10.5	0.5	10	105	70 70	130		
Bromoform	10.8 7.46	0.5 1	10 10	108 75	70 70	130 130		
Styrene	7.05	1	10	73	70	130		
o-Xylene	10.7	0.5	10	107	70	130		
1,1,2,2-Tetrachloroethane	9.28	1	10	93	70	130		
1,2,3-Trichloropropane	18.7	2	20	93	70	130		
Isopropylbenzene	11	1	10	110	70	130		
Bromobenzene n-Propylbenzene	9.59	1	10	96 442	70 70	130		
4-Chlorotoluene	11.2 10.7	1	10 10	112 107	70 70	130 130		
2-Chlorotoluene	10.7	i	10	107	70	130		
1,3,5-Trimethylbenzene	10.6	1	10	106	70	130		
tert-Butylbenzene	10.5	1	10	105	70	130		
1,2,4-Trimethylbenzene	10.5	1	10	105	70	130		
sec-Butylbenzene	11	1	10	110	70 70	130		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	10 9.54	1	10 10	100 95	70 70	130 130		
4-Isopropyltoluene	10.8	1	10	108	70 70	130		
1,2-Dichlorobenzene	9.61	1	10	96	70	130		
n-Butylbenzene	12	1	10	120	70	130		
1,2-Dibromo-3-chloropropane (DBCP)	46.2	3	50	92	70	130		
1,2,4-Trichlorobenzene	9	2	10	90	70	130		
Naphthalene	8.75	2	10	88	70 70	130		
Hexachlorobutadiene 1,2,3-Trichlorobenzene	19 9 57	2	20	95 96	70 70	130		
Surr: 1,2-Dichloroethane-d4	8.57 9.6	2	10 10	86 96	70 70	130 130		
Surr: Toluene-d8	10.1		10	101	70 70	130		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



Date: 04-Aug-09	(QC Su	mmar	y Repor	t			Work Ord 0907224	
Sample Matrix Spike		Туре М	S Te	est Code:					
File ID: 09072817.D			Ba	atch ID: MS1	5W072	28M	Analysis Date:	07/28/2009 16:44	
Sample ID: 09072241-02AMS	Units : µg/L	F	Run ID: M	SD_15_0907	28A		Prep Date:	07/28/2009	
Analyte	Result	PQL				LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qua
Dichlorodifluoromethane	41,1	2.5	50	0	82	13	167	· · · · · · · · · · · · · · · · · · ·	_
Chloromethane	48.6	10	50	0	97	28	145		
Vinyl chloride	60.2	2.5	50	ő	120	43	134		
Chloroethane	42.1	2.5	50	0	84	39	154		
Bromomethane	38.9	10	50	0	78	19	176		
Trichlorofluoromethane	49	2.5	50	0	98	34	160		
1,1-Dichloroethene	44.9	2.5	50	0	90	60	130		
Dichloromethane trans-1,2-Dichloroethene	45.1	10	50	0	90 96	68 63	130 130		
Methyl tert-butyl ether (MTBE)	48.1 51.3	2.5 1.3	50 50	0	103	56	141		
1,1-Dichloroethane	49.7	2.5	50	0	99	61	130		
cis-1,2-Dichloroethene	48	2.5	50	0	96	70	130		
Bromochloromethane	48.4	2.5	50	0	97	70	130		
Chloroform	49.5	2.5	50	0	99	67	130		
2,2-Dichloropropane	44.9	2.5	50	0	90	30	152		
1,2-Dichloroethane	48.2	2.5	50	0	96	60	135		
1,1,1-Trichloroethane	47.9	2.5	50	0	96	59	137		
1,1-Dichloropropene Carbon tetrachloride	49.2	2.5	50	0	98	63 50	130 147		
Benzene	45 49.3	2.5 1.3	50 50	0	90 99	67	130		
Dibromomethane	48.5	2.5	50	0	97	69	133		
1,2-Dichloropropane	52.1	2.5	50	0	104	69	130		
Trichloroethene	45.5	2.5	50	Ō	91	69	130		
Bromodichloromethane	44.6	2.5	50	0	89	66	134		
cis-1,3-Dichloropropene	43	2.5	50	0	86	63	130		
trans-1,3-Dichloropropene	43.7	2.5	50	0	87	66	131		
1,1,2-Trichloroethane Toluene	50.1	2.5	50	0	100	68 66	130 130		
1,3-Dichloropropane	44.6 50.3	1.3 2.5	50 50	0	89 101	66 70	130		
Dibromochloromethane	41	2.5	50	0	82	70	130		
1,2-Dibromoethane (EDB)	91.5	10	100	ő	92	70	130		
Tetrachloroethene	41.8	2.5	50	Ō	84	61	134		
1,1,1,2-Tetrachloroethane	45	2.5	50	0	90	70	130		
Chlorobenzene	45.2	2.5	50	0	90	70	130		
Ethylbenzene	45.9	1.3	50	0	92	68	130		
m,p-Xylene Bromoform	46.8	1.3	50	0	94 73	64 64	130 138		
Styrene	36.3 32.7	2.5 2.5	50 50	0	65	69	130		M2
o-Xylene	48.6	1.3	50	0	97	70	130		
1,1,2,2-Tetrachloroethane	50.6	2.5	50	0	101	65	131		
1,2,3-Trichloropropane	99.6	10	100	0	99.6	70	130		
Isopropylbenzene	46.8	2.5	50	0	94	64	138		
Bromobenzene	44.1	2.5	50	0	88	70	130		
n-Propylbenzene	46.7	2.5	50	0	93	66	132		
4-Chlorotoluene	46.2	2.5	50	0	92	70	130		
2-Chlorotoluene 1,3,5-Trimethylbenzene	46	2.5	50	0	92	70 66	130 136		
tert-Butylbenzene	46 44.7	2.5 2.5	50 50	0	92 89	66 65	136		
1,2,4-Trimethylbenzene	46.2	2.5	50 50	0	92	65	137		
sec-Butylbenzene	45.8	2.5	50	0	92	66	134		
1,3-Dichlorobenzene	44.7	2.5	50	Ö	89	70	130		
1,4-Dichlorobenzene	43	2.5	50	0	86	70	130		
4-Isopropyltoluene	45.5	2.5	50	0	91	66	137		
1,2-Dichlorobenzene n-Butylbenzene	44.3	2.5	50	0	89	70	130		
1,2-Dibromo-3-chloropropane (DBCP)	49.7 229	2.5 15	50 250	0	99 92	60 67	142 130		
1,2,4-Trichlorobenzene	38.6	10	∠50 50	0	92 77	61	137		
Naphthalene	39.6	10	50	0	79	40	167		
Hexachlorobutadiene	78.4	10	100	0	78	61	130		
1,2,3-Trichlorobenzene	38	10	50	Ō	76	51	144		
Surr: 1,2-Dichloroethane-d4	48.6		50		97	70	130		
Surr: Toluene-d8	49.3		50		99	70	130		
Surr: 4-Bromofluorobenzene	49.7		50		99	70	130		



Date: 04-Aug-09	(QC Su	mmary	Repor	t				Work Ord 0907224	
Sample Matrix Spike Duplicate		Type MS	SD Te	est Code:						
File ID: 09072818.D			Ba	tch ID: MS1	5W072	28M	Analy	sis Date: 0	7/ <mark>28/2009 17:0</mark> 7	•
Sample ID: 09072241-02AMSD	Units : µg/L	F	Run ID: MS	SD_15_0907	28A		Prep (Date: 0	7/28/2009	
Analyte	Result	PQL				LCL(ME	UCL(ME)	RPDRefVa	I %RPD(Limit)	Qua
Dichlorodifluoromethane	43.7	2.5	50	0	87	13	167	41.13	6.0(20)	
Chloromethane	52.6	10	50 50	0	105	28	145	48.61	7.9(20)	
Vinyl chloride	64.4	2.5	50	0	129	43	134	60.24	6.7(20)	
Chloroethane	47.7	2.5	50	0	95	39	154	42.05	12.7(20)	
Bromomethane	45.3	10	50	Ō	91	19	176	38.89	15.3(20)	
Trichlorofluoromethane	50.7	2.5	50	0	101	34	160	48.97	3.5(20)	
1,1-Dichloroethene	48	2.5	50	0	96	60	130	44.85	6.8(20)	
Dichloromethane	47.4	10	50	0	95	68	130	45.05	5.1(20)	
trans-1,2-Dichloroethene	50.2	2.5	50	0	100	63	130	48.09	4.3(20)	
Methyl tert-butyl ether (MTBE)	52.4	1.3	50	0	105	56	141	51.29	2.1(20)	
1,1-Dichloroethane	52.3	2.5	50	0	105	61	130	49.73	5.0(20)	
cis-1,2-Dichloroethene	50	2.5	50	0	100	70 70	130	48.04	4.0(20)	
Bromochloromethane	49.3	2.5	50	0	99	70	130	48.44 49.52	1.7(20)	
Chloroform 2,2-Dichloropropane	51.4	2.5	50	0	103	67 30	130 152	49.52 44.89	3.7(20) 6.1(20)	
1,2-Dichloroptopane	47.7 48.9	2.5 2.5	50 50	0	95 98	30 60	152 135	44.89 48.2	1.3(20)	
1,1,1-Trichloroethane	50.6	2.5	50 50	0	101	59	137	47.86	5.5(20)	
1,1-Dichloropropene	51.5	2.5	50	0	103	63	130	49.17	4.6(20)	
Carbon tetrachloride	48.9	2.5	50	0	98	50	147	45	8.4(20)	
Benzene	51,1	1.3	50	Ö	102	67	130	49.31	3.5(20)	
Dibromomethane	48.8	2.5	50	Ō	98	69	133	48.5	0.6(20)	
1,2-Dichloropropane	54.9	2.5	50	0	110	69	130	52.13	5.2(20)	
Trichloroethene	47.8	2.5	50	0	96	69	130	45.48	4.9(20)	
Bromodichloromethane	46.1	2.5	50	0	92	66	134	44.58	3.3(20)	
cis-1,3-Dichloropropene	44.8	2.5	50	0	90	63	130	43.04	3.9(20)	
trans-1,3-Dichloropropene	44.7	2.5	50	0	89	66	131	43.7	2.2(20)	
1,1,2-Trichloroethane	50.8	2.5	50	0	102	68	130	50.1	1.4(20)	
Toluene	47	1.3	50	0	94	66	130	44.62	5.2(20)	
1,3-Dichloropropane Dibromochloromethane	51.8	2.5	50	0	104 88	70 70	130 130	50.3 40.98	2.9(20) 6.7(20)	
1,2-Dibromoethane (EDB)	43.8 94.3	2.5 10	50 100	0	94	70 70	130	91.53	3.0(20)	
Tetrachloroethene	45.5	2.5	50	0	91	61	134	41.82	8.5(20)	
1,1,1,2-Tetrachloroethane	47	2.5	50	0	94	70	130	44.97	4.5(20)	
Chlorobenzene	47.2	2.5	50	0	94	70	130	45.21	4.4(20)	
Ethylbenzene	48.6	1.3	50	Ö	97	68	130	45.91	5.8(20)	
m,p-Xylene	50.2	1.3	50	0	100	64	130	46.83	7.0(20)	
Bromoform	38.9	2.5	50	0	78	64	138	36.29	7.1(20)	
Styrene	34.2	2.5	50	0	68	69	130	32.66	4.7(20)	M2
o-Xylene	50.6	1.3	50	0	101	70	130	48.62	4.0(20)	
1,1,2,2-Tetrachloroethane	50.1	2.5	50	0	100	65	131	50.59	1.1(20)	
1,2,3-Trichloropropane	101	10	100	0	101	70	130	99.57	1.8(20)	
Isopropylbenzene	50.8	2.5	50	0	102	64	138	46.77	8.3(20)	
Bromobenzene	47.3	2.5	50	0	95	70	130	44.12	6.9(20)	
n-Propylbenzene 4-Chlorotoluene	51.1	2.5	50	0	102 103	66 70	132 130	46.65 46.18	9.2(20) 10.6(20)	
2-Chlorotoluene	51.3 50	2.5 2.5	50 50	0	99.9	70 70	130	45.16	8.4(20)	
1,3,5-Trimethylbenzene	49.8	2.5	50 50	0	99.5	66	136	45.99	7.9(20)	
tert-Butylbenzene	48.5	2.5	50	0	97	65	137	44.72	8.1(20)	
1,2,4-Trimethylbenzene	50.3	2.5	50	0	101	65	137	46.2	8.4(20)	
sec-Butylbenzene	50.6	2.5	50	Ö	101	66	134	45.84	9.8(20)	
1,3-Dichlorobenzene	48.8	2.5	50	Ö	98	70	130	44.7	8.8(20)	
1,4-Dichlorobenzene	46.6	2.5	50	Ō	93	70	130	43.02	7.9(20)	
4-Isopropyltoluene	50.1	2.5	50	0	100	66	137	45.46	9.6(20)	
1,2-Dichlorobenzene	47.7	2.5	50	0	95	70	130	44.31	7.3(20)	
n-Butylbenzene	54.6	2.5	50	0	109	60	142	49.71	9.4(20)	
1,2-Dibromo-3-chloropropane (DBCP)	240	15	250	0	96	67	130	229.4	4.6(20)	
1,2,4-Trichlorobenzene	41.8	10	50	0	84	61	137	38.63	7.8(20)	
Naphthalene Hexachlorobutadiene	41.8	10	50	0	84	40	167	39.61	5.4(20)	
1,2,3-Trichlorobenzene	88.8 42.2	10	100	0	89 84	61 51	130 144	78.4 37.08	12.4(20) 10.5(20)	
Surr: 1,2-Dichloroethane-d4	42.2 47.3	10	50 50	U	84 95	51 70	144 130	37.98	10.5(20)	
Surr: Toluene-d8	47.3 49.8		50 50		99.6	70 70	130			
Surr: 4-Bromofluorobenzene	50.3		50 50		101	70 70	130			



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

Date: 04-Aug-09

QC Summary Report

Work Order: 09072241

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.

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Client:

Battelle Memorial Institute Suite C-205 3990 Old Town Ave

218013

San Diego, CA 92110

Client's COC #: 25747

QC Level: DS4

Report Attention TEL: (775) 355-1044 FAX: (775) 355-0406 Phone Number (818) 393-2808 x connerd@battelle.org **EMail Address**

Shane Walton Betsy Cutie (614) 424-4117 (614) 424-4899 cutiee@batelle.org waltons@battelle.org

Report Due By: 5:00 PM On: 05-Aug-09

WorkOrder: BMIS09072241

Page: 1 of 1

EDD Required: Yes Sampled by: Client

Cooler Temp

Samples Received 22-Jul-09

Date Printed 22-Jul-09

= DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

Sample ID BMI09072241-08A TB-1-07/21/09 BMI09072241-06A BMI09072241-03A MW-19-3 BMI09072241-02A MW-19-4 BMI09072241-01A BMI09072241-07A EB-1-7/21/09 BMI09072241-05A MW-19-1 BMI09072241-04A MW-19-2 MW-19-5 DUPE-1-3Q09 Sample ID å å å å Matrix Date å å Š Š 07/21/09 08:28 07/21/09 08:08 07/21/09 07/21/09 09:39 07/21/09 00:00 07/21/09 09:17 07/21/09 08:50 Collection No. of Bottles 07/21/09 09:31 Alpha 4 4 4 4 4 dus 0 0 0 0 0 0 0 0 TAT 6 6 6 6 5 6 5 5 Perchlorate VOC by 524 VOC by 524
Criteria Criteria Perchlorate VOC by 524 VOC by 524 Criteria Perchlorate VOC by 524 VOC by 524 Criteria Criteria Perchlorate VOC by 524 VOC by 524 Criteria Perchlorate VOC by 524 VOC by 524 Criteria Criteria Perchiorate VOC by 524 VOC by 524 Criteria Criteria 314_W VOC by 524 VOC by 524
Criteria Criteria VOC_TIC_ VOC_W VOC by 524 VOC by 524 Criteria Criteria Requested Tests Reno Trip Blank 3/16/09 Sample Remarks LEVEL IV QC

Comments:

No security seals. Frozen ice. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Trip Blank received, added to end of COC and analyze for YOC's per Marco.

	Signature	Print Name	Company	Date/Time
Logged in by:	Patricia Educasa Latri	Latricia Edvosa	Alpha Analytical, Inc.	7/22/09 11:37

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: Name (近ねの ていみじゃら BATIELL	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21		57
Dity, State, Zip Locumbus, o # 432s	Phone (775) 355-1044 Fax (775) 355-0406		Analyses Required
Client Name SATTELLE PAVIS CONNER	PO.#218013 Job#		Required OC Level
TOWN AVE.		y. 2	y / / / ! (iii) v
2 2 92	Phone # 726 - 7311 Fax #		A / / / EDD / EDF? YES NO _
Matrix* Sampled by	Report Attention	$\overline{}$	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered "See below 3 (A)	/ / REMARKS
808 14.14 AQ BM109072241-01	MW-19-5	V	
829	NW-19-4	X	TENET AT OX
850 -03	MW-19-3	× ×	
917	MW-19-2	X	
-05	M W - 19-1	×	
	0.05-1-200	\	21101105
931 1	EB-1-7/21/59	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Equip BLANG
-08	Trib Blank		
ADDITIONAL INSTRUCTIONS:			
Signature	Print Name	Company	Date Time
Relinquished by	MARC NEWBOTA	INSIGHT EEC	7/21/29 /230
Received by Relinquished by	hatricia Edvosa	Alpha	
Received by			
Relinquished by			
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 OT-Other

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



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Date: 03-Aug-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110

(818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09072343

Cooler Temp:

4°C

			-
Al	pha's Sample ID	Client's Sample ID	Matrix
(09072343-01A	MW-14-5	Aqueous
()9072343-02A	MW-14-4	Aqueous
()9072343-03A	MW-14-3	Aqueous
()9072343-04A	MW-14-2	Aqueous
()9072343-05A	MW-14-1	Aqueous
()9072343-06A	DUPE-2-3Q09	Aqueous
()9072343-07A	TB-2-7/22/09	Aqueous
()9072343-08A	EB-2-7/22/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte	
09072343-02A	EPA Method 314.0	Perchlorate	
09072343-03A	EPA Method 314.0	Perchlorate	
09072343-04A	EPA Method 314.0	Perchlorate	
09072343-05A	EPA Method 314.0	Perchlorate	
09072343-06A	EPA Method 314.0	Perchlorate	

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

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

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

Roger Scholl

Kandg Saulner

Dalter Atrichus



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ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/23/09

Job#:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-14-5 BMI09072343-01A	Perchlorate	ND	1.00 μg/L	07/22/09	07/23/09
Client ID : Lab ID :	MW-14-4 BMI09072343-02A	Perchlorate	3.02	1.00 μg/L	07/22/09	07/23/09
Client ID: Lab ID:	MW-14-3 BMI09072343-03A	Perchlorate	4.77	1.00 μg/L	07/22/09	07/23/09
Client ID: Lab ID:	MW-14-2 BMI09072343-04A	Perchlorate	3.28	1.00 μg/L	07/22/09	07/23/09
Client ID: Lab ID:	MW-14-1 BMI09072343-05A	Perchlorate	2.58	1.00 μg/L	07/22/09	07/23/09
Client ID : Lab ID :	DUPE-2-3Q09 BMI09072343-06A	Perchlorate	2.48	1.00 μg/L	07/22/09	07/23/09
Client ID : Lab ID :	EB-2-7/22/09 BMI09072343-08A	Perchlorate	ND	1.00 µg/L	07/22/09	07/23/09

ND = Not Detected

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8/5/09

Report Date



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ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/23/09

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-14-3 BMI09072343-03A	Chromium (Cr)	ND	0.0050 mg/L	07/22/09	08/07/09
Client ID: Lab ID:	MW-14-2 BMI09072343-04A	Chromium (Cr)	ND	0.0050 mg/L	07/22/09	08/07/09
Client ID: Lab ID:	MW-14-1 BMI09072343-05A	Chromium (Cr)	ND	0.0050 mg/L	07/22/09	08/07/09
Client ID: Lab ID:	DUPE-2-3Q09 BMI09072343-06A	Chromium (Cr)	ND	0.0050 mg/L	07/22/09	08/07/09
Client ID: Lab ID:	EB-2-7/22/09 BMI09072343-08A	Chromium (Cr)	ND	0.0050 mg/L	07/22/09	08/07/09

ND = Not Detected

Roger Scholl

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

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

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

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated	Estimated	Date	Date	Date
		rarameter	Estimated Concentration	Reporting Limit	Received		
Client ID : Lab ID :	MW-14-5 BMI09072343-01A	*** None Found ***	, ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	MW-14-4 BMI09072343-02A	* * * None Found * * *	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID: Lab ID:	MW-14-3 BMI09072343-03A	*** None Found ***	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	MW-14-2 BMI09072343-04A	* * * None Found * * *	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	MW-14-1 BMI09072343-05A	*** None Found ***	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	DUPE-2-3Q09 BMI09072343-06A	*** None Found ***	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	TB-2- 7/ 22/09 BMI09072343-07A	*** None Found ***	ND	2.0 μg/L	07/23/09	07/22/09	07/29/09
Client ID : Lab ID :	EB-2-7/22/09 BMI09072343-08A	2-Methyl-I-propene	2.0	2.0 μg/L	07/23/09	07/22/09	07/29/09

ND = Not Detected

Roger Scholl

Kandy Saulur

Walter Hirihour

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

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8/5/09 Report Date

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ANALYTICAL REPORT

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

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-01A

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

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

(614) 458-6641

Sampled: 07/22/09 Received: 07/23/09

Analyzed: 07/29/09

Volatile Organics by GC/MS

1	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	2.0	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	92	(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	μg/L				•	
33	Dibromochloromethane	ND	0.50	μg/L					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

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

1.0

μg/L

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8/5/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-02A

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

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/22/09

Received: 07/23/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

1	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	2.0	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	90	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(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					

ND = Not Detected

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

ND

Kandy Saulmer

Walter Hirihon

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

1.0

μg/L

μg/L

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8/5/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-03A

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

David Conner Attn:

Phone: (818) 393-2808 Fax:

(614) 458-6641

Sampled: 07/22/09 Received: 07/23/09

Analyzed: 07/29/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	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-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	1.5	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1.2.3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	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				,	
33	Dibromochloromethane	ND	0.50	μg/L					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

0.59

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

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.

8/5/09

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 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-04A Client I.D. Number: MW-14-2

David Conner Attn: (818) 393-2808 Phone:

Fax:

(614) 458-6641

Sampled: 07/22/09 Received: 07/23/09

Analyzed: 07/29/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	0.56	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.56	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	9.4	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(70-130)	%REC
30	1,1,2-Trichloroethane	: ND	0.50	μg/L	65	Surr: Toluene-d8	107	(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					

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

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

0.50

1.0

μg/L

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.

8/5/09

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 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-05A Client I.D. Number: MW-14-1

Attn: David Conner Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/22/09

Received: 07/23/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

:	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	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	2.1	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	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	94	(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			,	, ,	
33	Dibromochloromethane	ND	0.50	μg/L					
L .									

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Kandy Davlmer

Walter Hirehow

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

μg/L

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8/5/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-06A

Client I.D. Number: DUPE-2-3Q09

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/22/09

Received: 07/23/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

	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	2.2	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	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		-	-	, ,	
33	Dibromochloromethane	ND	0.50	μg/L					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

ND

KandgSaulner

Walter Hirihow

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

1.0

μg/L

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8/5/09

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 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Alpha Analytical Number: BMI09072343-07A

Client I.D. Number: TB-2-7/22/09

Sampled: 07/22/09 Received: 07/23/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

<u>.</u>	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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
В	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	2.0	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	88	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(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			•	, ,	

ND = Not Detected

33 Dibromochloromethane34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Kandy Saulner

Dalter Hindren

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

μg/L

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.

8/5/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072343-08A

Client I.D. Number: EB-2-7/22/09

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/22/09

Received: 07/23/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

į	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 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	,	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	· · · · · · · · · · · · · · · ·	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	,	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	2.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	,- =	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	87	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	110	(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					

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

ND

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

1.0

μg/L

μg/L

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

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.

8/5/09

Report Date



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VOC Sample Preservation Report

Work Order: BMI09072343 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09072343-01A	MW-14-5	Aqueous	2
09072343-02A	MW-14-4	Aqueous	2
09072343-03A	MW-14-3	Aqueous	2
09072343-04A	MW-14-2	Aqueous	2
09072343-05A	MW-14-1	Aqueous	2
09072343-06A	DUPE-2-3Q09	Aqueous	2
09072343-07A	TB-2-7/22/09	Aqueous	2
09072343-08A	EB-2-7/22/09	Aqueous	2

8/5/09 Report Date



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Date: 03-Aug-09		(QC S	umma	ry Repo	rt _			Work Ordo 09072343	
Method Bla	ank		Туре		Test Code: E Batch ID: 223	-	thod 314.0	Analysis Dat	e: 07/23/2009 13:27	
Sample ID:	MB-22395	Units : µg/L		Run ID: I	C_3_090723	A		Prep Date:	07/23/2009	
Analyte		Result	PQL	SpkVa	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Perchlorate		ND		1	-					
Laboratory	Fortified Blank		Туре	LFB	Test Code: E	PA Met	thod 314.0			
File ID: 15					Batch ID: 223	95		Analysis Dat	e: 07/23/2009 13:45	
Sample ID:	LFB-22395	Units : µg/L		Run ID:	IC_3_090723	A		Prep Date:	07/23/2009	
Analyte		Result	PQL	SpkVa	al SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Perchlorate		23.1		2 2	5	92	85	115		
Sample Ma	trix Spike		Туре	LFM	Test Code: E	PA Met	thod 314.0			
File ID: 25					Batch ID: 22 3	95		Analysis Dat	e: 07/23/2009 16:49	
Sample ID:	09072241-02ALFM	Units : µg/L		Run ID:	IC_3_090723	A		Prep Date:	07/23/2009	
Analyte		Result	PQL	SpkVa	al SpkRefVa	%REC	C LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Perchlorate		26		2 2	5 2.579	94	80	120		
Sample Ma	trix Spike Duplicate		Туре	LFMD	Test Code: E	PA Me	thod 314.0			
File ID: 26	•				Batch ID: 223	95		Analysis Dat	e: 07/23/2009 17:08	
Sample ID:	09072241-02ALFMD	Units : µg/L		Run ID:	IC_3_090723	Α		Prep Date:	07/23/2009	
Analyte		Result	PQL	SpkVa	al SpkRefVa	%REC	C LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Perchlorate		25.8		2 2	5 2.579	93	80	120 25	.97 0.5(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.



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Date: 11-Aug-09	QC Summary Report						
Method Blank File ID: 080609.B\45MB.D\ Sample ID: MB-22445 Analyte	Units: mg/L Run ID: ICP/MS_090807A Prep Date: (Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal	08/07/2009 09:22 07/30/2009 al %RPD(Limit) Qual					
Chromium (Cr)	ND 0.005						
Laboratory Control Spike File ID: 080609.B\45L1.D\ Sample ID: LCS-22445 Analyte	•	08/07/2009 09:46 07/30/2009 al %RPD(Limit) Qual					
Chromium (Cr)	0.0432	<u> </u>					
Sample Matrix Spike File ID: 080609.B\MS.D\ Sample ID: 09072442-08AMS Analyte	·	08/07/2009 10:08 07/30/2009 al %RPD(Limit) Qual					
Chromium (Cr)	0.0498 0.005 0.05 0 99.6 80 120						
Sample Matrix Spike Duplicate File ID: 080609.B\MSD.D\ Sample ID: 09072442-08AMSD	•	08/07/2009 10:14 07/30/2009					
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	al %RPD(Limit) Qual					
Chromium (Cr)	0.0458 0.005 0.05 0 92 80 120 0.04988	2 8.4(20)					

Comments:

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



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Work Order: Date: QC Summary Report 09072343 04-Aug-09 Type MBLK Test Code: Method Blank File ID: 09072907.D Analysis Date: 07/29/2009 15:32 Batch ID: MS15W0729M Sample ID: Prep Date: 07/29/2009 **MBLK MS15W0729M** Units: µg/L Run ID: MSD_15_090729A Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Dichlorodifluoromethane ND 0.5 Chloromethane ND 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 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1,1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1.2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1,2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1,1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1.2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1.3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1,2-Dibromoethane (EDB) ND 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 0.5 ND Bromobenzene ND 0.5 n-Propylbenzene ND 0.5 4-Chlorotoluene 0.5 ND 2-Chlorotoluene 0.5 ND 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 9.07 10 91 70 130 Surr: Toluene-d8 104 70 130 10.4 10



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Date: 04-Aug-09		QC Su	mmary Re	eport			Work Ord 0907234	09072343		
Surr: 4-Bromofluorobenzene	10.3		10	103	70	130				
Laboratory Control Spike		Type LC	S Test Co	de:						
File ID: 09072905.D			Batch I	: MS15W072	9M	Analysis	Date: 07/29/2009 14:37			
Sample ID: LCS MS15W0729M	Units : µg/L	F	Run ID: MSD_1 5	5_0907 2 9A		Prep Da	te: 07/29/2009			
Analyte	Result	PQL	SpkVal SpkR	lefVal %REC	LCL(ME)	UCL(ME) RE	PDRefVal %RPD(Limit)	Qua		
Dichlorodifluoromethane	9.15	1	10	92	70	130				
Chloromethane	9.15	2	10	92	70	130				
Vinyl chloride	12.4	1	10	124	70	130				
Chloroethane	9.74	1	10	97	70	130				
Bromomethane Trichlorofluoromethane	8.54	2	10	85 445	70 70	130 130				
1,1-Dichloroethene	11.5 10.5	1 1	10 10	115 105	70 70	130				
Dichloromethane	10.5	2	10	105	70	130				
trans-1,2-Dichloroethene	11.3	1	10	113	70	130				
Methyl tert-butyl ether (MTBE)	10.8	0.5	10	108	70	130				
1,1-Dichloroethane	11.4	1	10	114	70	130				
cis-1,2-Dichloroethene Bromochloromethane	11.4	1	10	114	70 70	130 130				
Chloroform	10.7 11	1 1	10 10	107 110	70 70	130				
2,2-Dichloropropane	12.2	1	10	122	70	130				
1,2-Dichloroethane	10.2	1	10	102	70	130				
1,1,1-Trichloroethane	11.3	1	10	113	70	130				
1,1-Dichloropropene	11.6	1	10	116	70	130				
Carbon tetrachloride	11.2	1	10	112	70	130				
Benzene Dibromomethane	11.3 10.2	0.5 1	10 10	113 102	70 70	130 130				
1,2-Dichloropropane	11.8	1	10	118	70	130				
Trichloroethene	10.7	1	10	107	70	130				
Bromodichloromethane	9.95	1	10	100	70	130				
cis-1,3-Dichloropropene	10.3	1	10	103	70	130	•			
trans-1,3-Dichloropropene	9.67	1	10	97	70	130				
1,1,2-Trichloroethane Toluene	10.6	1	10	106	70 70	130 130				
1,3-Dichloropropane	10.3 10.7	0.5 1	10 10	103 107	70 70	130				
Dibromochloromethane	9.17	1	10	92	70	130				
1,2-Dibromoethane (EDB)	19.6	2	20	98	70	130				
Tetrachloroethene	10.4	1	10	104	70	130				
1,1,1,2-Tetrachloroethane	10.2	1	10	102	70	130				
Chlorobenzene Ethylbenzene	10.2	1	10	102	70 70	130				
m,p-Xylene	10.5 11	0.5 0.5	10 10	105 110	70 70	130 130				
Bromoform	8.16	1	10	82	70	130				
Styrene	7.32	1	10	73	70	130				
o-Xylene	10.9	0.5	10	109	70	130				
1,1,2,2-Tetrachloroethane	10.2	1	10	102	70	130				
1,2,3-Trichloropropane	20.1	2	20	100	70 70	130				
Isopropylbenzene Bromobenzene	11.4 10.3	1 1	10 10	114 103	70 70	130 130				
n-Propylbenzene	11.6	1	10	116	70	130				
4-Chlorotoluene	11.1	1	10	111	70	130				
2-Chlorotoluene	11	1	10	110	70	130				
1,3,5-Trimethylbenzene	11.1	1	10	111	70	130				
tert-Butylbenzene	10.6	1	10	106	70	130				
1,2,4-Trimethylbenzene sec-Butylbenzene	11.1 11.2	1	10 10	111 112	70 70	130 130				
1,3-Dichlorobenzene	10.7	1 1	10 10	107	70 70	130				
1,4-Dichlorobenzene	10.3	i	10	103	70	130				
4-Isopropyltoluene	11.2	1	10	112	70	130				
1,2-Dichlorobenzene	10.2	1	10	102	70	130				
n-Butylbenzene	12.4	1	10	124	70 70	130				
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	49.9 9.71	3	50 10	99.9	70 70	130 130				
Naphthalene	9.71 8.92	2	10 10	97 89	70 70	130				
Hexachlorobutadiene	19.6	2	20	98	70	130				
1,2,3-Trichlorobenzene	9.41	2	10	94	70	130				
Surr: 1,2-Dichloroethane-d4	10.6		10	106	70	130				
Surr: Toluene-d8	10.1		10	101	70	130				
Surr: 4-Bromofluorobenzene	10.3		10	103	70	130				



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Date: 04-Aug-09 QC Summary Report Work Order: 09072343

File ID: 09072914.D Sample ID: 09072442-08AMS Analyte	Units : µg/L		В	atch ID: MS	15W	0729M	Analysis Da	ate: 07/29/2009 18:20	
•	Unito :/I						, u., u., u.	atc. 0//20/2005 10.20	
Analyte	Units . µg/L		Run ID: M	SD_15_090	729	Ą	Prep Date:	07/29/2009	
	Result	PQL					UCL(ME) RPD	RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	35.2	2.5					167		
Chloromethane	41.2	10		Ö			145		
Vinyl chloride	55.2	2.5		Ċ			134		
Chloroethane	42.8	2.5		Ċ			154		
Bromomethane	38.9	10		C	7	8 19	176		
Trichlorofluoromethane	45.7	2.5	50	C	9	1 34	160		
1,1-Dichloroethene	42.3	2.5	50	O	8 (5 60	130		
Dichloromethane	43.6	10	50	C	8 (7 68	130		
trans-1,2-Dichloroethene	46	2.5		O	9		130		
Methyl tert-butyl ether (MTBE)	47.9	1.3		C			141		
1,1-Dichloroethane	46.9	2.5		O			130		
cis-1,2-Dichloroethene	48.1	2.5		C			130		
Bromochloromethane	45.9	2.5		Q			130		
Chloroform	45.3	2.5		0			130		
2,2-Dichloropropane	42.8	2.5		0			152		
1,2-Dichloroethane	44.7	2.5		0			135		
1,1,1-Trichloroethane	45.3	2.5		0			137		
1,1-Dichloropropene	46.8	2.5		0			130		
Carbon tetrachloride Benzene	44.5	2.5		0			147		
Dibromomethane	46.4 46.4	1.3		0			130 133		
1,2-Dichloropropane	46.1 50.5	2.5 2.5		0			130		
Trichloroethene	43.3	2.5		0			130		
Bromodichloromethane	43.3 42.1	2.5		0			134		
cis-1,3-Dichloropropene	40.5	2.5		0			130		
trans-1,3-Dichloropropene	40.5	2.5		O C			131		
1,1,2-Trichloroethane	47.5	2.5		0			130		
Toluene	43.8	1.3		d			130		
1,3-Dichloropropane	48.8	2.5		Ö			130		
Dibromochloromethane	40.9	2.5		ď			130		
1,2-Dibromoethane (EDB)	90.1	10		Ö			130		
Tetrachloroethene	41.7	2.5		ā			134		
1,1,1,2-Tetrachloroethane	44.6	2.5		Ċ			130		
Chlorobenzene	44.4	2.5		Ċ			130		
Ethylbenzene	46.2	1.3		0.75	9	1 68	130		
m,p-Xylene	46.8	1.3		0	9.	4 64	130		
Bromoform	36.3	2.5	50	C	7:	3 64	138		
Styrene	31.7	2.5	50	C) 6	3 69	130		M2
o-Xylene	47.3	1.3		C	9:	5 70	130		
1,1,2,2-Tetrachloroethane	48.7	2.5		ā			131		
1,2,3-Trichloropropane	93.3	10		Č			130		
Isopropylbenzene	48.8	2.5		C			138		
Bromobenzene	44.9	2.5		C	9	0 70	130		
n-Propylbenzene	48.8	2.5	50	C	9	8 66	132		
4-Citiorotoluene	47	2.5		C	9	4 70	130		
2-Chlorotoluene	47.9	2.5	50	O	9	6 70	130		
1,3,5-Trimethylbenzene	47.6	2.5	50	O	9	5 66	136		
tert-Butylbenzene	46.2	2.5	50	O	9:	2 65	137		
1,2,4-Trimethylbenzene	47.6	2.5		C			137		
sec-Butylbenzene	48.6	2.5		C	-		134		
1,3-Dichlorobenzene	45.7	2.5		O			130		
1,4-Dichlorobenzene	44.3	2.5		O			130		
4-Isopropyltoluene	47.7	2.5		Q			137		
1,2-Dichlorobenzene	45.5	2.5		Q			130		
n-Butylbenzene	51.8	2.5		Q			142		
1,2-Dibromo-3-chloropropane (DBCP)	229	15		Q			130		
1,2,4-Trichlorobenzene	39.9	10		0	_		137		
Naphthalene	37.6	10		0			167		
Hexachlorobutadiene	83.7	10		0			130		
1,2,3-Trichlorobenzene	39.1	10		C			144		
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	44.7		50		8		130		
Surr: 1 diuene-as Surr: 4-Bromofluorobenzene	50.9 51.2		50 50		10)2 70)2 70	130 130		



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

Date: 04-Aug-09 QC Summary Report Work Order: 09072343

Sample Matrix Spike Duplicate				est Code:						
File ID: 09072915.D		Type M:		atch ID: MS1	5W07	29M	Analys	is Date: 0	7/29/2009 18:42	?
Sample ID: 09072442-08AMSD	Units : µg/L	i	Run ID: M	SD_15_0907	729A		Prep D)ate: 0	7/29/2009	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) I	RPDRefVa	I %RPD(Limit)	Qua
Dichlorodifluoromethane	37.1	2.5	50	0	74	13	167	35.17	5.4(20)	
Chloromethane	42.5	10	50	0	85	28	145	41.2	3.2(20)	
Vinyl chloride	57.6	2.5	50	0	115	43	134	55.23	4.2(20)	
Chloroethane Bromomethane	43.2	2.5	50	0	86	39	154	42.77	1.1(20)	
Trichlorofluoromethane	41.6 46.9	10 2.5	50 50	0	83 94	19 34	176 160	38.88 45.72	6.7(20) 2.5(20)	
1,1-Dichloroethene	43	2.5	50	0	86	60	130	42.28	1.6(20)	
Dichloromethane	45	10	50	0	90	68	130	43.6	3.1(20)	
trans-1,2-Dichloroethene	46.1	2.5	50	ő	92	63	130	45.97	0.4(20)	
Methyl tert-butyl ether (MTBE)	50	1.3	50	0	100	56	141	47.85	4.4(20)	
1,1-Dichloroethane	47.4	2.5	50	0	95	61	130	46.94	0.9(20)	
cis-1,2-Dichloroethene	49.4	2.5	50	0	99	70	130	48.13	2.6(20)	
Bromochloromethane	48.2	2.5	50	0	96	70	130	45.91	4.9(20)	
Chloroform	47.1	2.5	50	0	94	67	130	45.3	3.9(20)	
2,2-Dichloropropane 1,2-Dichloroethane	42.7 46.2	2.5 2.5	50 50	0	85 92	30 60	152 135	42.8 44.66	0.2(20) 3.3(20)	
1,1,1-Trichloroethane	46.2	2.5	50	0	93	59	137	45.33	2.1(20)	
1,1-Dichloropropene	47.1	2.5	50	0	94	63	130	46.81	0.7(20)	
Carbon tetrachloride	45.2	2.5	50	0	90	50	147	44.5	1.7(20)	
Benzene	47.6	1.3	50	Ö	95	67	130	46.4	2.6(20)	
Dibromomethane	46.7	2.5	50	0	93	69	133	46.06	1.3(20)	
1,2-Dichloropropane	51.7	2.5	50	0	103	69	130	50.48	2.5(20)	
Trichloroethene	44.3	2.5	50	0	89	69	130	43.26	2.4(20)	
Bromodichloromethane	44.4	2.5	50	0	89	66	134	42.13	5.1(20)	
cis-1,3-Dichloropropene	42	2.5	50	0	84	63	130	40.52	3.6(20)	
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	41.8 49.4	2.5 2.5	50 50	0	84 99	66 68	131 130	40.51 47.51	3.1(20) 3.9(20)	
Toluene	49.4	1.3	50	0	99 86	66	130	43.76	1.7(20)	
1,3-Dichloropropane	48.9	2.5	50	0	98	70	130	48.77	0.2(20)	
Dibromochloromethane	41.3	2.5	50	Ö	83	70	130	40.93	0.9(20)	
1,2-Dibromoethane (EDB)	88.8	10	100	0	89	70	130	90.07	1.4(20)	
Tetrachloroethene	40.5	2.5	50	0	81	61	134	41.7	3.0(20)	
1,1,1,2-Tetrachloroethane	44.5	2.5	50	0	89	70	130	44.57	0.1(20)	
Chlorobenzene	43.9	2.5	50	0	88	70	130	44.44	1.2(20)	
Ethylbenzene	45.7	1.3	50	0.75	90	68	130	46.18	1.1(20)	
m,p-Xylene Bromoform	46.1 37.1	1.3 2.5	50 50	0	92 74	64 64	130 138	46.78 36.31	1.5(20) 2.1(20)	
Styrene	31.6	2.5	50	0	63	69	130	31.7	0.2(20)	М2
p-Xylene	47	1.3	50	0	94	70	130	47.27	0.5(20)	
1,1,2,2-Tetrachloroethane	48.5	2.5	50	0	97	65	131	48.74	0.5(20)	
1,2,3-Trichloropropane	93.9	10	100	ő	94	70	130	93.33	0.6(20)	
Isopropylbenzene	47.8	2.5	50	Ō	96	64	138	48.81	2.2(20)	
Bromobenzene	44.7	2.5	50	0	89	70	130	44.86	0.4(20)	
n-Propylbenzene	47.8	2.5	50	0	96	66	132	48.81	2.1(20)	
4-Chlorotoluene	47.5	2.5	50	0	95	70	130	46.97	1.0(20)	
2-Chlorotoluene	47.5	2.5	50	0	95	70	130	47.91	1.0(20)	
1,3,5-Trimethylbenzene tert-Butylbenzene	46.4	2.5	50	0	93	66 65	136	47.56	2.4(20)	
1,2,4-Trimethylbenzene	45.6 47.1	2.5	50 50	0	91 94	65 65	137 137	46.18 47.6	1.2(20)	
sec-Butylbenzene	46.9	2.5 2.5	50	0	94	66	134	48.62	1.1(20) 3.5(20)	
1,3-Dichlorobenzene	46.2	2.5	50	0	92	70	130	45.73	1.0(20)	
1,4-Dichlorobenzene	44.3	2.5	50	Õ	89	70	130	44.34	0.0(20)	
4-Isopropyltoluene	47	2.5	50	Ö	94	66	137	47.69	1.5(20)	
1,2-Dichlorobenzene	45.5	2.5	50	0	91	70	130	45.47	0.0(20)	
n-Butylbenzene	50.8	2.5	50	0	102	60	142	51.76	1.9(20)	
1,2-Dibromo-3-chloropropane (DBCP)	236	15	250	0	94	67	130	228.6	3.0(20)	
1,2,4-Trichlorobenzene	39.8	10	50	0	80	61	137	39.94	0.3(20)	
Naphthalene Hexachlorobutadiene	40.6	10	50 100	0	81 92	40	167	37.56	7.9(20)	
1,2,3-Trichlorobenzene	82.4 39.8	10 10	100 50	0	82 80	61 51	130 144	83.71 39.1	1.6(20) 1.7(20)	
Surr: 1,2-Dichloroethane-d4	46.3	10	50	U	93	70	130	33.1	1.7 (20)	
Surr: Toluene-d8	49.5		50		99	70	130			
	51.2		50		102	70	130			



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Date: 04-Aug-09

QC Summary Report

Work Order: 09072343

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.

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

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

PO: 218013

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

Page: 1 of 1

WorkOrder: BMIS09072343

Report Due By: 5:00 PM On: 06-Aug-09

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received Date Printed 23-Jul-09

QC Level: DS4 Client's COC #: 25751 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job : G005862/JPL Groundwater Monitoring

Sample ID BMI09072343-04A MW-14-2 BMI09072343-02A MW-14-4 BMI09072343-01A MW-14-5 BMI09072343-08A EB-2-7/22/09 BMI09072343-07A BMI09072343-06A DUPE-2-3Q09 BMI09072343-05A BMI09072343-03A MW-14-3 MW-14-1 TB-2-7/22/09 Sample ID å Matrix Date å å å Š å Š AQ 07/22/09 07:57 07/22/09 08:20 07/22/09 09:40 07/22/09 09:20 07/22/09 07/22/09 10:15 Collection 07/22/09 07/22/09 00:00 08:50 No. of Bottles Alpha Sub G Ġ 5 5 4 Ġ 0 0 0 0 0 0 0 0 TAT 5 6 5 6 10 6 5 6 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç Ç Ç ð Ç VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 3/16/09 One voa rec'd with air Sample Remarks bubble >6mm. Level IV QC

Comments:

No security seals. Frozen ice. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

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

Information: GENALO TOMB		P. P.	Samples Collected From Which State? AZ CA X NV WA ID OR OTHER	257
Address 505 KAG AVE Dity, State, Zip Collumbus, OH 4325 Phone Number Fax		Phone (775) 355-1044 Fax (775) 355-0406	\nalys	- Tayo #
THE LOUND CONNER	Po.# 18013	Job# 6005862 /	11 665	Required QC Level?
OCD TOWN AVE, G-WS	EMail Address	4.2	200	/ ' " (1) IV
DIEGO CA	Phone #a) 726-7311	Fax #	G()	EDD / EDF? YES NO
Matrix* Sampled by	٦	Total and type of containers	Car	Giobal ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description		I V / / /	REMARKS
757 /2/m /AUBM109072343-01	MW-14-5	Now No /4 X		LEVEL IV OC
820 -02	MW-14-4	× 4/91	*	
850 -03	MW-14-3	1 S/ dA	X	
40-	MW-IUD	× ×	X	
1015	MW-14-	× ×	X	air bubble Zloman
J - Ob	DUPE-2-3009	×	×	Duruate
	0			7
	10. 2 11000	\		1 JUL BOXX
80-	EB-2-7/21/29	1 W/5 X	X	EQUIP BLANK
ADDITIONAL INSTRUCTIONS:				And the second s
oignaine	FIRENAME	Company		
Received by Receiv	MARC NENDURA	Mona	EE< 7/23/	1/21/5 /230
Received by				
Relinquished by				
Received by				
Kev: AO - Aqueous SO - Soil WA - Waste	e OT - Other AB - Air ** I -I iter	liter V-Voa S-Soil lar O-Orbo	T-Tadlar 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: 06-Aug-09

David Conner Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

(818) 393-2808

BMI09072442

Cooler Temp:

4°C

Alpha's Sample ID	Client's Sample ID	Matrix	
09072442-01A	MW-18-5	Aqueous	
09072442-02A	MW-18-4	Aqueous	
09072442-03A	MW-18-3	Aqueous	
09072442-04A	MW-18-2	Aqueous	
09072442-05A	DUPE-3-3Q09	Aqueous	
09072442-06A	EB-3-7/23/09	Aqueous	
09072442-07A	TB-3-7/23/09	Aqueous	
09072442-08A	MW-3-4	Aqueous	
09072442-09A	MW-3-3	Aqueous	
09072442-10A	MW-3-2	Aqueous	

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	<u>Analyte</u>	
09072442-02A	EPA Method 314.0	Perchlorate	
09072442-03A	EPA Method 314.0	Perchlorate	
09072442-05A	EPA Method 314.0	Perchlorate	
09072442-10A	EPA Method 314.0	Perchlorate	

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

Roger Scholl



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ANALYTICAL REPORT

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

Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/24/09

Job#:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration I	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-18-5 BMI09072442-01A	Perchlorate	ND	1.00 μg/L	07/23/09	07/29/09
Client ID : Lab ID :	MW-18-4 BMI09072442-02A	Perchlorate	43.2	1.00 µg/L	07/23/09	07/29/09
Client ID : Lab ID :	MW-18-3 BMI09072442-03A	Perchlorate	49.3	1.00 µg/L	07/23/09	07/29/09
Client ID : Lab ID :	MW-18-2 BMI09072442-04A	Perchlorate	ND	1.00 µg/L	07/23/09	07/29/09
Client ID: Lab ID:	DUPE-3-3Q09 BMI09072442-05A	Perchlorate	49.7	1.00 µg/L	07/23/09	07/29/09
Client ID:	EB-3-7/23/09 BMI09072442-06A	Perchlorate	ND	1.00 µg/L	07/23/09	07/29/09
Client ID: Lab ID:	MW-3-4 BMI09072442-08A	Perchlorate	ND	1.00 µg/L	07/23/09	07/29/09
Client ID: Lab ID: Client ID:	MW-3-3 BMI09072442-09A MW-3-2	Perchlorate	ND	1.00 µg/L	07/23/09	07/29/09
Lab ID:	MW-3-2 BMI09072442-10A	Perchlorate	219	5.00 µg/L	07/23/09	07/31/09

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 / info@alpha-analytical.com

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.

8/6/09

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 3990 Old Town Ave San Diego, CA 92110

David Conner Attn:

(818) 393-2808 Phone:

Fax: (614) 458-6641

Date Received: 07/24/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-18-4 BMI09072442-02A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID: Lab ID:	MW-18-3 BMI09072442-03A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID : Lab ID :	MW-18-2 BMI09072442-04A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID : Lab ID :	DUPE-3-3Q09 BMI09072442-05A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID : Lab ID :	EB-3-7/23/09 BMI09072442-06A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID: Lab ID:	MW-3-4 BMI09072442-08A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID: Lab ID:	MW-3-3 BMI09072442-09A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09
Client ID : Lab ID :	MW-3-2 BMI09072442-10A	Chromium (Cr)	ND	0.0050 mg/L	07/23/09	08/07/09

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 / info@alpha-analytical.com

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8/10/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

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

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID : Lab ID :	MW-18-5 BMI09072442-01 A	Sulfur dioxide	3.6	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	MW-18-4 BMI09072442-02A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	MW-18-3 BMI09072442-03A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID: Lab ID:	MW-18-2 BMI09072442-04A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	DUPE-3-3Q09 BMI09072442-05A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	EB-3-7/23/09 BMI09072442-06A	2-Methyl-1-propene	12	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	TB-3-7/23/09 BMI09072442-07A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	MW-3-4 BMI09072442-08A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	MW-3-3 BMI09072442-09A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/29/09
Client ID : Lab ID :	MW-3-2 BMI09072442-10A	*** None Found ***	ND	2.0 μg/L	07/24/09	07/23/09	07/30/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulur

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 / info@alpha-analytical.com

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.

8/6/09 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

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-01A

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

Attn:

David Conner (818) 393-2808

Phone:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

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-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-Trichlorobenzene	ND	1.0	μg/L
26 Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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	90	(70-130)	%RE
30 1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	105	(70-130)	%RE
31 Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106	(70-130)	%RE
32 1,3-Dichloropropane	ND	0.50	μg/L			,	,	
33 Dibromochloromethane	ND	0.50	μg/L					
34 1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
25 Tatrachlaracthana	NB							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

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 / info@alpha-analytical.com 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

8/6/09

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 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-02A

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

Attn:

David Conner (818) 393-2808

Phone:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

	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	2.4	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND '	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	13	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	1.4	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-peritanone (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	90	(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			,	, ,	
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
0.0	Takes all lane all and a		-	. •					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

ND

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

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.

8/6/09

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

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-03A Client I.D. Number: MW-18-3

Attn: Phone:

David Conner (818) 393-2808

Fax:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

	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-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	3 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	1.5	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	6.1	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 (DBC		2.5	μg/L
25	Trichloroethene	0.67	0.50	μg/L	60		ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27	4-Methyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	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			1	(
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

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

0.50

μg/L

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com 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. 8/6/09

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

3990 Old Town Ave San Diego, CA 92110

Job#: G005862/JI

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-04A Client I.D. Number: MW-18-2

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

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-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-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 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	2.0	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	97	(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	. •	- · · · · · · · · ·	1	, , , , , , ,	
33 Dibromochloromethane	ND	0.50	µg/L					
34 1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
25 Totrophiomethers			· -					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl Kandy Saula

Walter Firehour

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

0.50

μg/L

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

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.

8/6/09

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 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-05A Client I.D. Number: DUPE-3-3Q09

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

_	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	ug/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	3 2-Butanone (MEK)	ND	10	ug/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	1.6	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-Butvibenzene	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	6.8	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-Butvibenzene	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	0.71	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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	.,_,_	94	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

μg/L

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8/6/09

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

3990 Old Town Ave San Diego, CA 92110

Job#: G005862

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-06A Client I.D. Number: EB-3-7/23/09

Attn:

David Conner (818) 393-2808

Phone:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

	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	2.0	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	89	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	109	(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	(12.12)	,
33	Dibromochloromethane	ND	0.50	µg/L					
~ 4	4.0 D/h (EDD)		2.00						

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

Kandy Saulner

Walter Finden

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

1.0

μg/L

μg/L

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

8/6/09

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 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-07A

Client I.D. Number: TB-3-7/23/09

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09

Analyzed: 07/29/09

Volatile Organics by GC/MS

Co	mpound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1 Dichle	orodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2 Chlor	omethane	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 Chlor	oethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5 Brom	omethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6 Trichl	orofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7 1,1-D	ichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
	oromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9 Freor	n-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 Methy	/I tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12 1,1-D	ichloroethane	ND	0.50	μg/L	47	n-Propvibenzene	ND	0.50	µg/L
13 2-But	anone (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 Brom	ochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16 Chlor	oform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17 2,2-D	ichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18 1,2-D	ichloroethane	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-D	ichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21 Carbo	on tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22 Benze	ene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23 Dibro	momethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24 1,2-D	ichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25 Trichl	oroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
	odichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27 4-Met	hyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28 cis-1,	3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29 trans-	1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(70-130)	
30 1,1,2-	Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	105	(70-130)	%REC
31 Tolue	ne	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC
•	ichloropropane	ND	0.50	μg/L			,	, ,	
	mochloromethane	ND	0.50	μg/L					
24 42 0	(hanna a shina a /CDD)	1		· -					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

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

1.0

μg/L

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

8/6/09 **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

3990 Old Town Ave San Diego, CA 92110

Job#: G005862/IPI

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-08A Client I.D. Number: MW-3-4

Attn:

David Conner

Phone: Fax:

(818) 393-2808 (614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

Compound		Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1 Dichlorodifluorometh	hane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	 μg/L
2 Chloromethane		ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3 Vinyl chloride		ND	0.50	μg/L	38	Ethylbenzene	0.75	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 Trichlorofluorometha	ane	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-Dichloroet	hene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11 Methyl tert-butyl ethe	er (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-Dichloroethe	ene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15 Bromochloromethan	ne	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-Trichloroethan	ne	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-Trichlorobenzene	ND	1.0	μg/L
26 Bromodichlorometha	ane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	μg/L
27 4-Methyl-2-pentanor	ne (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	. 1.0	μg/L
28 cis-1,3-Dichloroprop	ene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29 trans-1,3-Dichloropre	opene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	90	(70-130)	%REC
30 1,1,2-Trichloroethan	ie	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		-	'	,	
33 Dibromochlorometha	ane	ND	0.50	μg/L					
34 1,2-Dibromoethane	(EDB)	ND	1.0	μg/L					
25 Totrochlereothone		ND							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

Roger Scholl Kandys

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 / info@alpha-analytical.com

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8/6/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-09A

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

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/29/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	0 trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
1	1 Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
1:	2 1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
1:	3 2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	4 cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	5 Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	6 Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	7 2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	3 1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	9 1,1,1-Trichloroethane	ND	0.50	μg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	0 1,1-Dichloropropene	ND	0.50	μg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
2	1 Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	2 Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	3 Dibromomethane	ND	0.50	µg/L	58	n-Butvlbenzene	ND	0.50	μg/L
24	4 1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	5 Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	6 Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	μg/L
27	7 4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28		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	93	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	107	(70-130)	%REC
3	1 Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	
32	2 1,3-Dichloropropane	ND	0.50	µg/L				(,	
33	3 Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

ND

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

μg/L

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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

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072442-10A

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

Attn:

David Conner (818) 393-2808

Phone:

(614) 458-6641

Sampled: 07/23/09

Received: 07/24/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

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	0.63	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	1.0	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-Butvibenzene	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	1.2	0.50	μg/L	61	Naphthalene	ND	2.0	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	92	(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			,	, ,	
33 Dibromochloromethane	1.2	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

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.

8/6/09

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: BMI09072442

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН
09072442-01A	MW-18-5	Aqueous	2
09072442-02A	MW-18-4	Aqueous	2
09072442-03A	MW-18-3	Aqueous	2
09072442-04A	MW-18-2	Aqueous	2
09072442-05A	DUPE-3-3Q09	Aqueous	2
09072442-06A	EB-3-7/23/09	Aqueous	2
09072442-07A	TB-3-7/23/09	Aqueous	2
09072442-08A	MW-3-4	Aqueous	2
09072442-09A	MW-3-3	Aqueous	2
09072442-10A	MW-3-2	Aqueous	2

8/6/09

Report Date



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Date: 05-Aug-09		(QC S	umn	ary R	epor	t				Work Ordo 09072442	
Method Blan File ID: 14	ık		Туре	MBLK		ode: EF ID: 224 3		thod 314.0	Analy	/sis Date:	07/29/2009 12:55	
Sample ID:	MB-22432	Units : μg/L			D: IC_3_0				•	Date:	07/29/2009	
Analyte		Result	PQL	Spk	Val Spk	RefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory I File ID: 15	Fortified Blank		Туре	LFB		ode: EF ID: 224 3		thod 314.0	Analy	sis Date:	07/29/2009 13:13	
Sample ID:	LFB-22432	Units : µg/L		Run II	D: IC_3_ (90729A	١		Prep	Date:	07/29/2009	
Analyte		Result	PQL					LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		23.4		2	25		93	85	115			
Sample Matr File ID: 23	rix Spike		Туре	LFM		ode: EF ID: 224 3		thod 314.0	Analy	sis Date:	07/29/2009 15:41	
Sample ID:	09072442-04ALFM	Units : µg/L		Run II	D: IC_3_0	090729 <i>A</i>			Prep	Date:	07/29/2009	
Analyte		Result	PQL	Spk	Val Spk	RefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		22.5		2	25	0	90	80	120	-		
Sample Matr	rix Spike Duplicate		Туре	LFMD	Test C	ode: EF	A Met	thod 314.0				
File ID: 24					Batch	ID: 224 3	32		Analy	sis Date:	07/29/2009 15:59	
Sample ID:	09072442-04ALFMD	Units : µg/L		Run II	D: IC_3_ 0	090729 <i>A</i>			Prep	Date:	07/29/2009	
Analyte		Result	PQL					LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		22.9		2	25	0	91	80	120	22.5	3 1.5(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.



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Date: 11-Aug-09	QC Summary Report	Work Order: 09072442
Method Blank File ID: 080609.B\45MB.D\ Sample ID: MB-22445		30/2009
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	%RPD(Limit) Qual
Chromium (Cr)	ND 0.005	
Laboratory Control Spike File ID: 080609.B\45L1.D\ Sample ID: LCS-22445	Type LCS Test Code: EPA Method 200.8 Batch ID: 22445K Analysis Date: 08/0 Units: mg/L Run ID: ICP/MS 090807A Prep Date: 07/3	07/2009 09:46 30/2009
Analyte	Units: mg/L Run ID: ICP/MS_090807A Prep Date: 07/3 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	
Chromium (Cr)	0.0432	orn D(Ellin) Gaar
Sample Matrix Spike File ID: 080609.B\MS.D\	Type MS Test Code: EPA Method 200.8 Batch ID: 22445K Analysis Date: 08/0	
Sample ID: 09072442-08AMS		30/2009
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	%RPD(Limit) Qual
Chromium (Cr)	0.0498 0.005 0.05 0 99.6 80 120	
Sample Matrix Spike Duplicate File ID: 080609.B\MSD.D\	Type MSD Test Code: EPA Method 200.8 Batch ID: 22445K Analysis Date: 08/0	07/2009 10:14
Sample ID: 09072442-08AMSD	Units: mg/L Run ID: ICP/MS_090807A Prep Date: 07/3	30/2009
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal 9	%RPD(Limit) Qual
Chromium (Cr)	0.0458 0.005 0.05 0 92 80 120 0.04982	8.4(20)

Comments:

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



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Work Order: Date: QC Summary Report 06-Aug-09 09072442 Method Blank Type MBLK Test Code: File ID: 09072907.D Analysis Date: 07/29/2009 15:32 Batch ID: M\$15W0729M Sample ID: MBLK MS15W0729M Units: µg/L Prep Date: 07/29/2009 Run ID: MSD 15 090729A Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result PQL Qual Dichlorodifluoromethane ND 0.5 Chloromethane ND Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND Trichlorofluoromethane ND 0.5 1,1-Dichloroethene ND 0.5 Dichloromethane ND 1 Freon-113 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1,1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1,2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1.2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1,1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1,2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1.3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1.2-Dibromoethane (EDB) ND 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 Nanhthalene ND Hexachlorobutadiene ND 1 1,2,3-Trichlorobenzene ND Surr: 1,2-Dichloroethane-d4 70 130 9.07 10 91 Surr: Toluene-d8 104 70 130 10.4 10



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Date: 06-Aug-09	. (QC Summary Report							
Surr: 4-Bromofluorobenzene	10.3		10	103	70	130			
Laboratory Control Spike		Type LCS	Test C	ode:					
File ID: 09072905.D			Batch	ID: MS15W0729	М	Analysis Da	te: 07/29/2009 14:37		
Sample ID: LCS MS15W0729M	Units : µg/L	Ri	ın ID: MSD_	15_090729A		Prep Date:	07/29/2009		
Analyte	Result	PQL	SpkVal Spk	RefVal %REC I	_CL(ME)) UCL(ME) RPDF	RefVal_%RPD(Limit)	Qua	
Dichlorodifluoromethane	9.15	1	10	92	70	130			
Chloromethane	9.15	2	10	92	70	130			
Vinyl chloride	12.4	1	10	124	70	130			
Chloroethane Bromomethane	9.74	1	10	97 95	70 70	130 130			
Trichlorofluoromethane	8.54 11.5	2 1	10 10	85 115	70 70	130			
1,1-Dichloroethene	10.5	i	10	105	70	130			
Dichloromethane	10.5	2	10	105	70	130			
trans-1,2-Dichloroethene	11.3	1	10	113	70	130			
Methyl tert-butyl ether (MTBE)	10.8	0.5	10	108	70	130			
1,1-Dichloroethane cis-1,2-Dichloroethene	11.4 11.4	1 1	10 10	114 114	70 70	130 130			
Bromochloromethane	10.7	1	10	107	70	130			
Chloroform	11	1	10	110	70	130			
2,2-Dichloropropane	12.2	1	10	122	70	130			
1,2-Dichloroethane	10.2	1	10	102	70	130			
1,1,1-Trichloroethane	11.3	1	10	113	70	130			
1,1-Dichloropropene	11.6	1	10	116	70 70	130			
Carbon tetrachloride Benzene	11.2 11.3	1 0.5	10 10	112 113	70 70	130 130			
Dibromomethane	10.2	1	10	102	70	130			
1,2-Dichloropropane	11.8	1	10	118	70	130			
Trichloroethene	10.7	1	10	107	70	130			
Bromodichloromethane	9.95	1	10	100	70	130			
cis-1,3-Dichloropropene	10.3	1	10	103	70	130			
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	9.67 10.6	1 1	10 10	97 106	70 70	130 130			
Toluene	10.3	0.5	10	103	70	130			
1,3-Dichloropropane	10.7	1	10	107	70	130			
Dibromochloromethane	9.17	1	10	92	70	130			
1,2-Dibromoethane (EDB)	19.6	2	20	98	70	130			
Tetrachloroethene	10.4	1	10	104	70	130			
1,1,1,2-Tetrachloroethane Chlorobenzene	10.2 10.2	1	10 10	102 102	70 70	130 130			
Ethylbenzene	10.5	1 0.5	10	102	70	130			
m,p-Xylene	11	0.5	10	110	70	130			
Bromoform	8.16	1	10	82	70	130			
Styrene	7.32	1	10	73	70	130			
o-Xylene	10.9	0.5	10	109	70	130			
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	10.2 20.1	1 2	10 20	102 100	70 70	130 130			
Isopropylbenzene	11.4	1	10	114	70 70	130			
Bromobenzene	10.3	1	10	103	70	130			
n-Propylbenzene	11.6	1	10	116	70	130			
4-Chlorotoluene	11.1	1	10	111	70	130			
2-Chlorotoluene	11	1	10	110	70	130			
1,3,5-Trimethylbenzene tert-Butylbenzene	11.1 10.6	1	10	111 106	70 70	130 130			
1,2,4-Trimethylbenzene	11.1	1	10 10	111	70 70	130			
sec-Butylbenzene	11.2	i	10	112	70	130			
1,3-Dichlorobenzene	10.7	1	10	107	70	130			
1,4-Dichlorobenzene	10.3	1	10	103	70	130			
4-Isopropyltoluene	11.2	1	10	112	70	130			
1,2-Dichlorobenzene n-Butylbenzene	10.2 12.4	1	10 10	102 124	70 70	130 130			
1,2-Dibromo-3-chloropropane (DBCP)	12.4 49.9	3	10 50	124 99.9	70 70	130			
1,2,4-Trichlorobenzene	9.71	2	10	97	70	130			
Naphthalene	8.92	2	10	89	70	130			
Hexachlorobutadiene	19.6	2	20	98	70	130			
1,2,3-Trichlorobenzene	9.41	2	10	94	70	130			
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	10.6 10.1		10 10	106 101	70 70	130 130			
Surr: 4-Bromofluorobenzene	10.1		10	103	70 70	130			



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Date: Work Order: QC Summary Report 06-Aug-09 Type MS Test Code: Sample Matrix Spike File ID: 09072912.D Batch ID: MS15W0729M Analysis Date: 07/29/2009 17:36 Sample ID: 09072442-04AMS Units: ua/L Run ID: MSD 15 090729A Prep Date: 07/29/2009 Analyte Result **PQL** SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Dichlorodifluoromethane 40.7 2.5 Chloromethane 44.2 Vinvl chloride 58.7 2.5 Chloroethane 45.1 2.5 Bromomethane 39.2 Trichlorofluoromethane 2.5 51.6 1.1-Dichloroethene 47.3 2.5 Dicnloromethane 46.6 trans-1,2-Dichloroethene 49.7 2.5 Methyl tert-butyl ether (MTBE) 48.5 1.3 Λ 1,1-Dichloroethane 50.5 2.5 cis-1,2-Dichloroethene 50.5 2.5 Bromochloromethane 49.9 2.5 99.8 Chloroform 49.9 2.5 99.8 2,2-Dichloropropane 2.5 45.9 1,2-Dichloroethane 46.7 2.5 1,1,1-Trichloroethane 48.8 2.5 1.1-Dichloropropene 50.9 n 2.5 Carbon tetrachloride 47.1 2.5 Benzene 50.3 1.3 Dibromomethane 46.9 2.5 1,2-Dichloropropane 2.5 Trichloroethene 46.8 2.5 Bromodichloromethane 44.9 2.5 cis-1,3-Dichloropropene 41.8 2.5 trans-1,3-Dichloropropene 2.5 n 1,1,2-Trichloroethane 49.1 2.5 Toluene 45.8 1.3 1,3-Dichloropropane 49.5 2.5 Dibromochloromethane 41.7 2.5 1,2-Dibromoethane (EDB) 90.6 Tetrachloroethene 43.2 2.5 1,1,1,2-Tetrachloroethane 46.4 2.5 Chlorobenzene 45.4 2.5 Ethylbenzene 47.6 1.3 m.p-Xvlene 48.4 1.3 Λ Bromoform 35.3 2.5 Styrene M2 32.5 2.5 o-Xylene 48.9 1.3 1,1,2,2-Tetrachloroethane 47.4 2.5 1,2,3-Trichloropropane 91.4 Isopropylbenzene 2.5 Bromobenzene 45.7 2.5 n-Propylbenzene 50.2 2.5 4-Chlorotoluene 49.5 2.5 2-Chlorotoluene 49.5 2.5 n 1,3,5-Trimethylbenzene 48.6 2.5 tert-Butylbenzene 47.9 2.5 1,2,4-Trimethylbenzene 48.8 2.5 sec-Butylbenzene 49.1 2.5 1,3-Dichlorobenzene 46.6 2.5 1,4-Dichlorobenzene 44.4 2.5 4-Isopropyltoluene 48.9 2.5 Λ 1,2-Dichlorobenzene 45.5 2.5 n-Butvlbenzene 53.1 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene 37.9 Naphthalene 36.8 O Hexachlorobutadiene 82.1 1.2.3-Trichlorobenzene 36.9 Surr: 1,2-Dichloroethane-d4 47.3 Surr: Toluene-d8 Surr: 4-Bromofluorobenzene 50.8



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Date: 06-Aug-09 QC Summary Report Work Order: 09072442

Sample Matrix Spike		Туре М.	T e	est Code:					
File ID: 09072914.D			Ва	atch ID: MS	15W07	29M	Analysis Date	: 07/29/2009 18:20	
Sample ID: 09072442-08AMS	Units : µg/L	F	Run ID: MS	SD_15_090	729A		Prep Date:	07/29/2009	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME	UCL(ME) RPDRe	fVal %RPD(Limit)	Qu
Dichlorodifluoromethane	35.2	2.5	50	0		13	167		
Chloromethane	41.2	10	50	0	82	28	145		
Vinyl chloride Chloroethane	55.2 42.8	2.5 2.5	50 50	0	110 86	43 39	134 154		
Bromomethane	38.9	10	50	0	78	19	176		
Trichlorofluoromethane	45.7	2.5	50	Ö	91	34	160		
1,1-Dichloroethene	42.3	2.5	50	0	85	60	130		
Dichloromethane	43.6	10	50	0	87	68	130		
trans-1,2-Dichloroethene	46	2.5	50	0	92	63	130		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	47.9 46.9	1.3 2.5	50 50	0	96 94	56 61	141 130		
cis-1,2-Dichloroethene	48.1	2.5	50	0	96	70	130		
Bromochloromethane	45.9	2.5	50	0	92	70	130		
Chloroform	45.3	2.5	50	0	91	67	130		
2,2-Dichloropropane	42.8	2.5	50	0	86	30	152		
1,2-Dichloroethane	44.7	2.5	50	0	89	60	135		
1,1,1-Trichloroethane 1,1-Dichloropropene	45.3 46.8	2.5 2.5	50 50	0	91 94	59 63	137 130		
Carbon tetrachloride	44.5	2.5 2.5	50	0	89	50	147		
Benzene	46.4	1.3	50	0	93	67	130		
Dibromomethane	46.1	2.5	50	0	92	69	133		
1,2-Dichloropropane	50.5	2.5	50	0	101	69	130		
Trichloroethene	43.3	2.5	50	0	87	69	130		
Bromodichloromethane cis-1,3-Dichloropropene	42.1 40.5	2.5 2.5	50 50	0	84 81	66 63	134 130		
trans-1,3-Dichloropropene	40.5 40.5	2.5	50	0	81	66	131		
1,1,2-Trichloroethane	47.5	2.5	50	0	95	68	130		
Toluene	43.8	1.3	50	0	88	66	130		
1,3-Dichloropropane	48.8	2.5	50	0	98	70	130		
Dibromochloromethane	40.9	2.5	50	0	82	70	130		
1,2-Dibromoethane (EDB) Tetrachloroethene	90.1 41.7	10 2.5	100 50	0	90 83	70 61	130 134		
1,1,1,2-Tetrachloroethane	44.6	2.5	50	0	89	70	130		
Chlorobenzene	44.4	2.5	50	0	89	70	130		
Ethylbenzene	46.2	1.3	50	0.75	91	68	130		
m,p-Xylene	46.8	1.3	50	0	94	64	130		
Bromoform	36.3	2.5	50	0	73	64	138		
Styrene	31.7	2.5	50	. 0	63	69	130		M2
o-Xylene 1,1,2,2-Tetrachloroethane	47.3	1.3	50	0	95 97	70 65	130		
1,2,3-Trichloropropane	48.7 93.3	2.5 10	50 100	0	97	65 70	131 130		
Isopropylbenzene	48.8	2.5	50	0	98	64	138		
Bromobenzene	44.9	2.5	50	0	90	70	130		
n-Propylbenzene	48.8	2.5	50	0	98	66	132		
4-Chlorotoluene	47	2.5	50	0	94	70	130		
2-Chlorotoluene 1,3,5-Trimethylbenzene	47.9	2.5	50	0	96 95	70	130 136		
tert-Butylbenzene	47.6 46.2	2.5 2.5	50 50	0	95 92	66 65	137		
1,2,4-Trimethylbenzene	47.6	2.5	50	0	95	65	137		
sec-Butylbenzene	48.6	2.5	50	0	97	66	134		
1,3-Dichlorobenzene	45.7	2.5	50	0	91	70	130		
1,4-Dichlorobenzene	44.3	2.5	50	0	89	70	130		
4-Isopropyltoluene 1,2-Dichlorobenzene	47.7 45.5	2.5 2.5	50 50	0	95 91	66 70	137 130		
n-Butylbenzene	45.5 51.8	2.5 2.5	50 50	0	104	60	142		
1,2-Dibromo-3-chloropropane (DBCP)	229	15	250	0	91	67	130		
1,2,4-Trichlorobenzene	39.9	10	50	Ō	80	61	137		
Naphthalene	37.6	10	50	0	75	40	167		
Hexachlorobutadiene	83.7	10	100	0	84	61	130		
1,2,3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4	39.1	10	50 50	0		51 70	144		
Surr: Toluene-d8	44.7 50.9		50 50		89 102	70 70	130 130		
Surr: 4-Bromofluorobenzene	51.2		50		102	70 70	130		



Surr: 4-Bromofluorobenzene

50.4

Alpha Analytical, Inc.

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Date: Work Order: QC Summary Report 06-Aug-09 09072442 Type MSD Test Code: Sample Matrix Spike Duplicate File ID: 09072913.D Batch ID: MS15W0729M Analysis Date: 07/29/2009 17:58 Sample ID: 09072442-04AMSD 07/29/2009 Units: µg/L Run ID: MSD_15_090729A Prep Date: SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result **PQL** Qual Dichlorodifluoromethane 37.6 2.5 13 167 40.69 8.0(20) Chloromethane 6.2(20) 50 0 83 28 145 44.15 41.5 10 Vinyl chloride 54.4 2.5 50 0 109 43 134 58.65 7.5(20) Chloroethane 40.8 2.5 50 0 82 39 154 45.13 10.0(20) Bromomethane 39.23 3.5(20) 19 176 37.9 10 50 0 76 Trichlorofluoromethane 51.55 9.5(20) 46.9 2.5 50 0 94 34 160 1.1-Dichloroethene 42.7 2.5 50 0 85 60 130 47.29 10.3(20) Dichloromethane 44.1 50 0 88 68 130 46.62 5.6(20) 10 trans-1,2-Dichloroethene 0 49.67 7.5(20) 46.1 2.5 50 92 63 130 Methyl tert-butyl ether (MTBE) 0 48.52 0.0(20)48.5 1.3 50 97 56 141 1,1-Dichloroethane 47.5 2.5 50 0 95 61 130 50.47 6.1(20)cis-1,2-Dichloroethene 45.8 0 92 70 130 50.48 9.8(20)2.5 50 Bromochloromethane 47.3 0 95 5.3(20) 2.5 50 70 130 49.9 Chloroform 0 5.5(20) 47.2 2.5 50 94 67 130 49.92 2,2-Dichloropropane 43.1 2.5 50 0 86 30 152 45.86 6.2(20) 2.5 1,2-Dichloroethane 45.6 0 91 60 135 46.65 2.4(20)50 1.1.1-Trichloroethane 45.9 2.5 50 0 92 59 137 48.81 6.2(20)1.1-Dichloropropene 47.3 0 95 63 50.91 7.3(20) 2.5 50 130 Carbon tetrachloride 44.8 2.5 50 0 90 50 147 47.14 5.2(20)Benzene 50.32 47.4 1.3 50 0 95 67 130 6.0(20)Dibromomethane 46.5 2.5 50 0 93 69 133 46.87 0.9(20)1,2-Dichloropropane 102 53.99 5.4(20) 51.2 2.5 50 0 69 130 Trichloroethene 0 46.79 6.3(20)43.9 2.5 50 88 69 130 Bromodichloromethane 42.8 2.5 50 0 86 66 134 44.9 4.8(20) cis-1,3-Dichloropropene 41.9 2.5 50 0 84 63 130 41.77 0.2(20)trans-1.3-Dichloropropene 42.2 2.5 50 0 84 66 131 41 42 1.8(20)1,1,2-Trichloroethane 48.3 2.5 50 0 97 68 130 49.1 1.6(20)Toluene 43.1 1.3 50 0 86 66 130 45.79 6.2(20)1,3-Dichloropropane 48.3 50 0 97 70 130 49.5 2.4(20) 2.5 Dibromochloromethane 41.1 2.5 50 0 82 70 130 41.74 1.6(20)1,2-Dibromoethane (EDB) 89.7 70 90.56 0.9(20)100 0 90 130 10 Tetrachloroethene 41 2.5 50 0 82 61 134 43.21 5.3(20) 1,1,1,2-Tetrachloroethane 44.4 2.5 50 0 89 70 130 46.4 4.4(20)Chlorobenzene 0 45.43 3.8(20) 43.7 2.5 50 87 70 130 Ethylbenzene 0 47.56 6.4(20)44.6 1.3 50 89 68 130 m.p-Xvlene 6.3(20) 48.38 45.4 1.3 50 0 91 64 130 Bromoform 36.3 73 64 138 35.28 2.9(20) 2.5 50 0 Styrene 31.2 2.5 0 62 69 130 32.45 3.9(20)M2 50 o-Xvlene 5.0(20) 46.5 1.3 50 0 93 70 130 48.9 1,1,2,2-Tetrachloroethane 47.9 2.5 50 0 96 65 131 47.43 1.1(20) 1,2,3-Trichloropropane 0 95 70 130 91 42 3.4(20) 94.6 10 100 Isopropylbenzene 47.2 2.5 50 0 94 64 138 50.02 5.8(20) Bromobenzene 89 70 45.68 2.2(20)44.7 2.5 50 0 130 n-Propylbenzene 47.4 2.5 50 0 95 66 132 50.18 5.7(20) 4-Chlorotoluene 46.5 2.5 50 0 93 70 130 49.52 6.2(20)2-Chlorotoluene 46.9 2.5 0 94 70 130 49.53 5.4(20) 50 1,3,5-Trimethylbenzene 0 92 48.61 5.3(20) 46.1 2.5 50 66 136 tert-Butylbenzene 0 65 47.94 7.1(20) 44.7 2.5 50 89 137 1,2,4-Trimethylbenzene 46.7 2.5 0 93 65 137 48.79 4.4(20) 50 sec-Butvlbenzene 46.3 2.5 50 0 93 66 134 49.13 6.0(20)1,3-Dichlorobenzene 44.9 2.5 50 0 90 70 130 46.62 3.8(20)1,4-Dichlorobenzene 0 70 2.7(20) 43.3 2.5 50 87 130 44.42 4-Isopropyltoluene 46.3 2.5 50 0 93 66 137 48.89 5.5(20) 1.2-Dichlorobenzene 44.7 2.5 50 0 89 70 130 45.52 1.8(20)n-Butylbenzene 50.1 2.5 50 0 100 60 142 53.14 5.8(20) 1,2-Dibromo-3-chloropropane (DBCP) 250 0 89 67 130 221.7 0.8(20)223 15 1,2,4-Trichlorobenzene 39.6 10 50 0 79 61 137 37.91 4.4(20)Naphthalene 37.7 75 36.82 2.3(20) 10 50 0 40 167 Hexachlorobutadiene 78.4 10 100 0 78 61 130 82.06 4.6(20) 1.2.3-Trichlorobenzene 37.5 10 50 0 75 51 144 36.86 1.7(20) Surr: 1.2-Dichloroethane-d4 50 70 130 47 1 94 Surr: Toluene-d8 50.2 50 100 70 130

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Date: 06-Aug-09 QC Summary Report Work Order: 09072442

File ID: 08072442-08AMSD	ample Matrix Spike Duplicate		Type MS		est Code:				- 	710010000 10 10	
Analyse			_				29M	-			2
Dichlorodifluoromethane											0
Chloromethane											Qua
Vinyl chloride											
Chloroethane Manomenthane Manom											
Bromomethane	•										
Trichlorofutoromethane 46.9 2.5 50 0 94 34 160 45.72 2.5.[20] Liphloromethane 43 2.5 50 0 88 60 130 42.28 1.8[20] Liphloromethane 45 10 50 0 80 68 130 43.6 3.1(20) Transn-1,2-Dichloroethane 46.1 2.5 50 0 90 68 130 43.6 3.1(20) Transn-1,2-Dichloroethane 47.4 2.5 50 0 90 68 130 43.6 3.1(20) Transn-1,2-Dichloroethane 49.4 2.5 50 0 90 70 130 48.13 2.6(20) Liphloromethane 49.4 2.5 50 0 99 70 130 48.13 2.6(20) Eliphloromethane 49.4 2.5 50 0 99 70 130 48.13 2.6(20) Eliphloroethane 49.4 2.5 50 0 94 67 130 45.91 45.91 4.9(20) Liphloroethane 40.2 2.5 50 0 94 67 130 45.91 4.9(20) Liphloroethane 40.2 2.5 50 0 94 67 130 45.91 4.9(20) Liphloroethane 40.2 2.5 50 0 92 60 135 44.66 3.3(20) Liphloroethane 40.2 2.5 50 0 92 60 135 44.66 3.3(20) Liphloroethane 40.4 2.5 50 0 93 99 70 130 48.13 2.6(20) Liphloroethane 40.6 2 2.5 50 0 92 60 135 44.66 3.3(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 48.13 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 48.13 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.3 3.3(20) Liphloroethane 40.6 3 2.5 50 0 94 67 130 45.3 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.3 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.3 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.3 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.3 3.9(20) Liphloroethane 40.6 3 2.5 50 0 93 99 70 130 45.8 10 0.7(20) Liphloroethane 40.6 10 2.5 50 0 93 99 130 46.8 10 0.7(20) Liphloroethane 40.7 2.5 50 0 94 63 130 46.8 10 0.7(20) Liphloroethane 40.7 2.5 50 0 94 63 130 46.8 10 0.7(20) Liphloroethane 40.8 10 10 10 10 10 10 10 10 10 10 10 10 10											
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Dichloromethane											
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bis-1,2-Dichloroethene 49,4 2,5 50 0 99 70 130 48,13 2,6(20) Elmorochloromethane 48,2 2,5 50 0 96 70 130 45,91 4,9(20) Chloroform 47,1 2,5 50 0 94 67 130 45,91 4,9(20) 1,2-Dichloropropane 42,7 2,5 50 0 92 60 135 42,88 0,2(20) 1,2-Dichloroethane 46,2 2,5 50 0 92 60 135 44,66 3,3(20) 1,1-Dichloropropane 47,1 2,5 50 0 93 59 137 45,33 2,1(20) 1,1-Dichloropropane 47,1 2,5 50 0 94 63 130 46,81 0,7(20) Carbon tetrachloride 46,2 2,5 50 0 90 50 147 44,5 1,7(20) Benzene 47,6 1,3 50 0 95 67 130 46,81 0,7(20) Benzene 47,6 1,3 50 0 95 67 130 46,81 0,7(20) Benzene 47,6 1,3 50 0 95 67 130 46,81 0,7(20) Benzene 47,6 1,3 50 0 93 69 130 46,81 0,7(20) L2-Dichloropropane 51,7 2,5 50 0 93 69 130 45,08 1,3(20) 1,2-Dichloropropane 44,4 3,2 5,5 50 0 89 69 130 45,08 2,5(20) Trichloroethene 44,3 2,5 50 0 89 69 130 45,28 2,5(20) Trichloropropane 42 2,5 50 0 89 68 134 42,13 5,1(20) 1,1,2-Tichloropropane 48,9 2,5 50 0 89 68 134 42,13 5,1(20) 1,1,2-Tichloropropane 48,9 2,5 50 0 89 68 130 45,26 3,2(20) 1,1,2-Dichloropropane 48,9 2,5 50 0 89 68 130 45,26 3,2(20) 1,1,2-Dichloropropane 48,9 2,5 50 0 89 70 130 40,59 3,2(20) 1,1,2-Dichloropropane 48,9 2,5 50 0 89 70 130 40,59 3,2(20) 1,1,1-Tichloroethane 44,4 2,5 50 0 89 70 130 40,59 3,2(20) 1,1,1-Tichloroethane 44,5 2,5 50 0 89 70 130 40,59 3,2(20) 1,1-Dichloropropane 48,9 2,5 50 0 89 70 130 40,59 3,2(20) 1,1-Dichloropropane 48,9 2,5 50 0 89 70 130 44,57 3,2(20) 1,1-Dichloropropane 47,7 2,5 50 0 98 70 130 44,57 3,2(20) 1,1-Dichloropropane 47,7 2,5 50 0 98 70 130 44,57	- ,										
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2,2-Dichloropropane											
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1,1-Dichloropropene	1,1-Trichloroethane										
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Benzene	•										
Dibromomethane	enzene										
1,2-Dichloropropane 51,7 2,5 50 0 103 69 130 50,48 2,5(20) Trichlororethene 44,3 2,5 50 0 89 66 134 42,13 5,1(20) cis-1,3-Dichloropropene 41,8 2,5 50 0 84 66 131 40,51 3,6(20) trans-1,3-Dichloropropene 41,8 2,5 50 0 84 66 131 40,51 3,6(20) Toluene 43 1,3 50 0 89 68 130 47,51 3,9(20) Toluene 43 1,3 50 0 98 70 130 49,73 1,7(20) 1,3-Dichloropropane 48,9 2,5 50 0 98 70 130 49,73 1,7(20) 1,3-Dichloropropane 41,3 2,5 50 0 98 70 130 48,77 0.2(20) Dibromochlorome 41,3 2,5 50 0 88 70 130 44,77 0.2(20)	ibromomethane					93	69	133	46.06		
Trichloroethene 44,3 2,5 50 0 89 69 130 42,26 2,4(20) Bromodichloromethane 44,4 2,5 50 0 84 63 130 40,52 3,6(20) Larans-1,3-Dichloropropene 41,8 2,5 50 0 84 63 130 40,52 3,6(20) Lin,2-Trichloropropene 41,8 2,5 50 0 99 68 130 47,51 3,9(20) Toluene 43 1,3 50 0 86 66 130 43,76 1,7(20) 1,3-Dichloropropane 49,9 2,5 50 0 86 66 130 43,76 1,7(20) 1,3-Dichloropropane 49,9 2,5 50 0 88 70 130 40,93 0,9(20) 1,2-Dibromoethane (E/DB) 88.8 10 100 0 89 70 130 44,77 0,2(20) Tetrachloroethane 40,5	,2-Dichloropropane				0			130	50.48		
bis-1,3-Dichloropropene	richloroethene	44.3		50	0	89	69	130	43.26		
bis-1,3-Dichloropropene	romodichloromethane	44.4	2.5	50	0	89	66	134	42.13	5.1(20)	
1.1.2-Trichloroethane 49.4 2.5 50 0 99 68 130 47.51 3.9(20) 7.3-Dichloropropane 48.9 2.5 50 0 98 70 130 48.77 0.2(20) Dibromochloromethane 41.3 2.5 50 0 83 70 130 48.77 0.2(20) 1.2-Dibromochlane (EDB) 88.8 10 100 0 89 70 130 40.93 0.9(20) 1.2-Dibromochlane (EDB) 88.8 10 100 0 89 70 130 40.93 0.9(20) 1.1-1.2-Tetrachloroethane 44.5 2.5 50 0 89 70 130 44.57 0.1(20) 1.1-1.2-Tetrachloroethane 44.5 2.5 50 0 88 70 130 44.57 0.1(20) 1.1-1.2-Tetrachloroethane 45.7 1.3 50 0.75 90 68 130 44.74 1.2(20) Bromoform	is-1,3-Dichloropropene	42	2.5	50	0	84	63	130	40.52	3.6(20)	
Toluene 48,9 2.5 50 0, 86 66 130 43.76 1.7(20) 1.3-Dichloropropane 48,9 2.5 50 0, 98 70 130 48.77 0.2(20) 1.3-Dichloropropane (EDB) 88,8 10 100 0, 89 70 130 90.07 1.4(20) 1.1-Dibromoethane (EDB) 88,8 10 100 0, 89 70 130 90.07 1.4(20) 1.1-L2-Tetrachloroethane 44,5 2.5 50 0, 81 61 134 41.7 3.0(20) 1.1-L2-Tetrachloroethane 44,5 2.5 50 0, 88 70 130 44.57 0.1(20) 1.1-L2-Tetrachloroethane 44,5 2.5 50 0, 88 70 130 44.57 0.1(20) 1.1-L2-Tetrachloroethane 45,7 1.3 50 0.75 90 68 130 44.57 0.1(20) 1.1-L2-Tetrachloroethane 46,1 1.3 50 0.75 90 68 130 46.18 1.1(20) 1.1-L2-Tetrachloroethane 46,1 1.3 50 0.75 90 68 130 46.18 1.1(20) 1.1-L2-Tetrachloroethane 47,1 3.50 0.75 90 68 130 46.18 1.1(20) 1.1-L2-Tetrachloroethane 47,1 3.50 0.74 64 138 36.31 2.1(20) 1.1-L2-Tetrachloroethane 48,5 2.5 50 0.74 64 138 36.31 2.1(20) 1.1-L2-Tetrachloroethane 48,5 2.5 50 0.74 64 138 36.31 2.1(20) 1.1-L2-Tetrachloroethane 48,5 2.5 50 0.74 64 138 36.31 2.1(20) 1.1-L2-Tetrachloroethane 48,5 2.5 50 0.74 64 138 36.31 2.1(20) 1.1-L2-Tetrachloroethane 48,5 2.5 50 0.94 70 130 47.27 0.5(20) 1.2-Tetrachloroethane 47,8 2.5 50 0.96 64 138 48.81 2.2(20) 1.2-Trichloropropane 47,8 2.5 50 0.96 64 138 48.81 2.2(20) 1.2-Trichloroethane 47,5 2.5 50 0.96 64 138 48.81 2.2(20) 1.2-Trichloroethane 47,5 2.5 50 0.95 70 130 44.86 0.4(20) 1.3-Trimethylbenzene 46,4 2.5 50 0.95 70 130 44.86 0.4(20) 1.3-Trimethylbenzene 46,4 2.5 50 0.95 70 130 44.86 0.4(20) 1.3-Trimethylbenzene 46,4 2.5 50 0.95 70 130 45.73 1.0(20) 1.3-Trimethylbenzene 46,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 47,1 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 44,3 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62 3.5(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 137 47.6 1.1(20) 1.3-Dichlorobenzene 45,5 2.5 50 0.94 66 134 48.62	ans-1,3-Dichloropropene	41.8	2.5	50	. 0	84	66	131	40.51	3.1(20)	
1,3-Dichloropropane 48.9 2.5 50 0 98 70 130 48.77 0.2(20) Dibromochloromethane 41.3 2.5 50 0 83 70 130 40.93 0.9(20) 1,2-Dibromoethane (EDB) 88.8 110 100 0 89 70 130 90.07 1.4(20) Tetrachloroethane 40.5 2.5 50 0 81 61 134 41.7 3.0(20) 1,1,1,2-Tetrachloroethane 44.5 2.5 50 0 89 70 130 44.57 0.1(20) Chlorobenzene 43.9 2.5 50 0 88 70 130 44.57 0.1(20) Ethylbenzene 45.7 1.3 50 0.75 90 68 130 46.18 1.1(20) mpXylene 31.6 2.5 50 0 63 69 130 31.7 0.2(20) Styrene 31.6 2.5 50 0 63 69 130 31.7 0.2(20)	,1,2-Trichloroethane	49.4	2.5	50	0	99	68	130	47.51	3.9(20)	
Dibromochloromethane	oluene	43	1.3	50	0	86	66	130		1.7(20)	
1,2-Dibromoethane (EDB) 88.8 10 100 0 89 70 130 90.07 1.4(20) Tetrachloroethene 40.5 2.5 50 0 81 61 134 41.7 3.0(20) 1,1.12-Tetrachloroethane 44.5 2.5 50 0 89 70 130 44.457 0.1(20) Chlorobenzene 43.9 2.5 50 0 88 70 130 44.44 1.2(20) Ethylbenzene 45.7 1.3 50 0.75 90 68 130 46.78 1.1(20) mpXylene 46.1 1.3 50 0.75 90 68 130 46.78 1.5(20) Styrene 31.6 2.5 50 0 74 64 138 36.31 2.1(20) Styrene 31.6 2.5 50 0 63 69 130 31.7 0.2(20) -Xylene 47 1.3 50 0 97 65 131 48.74 0.5(20) 1,2,2-Tetrachloroeth	• •	48.9	2.5	50	0	98	70	130			
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Surr: Toluene-d8 49.5 50 99 70 130 Surr: 4-Bromofluorobenzene 51.2 50 102 70 130											



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

Date: 06-Aug-09

QC Summary Report

Work Order: 09072442

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.

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 (818) 393-2808 x

EMail Address

Battelle Memorial Institute Suite C-205 3990 Old Town Ave

PO: 218013 Client's COC #: 25749/25755

San Diego, CA 92110

Shane Walton Betsy Cutie

(614) 424-4117 x (614) 424-4899 x

WorkOrder: BMIS09072442

Page: 1 of 1

Report Due By: 5:00 PM On: 07-Aug-09

connerd@battelle.org waltons@battelle.org cutice@batelle.org EDD Required: Yes Sampled by: Client

Cooler Temp

Date Printed 24-Jul-09

Samples Received 24-Jul-09

QC Level: DS3 = DOD QC Required: Final Rpt, MBLK, LCS, MS/MSD With Surrogates

G005862/JPL Groundwater Monitoring

										Requested Tests	d Tests	
Alpha Sample ID	Client Sample ID	Matr	Collection Matrix Date	No. of Alpha	No. of Bottles Alpha Sub	TAT	314_W	METALS_	METALS_D VOC_TIC_			Sample Remarks
BMI09072442-01A	MW-18-5	- AQ	07/23/09 07:45	4	0	10	Perchlorate		VOC by 524 Criteria	VOC by 524 Criteria		LEVEL IV QC
BMI09072442-02A	MW-18-4	ΑQ	07/23/09 08:16	Ŋ	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09072442-03A	MW-18-3	ΑQ	07/23/09 09:01	ຜ	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		One voa rec'd with air bubble >6mm.
BMI09072442-04A	MW-18-2	AQ	07/23/09 09:58	10	0	10	Perchlorate	ζſ	VOC by 524 Criteria	VOC by 524 Criteria		MS/MSD
BMI09072442-05A	DUPE-3-3Q09	ΑQ	07/23/09 00:00	51	0	10	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09072442-06A	EB-3-7/23/09	AQ	07/23/09 09:25	σı	0	10	Perchlorate	Çr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09072442-07A	TB-3-7/23/09	ĄQ	07/23/09 00:00	_	0	10			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 3/16/09
BMI09072442-08A	MW-3-4	AQ	07/23/09 11:30	10	0	10	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		MS/MSD, One voa rec'd with air bubble >6mm.
BMI09072442-09A	MW-3-3	Ą	07/23/09 11:52	σı	0	10	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09072442-10A	MW-3-2	ΑQ	07/23/09 12:10	51	0	10	Perchlorate	Çr	VOC by 524 Criteria	VOC by 524 Criteria		One voa rec'd with air bubble >6mm.

Comments:

No security seals. Frozen ice. Temp Blank #7730 received @ 4 degrees Celcius. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

	Logged in by:	
(Fatricia Ediaso	Signature
	Latricia Edwsa	Print Name
	Alpha Analytical, Inc.	Company
	7/24/69 11:	, 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

Relinquished Received by	1	<u>" 1</u>			, ————————————————————————————————————	_	7		77		 	, ,	,	356		.		ري د		I A -		.1 -	ח ק [≱ 2	z oo
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		(Jak		ture	RUCT												BM109072442-0	Lab ID Number	ed by	Z ,	TOWN.	PAVID	Co Luna Bus	KING	on:
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			>			-			H	<u>π</u>	7	05 D	-			<u>v</u>			Report	Phone #)	`	P.O. #	43201		
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		MP	W CANDO	е					13/25	3125		3009						n		,			Fax	Spa Spa	<u>A</u>
		Joseph	Z,																	Fax #		# doL	Fax (775) 355-0406	rks, Nev	oha Aı
																-	Nonn	TAT		* #		C 0.	55-0406	255 Glendale Avenue, Sulit Sparks, Nevada 89431-577 Phone (775) 355,1044	Alpha Analytical, Inc.
			3															Field Filtered				6005862		e, Suite 2 31-5778	äl, Inc
		-	USI GH						1/	<u> </u>	+	VP/		10/10		5/ ON	\setminus	** See below	Total and type of			42			
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						-												_	_	_	_		Analyses Required	OTHER	Samples Collected From Which State?
		1/24	7/23	J													/	<u> </u>	_	_	_		red		hich S WA
		tlpg	3/09	Date		·			TRIP	EQUIP		DUP		rs/nsa			EVEL		Global ID #	/EDD/E	_	/ Re		P_a	tate?
									1 1			DUPLICATE		CSD			477	REMARKS	*	EDD / EDF? YES	"	Required QC Level		Page #	\)
		910.	400	Time					BLANK	BLANK		TE					(UC	S		NO	(III) V	QC Levi		of_	25749

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

Billing Information: Name <u>GeMの ToMPUNS / BATTECLE</u> Address ちめら KNG AUE		Samples Collected AZ CA X ID OR	NV WA Page # 1 of 1
ie, Zip <u>Coにから</u> umber <u></u>	Phone (775) 355-1044 Fax (775) 355-0406		Analyses Required
Client Name 13 ATTELLE / DAVID CONNER Address 3990 OLD TOWN AVE: C-255	P.O. # Job # Job # EMail Address	C 18 500	Required QC Level?
DIECO CA 921	Phone # 726-731/ Fax #	524	EDD/EDF? YESNO
Sampled by		Total and type of containers	Global ID #
Below	Sample Description	"See below V	REMARKS
1157 BM BM 124 08	Mr 2 - 3	NO V V X	NS/NSY
	MW-3-2	X	
	E15 / /09		ECOTA BLANCE
ADDITIONAL INSTRUCTIONS:			
Signature	Print Name	Company	Date Time
Relinquished by	MARC MENDOZA	INSIGHT EEC	7/23/05 1400
Received by Kathiein Edinson	Latricia Edusa	A(2)/a	7/24/09 11:06
Relinquished by			
Received by			
Relinquished by			
Received by			
*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S- NOTE : Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples	e OT - Other AR - Air **: L-Liter	V-Voa S-Soil Jar O-Orbo T-Tedlar ardous samples will be returned to client or disposed	Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other 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.



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

Date: 06-Aug-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110 (818) 393-2808 Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09072804

Cooler Temp:

4°C

WORK OTHER BINIO 9072004	•	doici remp.	
Alpha's Sample ID	Client's Sample ID	Matrix	
09072804-01A	MW-21-5	Aqueous	
09072804-02A	MW-21-4	Aqueous	
09072804-03A	MW-21-3	Aqueous	
09072804-04A	MW-21-2	Aqueous	
09072804-05A	MW-21-1	Aqueous	
09072804-06A	DUPE-4-3Q09	Aqueous	
09072804-07A	EB-4-7/24/09	Aqueous	
09072804-08A	TB-4-7/24/09	Aqueous	

Manually Integrated Analytes

	Transactif the Little Times	100	
 Alpha's Sample ID	Test Reference	<u>Analyte</u>	
09072804-01A	EPA Method 314.0	Perchlorate	
09072804-02A	EPA Method 314.0	Perchlorate	
09072804-03A	EPA Method 314.0	Perchlorate	
09072804-04A	EPA Method 314.0	Perchlorate	
09072804-05A	EPA Method 314.0	Perchlorate	
09072804-06A	EPA Method 314.0	Perchlorate	

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

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

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

Roger Scholl

Kandy Saulner

Walter Hirihow



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

ANALYTICAL REPORT

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

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

Date Received: 07/28/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-21-5 BMI09072804-01A	Perchlorate	2.99	1.00 µg/L	07/24/09	07/29/09
Client ID : Lab ID :	MW-21-4 BMI09072804-02A	Perchlorate	2.05	1.00 µg/L	07/24/09	07/29/09
Client ID : Lab ID :	MW-21-3 BMI09072804-03A	Perchlorate	2.40	1.00 µg/L	07/24/09	07/29/09
Client ID : Lab ID :	MW-21-2 BMI09072804-04A	Perchlorate	2.07	1.00 µg/L	07/24/09	07/29/09
Client ID: Lab ID:	MW-21-1 BMI09072804-05A	Perchlorate	2.82	1.00 µg/L	07/24/09	07/29/09
Client ID : Lab ID :	DUPE-4-3Q09 BMI09072804-06A	Perchlorate	2.70	1.00 µg/L	07/24/09	07/29/09
Client ID : Lab ID :	EB-4-7/24/09 BMI09072804-07A	Perchlorate	ND	1.00 µg/L	07/24/09	07/29/09

ND = Not Detected

oger Scholl Kandy Saulaur

Walter Horihour

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

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

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.

8/10/09 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

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/28/09

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-21-5 BMI09072804-01A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	MW-21-4 BMI09072804-02A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	MW-21-3 BMI09072804-03A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	MW-21-2 BMI09072804-04A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	MW-21-1 BMI09072804-05A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	DUPE-4-3Q09 BMI09072804-06A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09
Client ID : Lab ID :	EB-4-7/24/09 BMI09072804-07A	Chromium (Cr)	ND	0.0050 mg/L	07/24/09	08/10/09

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 / info@alpha-analytical.com

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8/10/09 **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 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID : Lab ID :	MW-21-5 BMI09072804-01 A	Sulfur dioxide	3.4	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID : Lab ID :	MW-21-4 BMI09072804-02A	*** None Found ***	ND	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID : Lab ID :	MW-21-3 BMI09072804-03A	*** None Found ***	ND	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID : Lab ID :	MW-21-2 BMI09072804-04A	Chlorodifluoromethane	2.6	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID: Lab ID:	MW-21-1 BMI09072804-05A	*** None Found ***	ND	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID : Lab ID :	DUPE-4-3Q09 BMI09072804-06A	*** None Found ***	ND	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID : Lab ID :	EB-4-7/24/09 BMI09072804-07A	2-Methyl-1-propene	6.7	2.0 μg/L	07/28/09	07/24/09	07/30/09
Client ID:	TB-4-7/24/09	Tertiary Butyl Alcohol (TBA)	25	10 μg/L	07/28/09	07/24/09	07/30/09
Lab ID:	BMI09072804-08A	* * * None Found * * *	ND	2.0 μg/L	07/28/09	07/24/09	07/30/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

oger J. Scholl Kundy Saula

Walter Hiriham

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

Alpha 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

3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-01A

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

Attn: **David Conner**

Phone: (818) 393-2808

(614) 458-6641 Fax:

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	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	
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-Butanorie (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	4.1	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 (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	2.0	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	89	(70-130)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(70-130)	%RE
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L			1	,,	
33	Dibromochloromethane	ND	0.50	µg/L					
24	1.2 Dibromoothone (EDB)	ND							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

ND

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

1.0

0.50

μg/L

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.

8/10/09

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

3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-02A Client I.D. Number: MW-21-4

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

(014) 430-00-

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	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-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	7.2	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-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	NĐ	0.50	μg/L	61	Naphthalene	ND	2.0	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	93	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(70-130)	
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	
32	1,3-Dichloropropane	ND	0.50	μg/L	•		,	()	
33	Dibromochloromethane	ND	0.50	μg/L					
3/	1.2-Dibromoothopo (EDR)	ND		-5-					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

Kandy Saulner

Walter Hirihm

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

μg/L

μg/L

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

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.

8/10/09

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

3990 Old Town Ave

San Diego, CA 92110 Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-03A

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

David Conner Attn:

Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	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	0.82	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	1.8	0.50	μg/L	51	tert-Butvibenzene	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-Butvibenzene	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	0.93	0.50	μg/L	60	1.2.4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	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	89	(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			ı	,,	
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)

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 / info@alpha-analytical.com

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.

8/10/09 **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

3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-04A

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

David Conner Attn:

(818) 393-2808 Phone:

(614) 458-6641 Fax:

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	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-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-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	1.8	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	0.85	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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	90	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	109	(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

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

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 / info@alpha-analytical.com

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

8/10/09

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

3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Job#: Alpha Analytical Number: BMI09072804-05A

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

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/24/09

Received: 07/28/09

Analyzed: 07/30/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	1.0	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-Trichlorobenzerie	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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-Trichloroberizene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1.2-Dichloroethane-d4	91	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	110	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	
32	1,3-Dichloropropane	ND	0.50	μg/L		22	1	(
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
25	Total	::=	1.0	µg,∟					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

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

0.50

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

8/10/09

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

3990 Old Town Ave

San Diego, CA 92110 Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-06A

Client I.D. Number: DUPE-4-3Q09

David Conner Attn:

Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	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-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-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-Propvlbenzene	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	0.68	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	1.6	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 (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	0.76	0.50	μg/L	60	1.2.4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	2.0	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	90	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(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	•		1	(,	
33	Dibromochloromethane	ND	0.50	ua/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

1.0

μg/L

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

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.

8/10/09

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

3990 Old Town Ave

San Diego, CA 92110 Job#: G005862/JPL

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-07A

Client I.D. Number: EB-4-7/24/09

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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	2.0	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	88	(70-130)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	106	(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			,	,	
33	Dibromochloromethane	ND	0.50	ua/l					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulin

ND

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 / info@alpha-analytical.com

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.

8/10/09

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

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072804-08A Client I.D. Number: TB-4-7/24/09

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 07/24/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

1 Dichlorodifluoromethane ND 0.50 $\mu g/L$ 36 1,1,1,2-Tetrachloroethane ND 2 Chloromethane ND 1.0 $\mu g/L$ 37 Chlorobenzene ND ND 0.50 $\mu g/L$ 38 Ethylbenzene ND ND 0.50 $\mu g/L$ 38 Ethylbenzene ND ND 0.50 $\mu g/L$ 39 m,p-Xylene ND ND ND 1.0 $\mu g/L$ 40 Bromoform ND ND 1.0 $\mu g/L$ 40 Bromoform ND ND 1,1-Dichloroethane ND 0.50 $\mu g/L$ 41 Styrene ND ND 1,1-Dichloroethane ND 0.50 $\mu g/L$ 42 o-Xylene ND	Reporting Limit
2 Chloromethane ND 1.0 µg/L 37 Chlorobenzene ND 3 Vinyl chloride ND 0.50 µg/L 38 Ethylbenzene ND 4 Chloroethane ND 0.50 µg/L 39 m,p-Xylene ND 5 Bromomethane ND 1.0 µg/L 40 Bromoform ND 6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg.
3 Vinyl chloride ND 0.50 µg/L 38 Ethylbenzene ND 4 Chloroethane ND 0.50 µg/L 39 m,p-Xylene ND 5 Bromomethane ND 1.0 µg/L 40 Bromoform ND 6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg.
4 Chloroethane ND 0.50 µg/L 39 m,p-Xylene ND 5 Bromomethane ND 1.0 µg/L 40 Bromoform ND 6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg.
5 Bromomethane ND 1.0 µg/L 40 Bromoform ND 6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg.
6 Trichlorofluoromethane ND 0.50 µg/L 41 Styrene ND 7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg
7 1,1-Dichloroethene ND 0.50 µg/L 42 o-Xylene ND 8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg.
8 Dichloromethane ND 1.0 µg/L 43 1,1,2,2-Tetrachloroethane ND 9 Freon-113 ND 0.50 µg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	0.50 µg
9 Freon-113 ND 0.50 μg/L 44 1,2,3-Trichloropropane ND 10 trans-1,2-Dichloroethene ND 0.50 μg/L 45 Isopropylbenzene ND	0.50 µg.
10 trans-1,2-Dichloroethene ND 0.50 µg/L 45 Isopropylbenzene ND	1.0 µg.
	0.50 µg.
11 Methyl tert-butyl ether (MTBE) ND 0.50 µg/L 46 Bromobenzene ND	0.50 µg.
12 1,1-Dichloroethane ND 0.50 µg/L 47 n-Propylbenzene ND	0.50 µg.
13 2-Butanone (MEK) ND 10 µg/L 48 4-Chlorotoluene ND	0.50 µg.
14 cis-1,2-Dichloroethene ND 0.50 µg/L 49 2-Chlorotoluene ND	0.50 µg.
15 Bromochloromethane ND 0.50 µg/L 50 1.3,5-Trimethylbenzene ND	0.50 µg,
16 Chloroform ND 0.50 µg/L 51 tert-Butylbenzene ND	0.50 µg
17 2,2-Dichloropropane ND 0.50 µg/L 52 1,2,4-Trimethylbenzene ND	0.50 µg
18 1,2-Dichloroethane ND 0.50 µg/L 53 sec-Butylbenzene ND	0.50 µg,
19 1,1,1-Trichloroethane ND 0.50 µg/L 54 1,3-Dichlorobenzene ND	0.50 µg
20 1,1-Dichloropropene ND 0.50 µg/L 55 1,4-Dichlorobenzene ND	0.50 µg
21 Carbon tetrachloride ND 0.50 µg/L 56 4-Isopropyltoluene ND	0.50 µg
22 Benzene ND 0.50 µg/L 57 1,2-Dichlorobenzene ND	0.50 µg
23 Dibromomethane ND 0.50 µg/L 58 n-Butylbenzene ND	0.50 µg
24 1,2-Dichloropropane ND 0.50 µg/L 59 1,2-Dibromo-3-chloropropane (DBCP) ND	2.5 µg/
25 Trichloroethene ND 0.50 µg/L 60 1.2.4-Trichlorobenzene ND	1.0 µg
26 Bromodichloromethane ND 0.50 µg/L 61 Naphthalene ND	2.0 µg/
27 4-Methyl-2-pentanone (MIBK) ND 2.5 µg/L 62 Hexachlorobutadiene ND	1.0 µg/
28 cis-1,3-Dichloropropene ND 0.50 µg/L 63 1,2,3-Trichlorobenzene ND	1.0 µg/
29 trans-1,3-Dichloropropene ND 0.50 µg/L 64 Surr: 1,2-Dichloroethane-d4 88	(70-130) %RI
30 1,1,2-Trichloroethane ND 0.50 µg/L 65 Surr; Toluene-d8 106	(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 µg/L	(10 100) 7010
33 Dibromochloromethane ND 0.50 µg/L	
34 1,2-Dibromoethane (EDB) ND 1.0 µg/L	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

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

μg/L

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

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.

8/10/09

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: BMI09072804

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
09072804-01A	MW-21-5	Aqueous	2
09072804-02A	MW-21-4	Aqueous	2
09072804-03A	MW-21-3	Aqueous	2
09072804-04A	MW-21-2	Aqueous	2
09072804-05A	MW-21-1	Aqueous	2
09072804-06A	DUPE-4-3Q09	Aqueous	2
09072804-07A	EB-4-7/24/09	Aqueous	2
09072804-08A	TB-4-7/24/09	Aqueous	2

8/10/09

Report Date



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

Date: 06-Aug-09		(QC S	ummai	y Repor	t				Work Orde 09072804	
Method Bla			Туре	E	est Code: El Batch ID: 224	32	hod 314.0	•		07/29/2009 12:55	
Sample ID: Analyte	MB-22432	Units : µg/L Result	PQL		C_3_090729 <i>A</i> L_SpkRefVal		: LCL(ME)	Prep [UCL(ME)		07/29/2009 Val %RPD(Limit)	Qual
Perchlorate		ND	1 042	1	Ориготта	701120		00=(=)			
Laboratory File ID: 15	Fortified Blank		Туре		est Code: El		thod 314.0	Analys	sis Date:	07/29/2009 13:13	
Sample ID: Analyte	LFB-22432	Units : µg/L Result	PQL		C_3_090729# SpkRefVal		CLCL(ME)	Prep (UCL(ME)		07/29/2009 Val %RPD(Limit)	Qual
Perchlorate		23.4		2 25		93	85	115			
Sample Mat File ID: 23	rix Spike		Type		est Code: El Batch ID: 224		hod 314.0	•		07/29/2009 15:41	
Sample ID: Analyte	09072442-04ALFM	Units : μg/L Result	PQL		C_3_0907297 SpkRefVal		CLCL(ME)	Prep (UCL(ME)		07/29/2009 Val %RPD(Limit)	Qual
Perchlorate		22.5		2 25	. 0	90	80	120			
Sample Mat	rix Spike Duplicate		Туре		Test Code: El		thod 314.0	Analy	sis Date:	07/29/2009 15:59	
Sample ID:	09072442-04ALFMD	Units : µg/L		Run ID: I	C_3_090729A	١.		Prep l	Date:	07/29/2009	
Analyte		Result	PQL	SpkVa	I SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		22.9		2 25	5 0	91	80	120	22.5	3 1.5(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.



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Date: 11-Aug-09	QC Summary Report	Work Order: 09072804	
Method Blank File ID: 080809.B\093SMPL.D\ Sample ID: MB-22446 Analyte	Type MBLK Test Code: EPA Method 200.8 Batch ID: 22446K Analysis Date: 08/10/20 Units: mg/L Run ID: ICP/MS_090810A Prep Date: 07/30/200 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD	09	
Chromium (Cr)	ND 0.005		
Laboratory Control Spike File ID: 080809.B\094_LCS.D\ Sample ID: LCS-22446	Type LCS Test Code: EPA Method 200.8 Batch ID: 22446K Analysis Date: 08/10/20 Units: mg/L Run ID: ICP/MS_090810A Prep Date: 07/30/200		
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD	O(Limit) Qual	
Chromium (Cr)	0.054 0.005 0.05 108 80 120		
Sample Matrix Spike File ID: 080809.B\098SMPL.D\ Sample ID: 09072804-01AMS Analyte	Type MS Test Code: EPA Method 200.8 Batch ID: 22446K Analysis Date: 08/10/20 Units: mg/L Run ID: ICP/MS_090810A Prep Date: 07/30/200 Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD	09	
Chromium (Cr)	0.0454 0.005 0.05 0 91 80 120		
Sample Matrix Spike Duplicate File ID: 080809.B\099SMPL.D\	Type MSD Test Code: EPA Method 200.8 Batch ID: 22446K Analysis Date: 08/10/20		
Sample ID: 09072804-01AMSD	Units: mg/L Run ID: ICP/MS_090810A Prep Date: 07/30/200		
Analyte Chromium (Cr)	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD 0.045 0.005 0.05 0 90 80 120 0.0454 0.	9(20) Qual	

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 09072804 10-Aug-09 Method Blank Type MBLK Test Code: File ID: 09073008.D Analysis Date: 07/30/2009 11:30 Batch ID: MS15W0730M Sample ID: 07/30/2009 MBLK MS15W0730M Units: µg/L Run ID: MSD_15_090730B Prep Date: Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result **PQL** Qual Dichlorodifluoromethane ND 0.5 Chloromethane ND Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND Trichlorofluoromethane ND 0.5 1,1-Dichloroethene ND 0.5 Dichloromethane ND 1 Freon-113 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1,1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1,2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1.2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1,1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1,2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1,3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1,2-Dibromoethane (EDB) ND 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-Xvlene 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 Hexachlorobutadiene ND 1 1,2,3-Trichlorobenzene ND Surr: 1,2-Dichloroethane-d4 9.16 92 70 10 130 Surr: Toluene-d8 10.6 10 106 70 130



1 - 200 g to

Alpha Analytical, Inc.

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Date: 10-Aug-09	(QC Sur	nmary R	eport			Work Orde 09072804	
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		
Laboratory Control Spike		Type LCS	Test C	ode:				
File ID: 09073006.D			Batch I	D: MS15W0730	M	Analysis D	ate: 07/30/2009 10:25	
Sample ID: LCS MS15W0730M	Units : µg/L	Rı	ın ID: MSD_1	5_090730B		Prep Date:	07/30/2009	
Analyte	Result	PQL	SpkVal Spk	RefVal %REC	LCL(ME) UCL(ME) RPD	RefVal %RPD(Limit)	Qu
Dichlorodifluoromethane	8.17	1	10	82	70	130		
Chloromethane	9.17	2	10	92	70	130		
Vinyl chloride	10.3	1	10	103	70	130		
Chloroethane	8.59	1	10	86	70	130		
Bromomethane Trichlorofluoromethane	8.12 10.5	2 1	10 10	81 105	70 70	130 130		
1,1-Dichloroethene	10.3	1	10	103	70	130		
Dichloromethane	9.87	2	10	99	70	130		
trans-1,2-Dichloroethene	11	1	10	110	70	130		
Methyl tert-butyl ether (MTBE)	10.3	0.5	10	103	70	130		
1,1-Dichloroethane	10.9	1	10	109	70	130		
cis-1,2-Dichloroethene	10.5	1	10	105	70 70	130		
Bromochloromethane Chloroform	10.4 10.4	1	10 10	104 104	70 70	130 130		
2,2-Dichloropropane	11.4	1	10	114	70	130		
1,2-Dichloroethane	9.6	1	10	96	70	130		
1,1,1-Trichloroethane	10.6	1	10	106	70	130		
1,1-Dichloropropene	11.1	1	10	111	70	130		
Carbon tetrachloride	10.6	_ 1	10	106	70	130		
Benzene Dibromomethane	10.8	0.5	10	108	70 70	130		
1,2-Dichloropropane	9.78 11.5	1	10 10	98 115	70 70	130 130		
Trichloroethene	10.4	1	10	104	70	130		
Bromodichloromethane	9.61	1	10	96	70	130		
cis-1,3-Dichloropropene	9.7	1	10	97	70	130		
trans-1,3-Dichloropropene	9.44	1	10	94	70	130		
1,1,2-Trichloroethane	10.4	1	10	104	70	130		
Toluene	10	0.5	10	100	70	130		
1,3-Dichloropropane Dibromochloromethane	10.3 8.94	1	10	103 89	70 70	130 130		
1,2-Dibromoethane (EDB)	19,1	1 2	10 20	96	70 70	130		
Tetrachloroethene	9.82	1	10	98	70	130		
1,1,1,2-Tetrachloroethane	10	1	10	100	70	130		
Chlorobenzene	10	1	10	100	70	130		
Ethylbenzene	10.5	0.5	10	105	70	130		
m,p-Xylene	10.7	0.5	10	107	70	130		
Bromoform Styrono	7.9	1	10	79 73	70 70	130		
o-Xylene	7.33 10.7	1 0.5	10 10	73 107	70 70	130 130		
1,1,2,2-Tetrachloroethane	10.7	1	10	102	70	130		
1,2,3-Trichloropropane	19.5	2	20	98	70	130		
Isopropylbenzene	10.9	1	10	109	70	130		
Bromobenzene	9.73	1	10	97	70	130		
n-Propylbenzene	11	1	10	110	70 70	130		
4-Chlorotoluene 2-Chlorotoluene	10.7 10.8	1	10 10	107 108	70 70	130 130		
1,3,5-Trimethylbenzene	10.6	1	10	106	70	130	9	
tert-Butylbenzene	10.4	1	10	104	70	130		
1,2,4-Trimethylbenzene	10.7	1	10	107	70	130		
sec-Butylbenzene	10.9	1	10	109	70	130		
1,3-Dichlorobenzene	10.3	1	10	103	70	130		
1,4-Dichlorobenzene	9.85	1	10 10	99 100	70 70	130 130		
4-Isopropyltoluene 1,2-Dichlorobenzene	10.9 9.87	1	10 10	109 99	70 70	130		
n-Butylbenzene	12	1	10	120	70 70	130		
1,2-Dibromo-3-chloropropane (DBCP)	46.2	3	50	92	70	130		
1,2,4-Trichlorobenzene	9.11	2	10	91	70	130		
Naphthalene	9	2	10	90	70	130		
Hexachlorobutadiene	18.9	2	20	94	70	130		
1,2,3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4	9.05	2	10	91	70 70	130		
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	9.07 10		10 10	91 100	70 70	130 130		
Surr: 4-Bromofluorobenzene	9.79		10	98	70 70	130		



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

Date: QC Summary Report Work Order: 09072804

Sample Matrix Spike File ID: 09073009,D		Type M:		est Code:	ENA/OT:	2014	Anglysis Data	. 07/20/2000 44-50	
	Linita			atch ID: MS1		30M	-	: 07/30/2009 11:52	
Sample ID: 09072804-01AMS	Units : µg/L			SD_15_0907			Prep Date:	07/30/2009	_
Analyte	Result	PQL					UCL(ME) RPDRe	IVal %RPD(Lillil)	Qı
Dichlorodifluoromethane	56.5	2.5	50	0	113	13	167		
Chloromethane Vinyl chloride	52.9 59	10 2.5	50 50	0	106 118	28 4 3	145 134		
Chloroethane	44.7	2.5	50 50	0	89	43 39	154		
Bromomethane	42.6	10	50	0	85	19	176		
Trichlorofluoromethane	54.9	2.5	50	ő	110	34	160		
1,1-Dichloroethene	50.1	2.5	50	Ō	100	60	130		
Dichloromethane	47.6	10	50	0	95	68	130		
trans-1,2-Dichloroethene	52.5	2.5	50	0	105	63	130		
Methyl tert-butyl ether (MTBE)	50	1.3	50	0	100	56	141		
1,1-Dichloroethane	52.2	2.5	50	0	104	61	130		
cis-1,2-Dichloroethene	51.3	2.5	50	0	103	70 70	130		
Bromochloromethane Chloroform	50.6 54.8	2.5 2.5	50	0 4.14	101 101	70 67	130 130		
2,2-Dichloropropane	54.6 51.1	2.5 2.5	50 50	4.14	101	30	152		
1,2-Dichloroethane	46.9	2.5	50	0	94	60	135		
1,1,1-Trichloroethane	50.4	2.5	50	0	101	59	137		
1,1-Dichloropropene	52.6	2.5	50	0	105	63	130		
Carbon tetrachloride	50.5	2.5	50	Ö	101	50	147		
Benzene	52	1.3	50	0	104	67	130		
Dibromomethane	48.3	2.5	50	0	97	69	133		
1,2-Dichloropropane	54.3	2.5	50	0	109	69	130		
Trichloroethene	50.2	2.5	50	0	100	69	130		
Bromodichloromethane	45.8	2.5	50	0	92	66	134		
cis-1,3-Dichloropropene	44.9	2.5	50	0	90	63	130		
rans-1,3-Dichloropropene 1,1,2-Trichloroethane	43.6	2.5	50	0	87	66 68	131		
Foluene	50.6 48.6	2.5 1.3	50 50	0	101 97	68 66	130 130		
1,3-Dichloropropane	50.5	2.5	50	0	101	70	130		
Dibromochloromethane	43.7	2.5	50	0	87	70	130		
1,2-Dibromoethane (EDB)	93.7	10	100	Ö	94	70	130		
Tetrachloroethene	48	2.5	50	1.91	92	61	134		
1,1,1,2-Tetrachloroethane	48.6	2.5	50	0	97	70	130		
Chlorobenzene	48.4	2.5	50	0	97	70	130		
Ethylbenzene	49.9	1.3	50	0	99.7	68	130		
m,p-Xylene	51.5	1.3	50	0	103	64	130		
Bromoform	37.7	2.5	50	0	75 	64	138		
Styrene o-Xylene	34.8	2.5	50	0	70	69 70	130 130		
1,1,2,2-Tetrachloroethane	51.6 50.4	1.3 2.5	50 50	0	103 101	70 65	131		
1,2,3-Trichloropropane	95.5	10	100	0	96	70	130		
Isopropylbenzene	52.1	2.5	50	0	104	64	138		
Bromobenzene	47.3	2.5	50	ő	95	70	130		
n-Propylbenzene	51.5	2.5	50	Ō	103	66	132		
4-Chlorotoluene	51.7	2.5	50	0	103	70	130		
2-Chlorotoluene	51.3	2.5	50	0	103	70	130		
1,3,5-Trimethylbenzene	50.3	2.5	50	0	101	66	136		
tert-Butylbenzene	49.4	2.5	50	0	99	65	137		
1,2,4-Trimethylbenzene	51.1	2.5	50	0	102	65	137		
sec-Butylbenzene 1,3-Dichlorobenzene	51.5	2.5	50	0	103	66	134		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	49.4 47.1	2.5 2.5	50 50	0	99 94	70 70	130 130		
1-Isopropyltoluene	51.3	2.5	50	0	103	70 66	137		
1,2-Dichlorobenzene	47.7	2.5	50	0	95	70	130		
n-Butylbenzene	56.2	2.5	50	0	112	60	142		
1,2-Dibromo-3-chloropropane (DBCP)	225	15	250	0	90	67	130		
1,2,4-Trichlorobenzene	41.8	10	50	Ö	84	61	137		
Naphthalene	39.3	10	50	0	79	40	167		
Hexachlorobutadiene	85.5	10	100	0	86	61	130		
1,2,3-Trichlorobenzene	39.4	10	50	0	79	51	144		
Surr: 1,2-Dichloroethane-d4	44		50		88	70	130		
Surr: 4 Promofluorobanzana	50.6		50		101	70 70	130		
Surr: 4-Bromofluorobenzene	48.7		50		97	70	130		



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 Date:
 QC Summary Report
 Work Order:

 10-Aug-09
 Type MSD
 Test Code:

 File ID: 09073010.D
 Batch ID: MS15W0730M
 Analysis Date: 07/30/2009 12:14

Sample Matrix Spike Duplicate File ID: 09073010,D		Type MS		est Code: tch ID: MS1	5\M/07'	20M	Analy	eie Data· n	7/30/2009 12:14	
Sample ID: 09072804-01AMSD	Units : µg/L	Б				SUM	Prep I		7/30/2009 12:14 7/30/2009	
Analyte	Result	PQL		SD_15_0907		LCL/ME	•	_	I %RPD(Limit)	Qua
Dichlorodifluoromethane Chloromethane	55.1 53	2.5	50 50	0	110	13	167	56.47	2.5(20)	
Vinyl chloride	52 50.0	10	50	0	104	28	145	52.86	1.6(20)	
Chloroethane	58.8	2.5	50 50	0	118 89	43	134 154	59.01 44.71	0.3(20) 0.3(20)	
Bromomethane	44.6 43.5	2.5 10	50 50	0	87	39 19	176	42.55	2.1(20)	
Trichlorofluoromethane	52.8	2.5	50	0	106	34	160	54.92	4.0(20)	
1,1-Dichloroethene	48.4	2.5	50	0	97	60	130	50.11	3.6(20)	
Dichloromethane	48.3	10	50	0	97	68	130	47.59	1.5(20)	
trans-1,2-Dichloroethene	51.5	2.5	50	0	103	63	130	52.54	2.0(20)	
Methyl tert-butyl ether (MTBE)	52.8	1.3	50	0	106	56	141	49.99	5.5(20)	
1,1-Dichloroethane	51.7	2.5	50	ő	103	61	130	52.16	0.9(20)	
cis-1,2-Dichloroethene	50.7	2.5	50	0	101	70	130	51.32	1.2(20)	
Bromochloromethane	51.9	2.5	50	ō	104	70	130	50.59	2.6(20)	
Chloroform	55.8	2.5	50	4.14	103	67	130	54.75	2.0(20)	
2,2-Dichloropropane	50.9	2.5	50	0	102	30	152	51.05	0.3(20)	
1,2-Dichloroethane	48.3	2.5	50	Ō	97	60	135	46.86	3.1(20)	
1,1,1-Trichloroethane	50.1	2.5	50	0	100	59	137	50.36	0.6(20)	
1,1-Dichloropropene	51.5	2.5	50	0	103	63	130	52.58	2.0(20)	
Carbon tetrachloride	50	2.5	50	0	100	50	147	50.51	1.0(20)	
Benzene	51.4	1.3	50	0	103	67	130	51.98	1.0(20)	
Dibromomethane	48.5	2.5	50	0	97	69	133	48.3	0.4(20)	
1,2-Dichloropropane	55.8	2.5	50	0	112	69	130	54.29	2.7(20)	
Trichloroethene	48.7	2.5	50	0	97	69	130	50.22	3.1(20)	
Bromodichloromethane	46.5	2.5	50	0	93	66	134	45.78	1.5(20)	
cis-1,3-Dichloropropene	45.7	2.5	50	0	91	63	130	44.92	1.7(20)	
trans-1,3-Dichloropropene	44.9	2.5	50	0	90	66	131	43.57	2.9(20)	
1,1,2-Trichloroethane	50	2.5	50	0	100	68	130	50.63	1.3(20)	
Toluene	46.7	1.3	50	0	93	66	130	48.62	4.0(20)	
1,3-Dichloropropane	50.7	2.5	50	0	101	70	130	50.52	0.4(20)	
Dibromochloromethane	44.7	2.5	50	0	89	70	130	43.65	2.3(20)	
1,2-Dibromoethane (EDB)	95.2	10	100	0	95	70	130	93.7	1.6(20)	
Tetrachloroethene	46	2.5	50	1.91	88	61	134	47.95	4.2(20)	
1,1,1,2-Tetrachloroethane	47.9	2.5	50	0	96	70	130	48.64	1.6(20)	
Chlorobenzene	47.4	2.5	50	0	95	70	130	48.4	2.1(20)	
Ethylbenzene	48.5	1.3	50	0	97	68	130	49.85	2.8(20)	
m,p-Xylene	49.7	1.3	50	0	99	64	130	51.49	3.6(20)	
Bromoform	39.7	2.5	50	0	79	64	138	37.73	5.0(20)	
Styrene	34.4	2.5	50	0	69	69	130	34.77	1.2(20)	
o-Xylene	50.2	1.3	50	0	100	70	130	51.58	2.6(20)	
1,1,2,2-Tetrachloroethane	51.5	2.5	50	0	103	65	131	50.35	2.2(20)	
1,2,3-Trichloropropane	98.3	10	100	0	98	70	130	95.53	2.8(20)	
Isopropylbenzene Bromobenzene	49.9	2.5	50	0	99.8	64	138	52.09	4.3(20)	
n-Propylbenzene	46.9	2.5	50	0	94	70 66	130	47.29	0.9(20)	
4-Chlorotoluene	50.5	2.5	50	0	101	66	132	51.53	2.1(20)	
2-Chlorotoluene	50.8	2.5	50 50	0	102	70 70	130	51.72	1.9(20)	
1,3,5-Trimethylbenzene	49.6	2.5	50 50	0	99	70 66	130	51.3	3.4(20)	
tert-Butylbenzene	49.1 47.9	2.5	50 50	0	98	66 65	136	50.28	2.4(20)	
1,2,4-Trimethylbenzene	49.9	2.5	50 50	0	96 99.7	65 65	137 137	49.37 51.05	3.0(20)	
sec-Butylbenzene	49.8	2.5 2.5	50 50	0	99.6	66	137	51.45	2.4(20) 3.3(20)	
1,3-Dichlorobenzene	49.7	2.5	50 50	0	99.6	70	134	49.37	0.7(20)	
1,4-Dichlorobenzene	47.3	2.5 2.5	50 50	0	99 95	70 70	130	49.37 47.06	0.4(20)	
4-Isopropyltoluene	47.3 49.5	2.5	50 50	0	99	66	130	51.25	3.5(20)	
1,2-Dichlorobenzene	48.2	2.5	50	0	96	70	130	47.72	1.0(20)	
n-Butylbenzene	55	2.5	50	0	110	60	142	56.21	2.2(20)	
1,2-Dibromo-3-chloropropane (DBCP)	234	2.5 15	250	0	94	67	130	225	4.0(20)	
1,2,4-Trichlorobenzene	43.2	10	50 50	0	86	61	137	41.76	3.3(20)	
Naphthalene	40.4	10	50	0	81	40	167	39.34	2.7(20)	
Hexachlorobutadiene	85.1	10	100	0	85	61	130	85.51	0.5(20)	
1,2,3-Trichlorobenzene	41.3	10	50	0	83	51	144	39.35	4.8(20)	
Surr: 1,2-Dichloroethane-d4	46.4		50	J	93	70	130	55.55		
Surr: Toluene-d8	49.1		50		98	70	130			
Surr: 4-Bromofluorobenzene	50.2		50		100	70	130			



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Date: 10-Aug-09

QC Summary Report

Work Order: 09072804

Comments:

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

EMail Address

Report Attention Shane Walton Betsy Cutie Phone Number (818) 393-2808 x (614) 424-4117 x (614) 424-4899 x

Battelle Memorial Institute

AMENDEL

WorkOrder: BMIS09072804

Report Due By: 5:00 PM On: 11-Aug-2009

connerd@battelle.org cutiee@batelle.org waltons@battelle.org EDD Required: No Sampled by: Client

Cooler Temp

Samples Received 04-Aug-2009 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 #: 25746

PO: 218013

San Diego, CA 92110

Suite C-205 3990 Old Town Ave

								Requested Tests	
Alpha Sample ID	Client Sample ID	Collection Matrix Date	n No. of Bottles Alpha Sub	TAT	314_W ME	METALS_D VOC_TIC_	VOC_TIC_	VOC_W	Sample Remarks
BMI09072804-01A	MW-21-5	AQ 07/24/09 07:20	5 0	10 Pe	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC.
BMI09072804-02A	MW-21-4	AQ 07/24/09 07:43	5 0	10 Pe	Perchlorate	Cr V	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-03A	MW-21-3	AQ 07/24/09 08:18	5 0	10 Pe	Perchlorate	Cr V	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-04A	MW-21-2	AQ 07/24/09 08:40	5 0	10 Pe	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-05A	MW-21-1	AQ 07/24/09 09:05	5	10 Pe	Perchlorate	Cr V	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-06A	DUPE-4-3Q09	AQ 07/24/09 00:00	5 0	10 Pe	Perchlorate	Ç.	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-07A	EB-4-7/24/09	AQ 07/24/09 08:52	5 0	10 Pe	Perchlorate	Q V	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09072804-08A	TB-4-7/24/09	AQ 07/24/09 00:00	1 0	10			VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 3/16/09

Logged in by: No security seals. Frozen ice. Temp Blank #7356 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Amended 8/4/09 @ 7:47: Changed amount of sample bottles: to 1 voa for sample -08A due to login error. EA Alpha Analytical, Inc.

Comments:

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

Client:

Report Attention

Phone Number (818) 393-2808 x

David Conner

Shane Walton Betsy Cutie

(614) 424-4117 x (614) 424-4899

waltons@battelle.org cutiee@batelle.org connerd@battelle.org EMail Address

Battelle Memorial Institute Suite C-205 3990 Old Town Ave

PO: 218013 San Diego, CA 92110

Client's COC #: 25746

Page: 1 of 1

WorkOrder: BMIS09072804

Report Due By: 5:00 PM On: 11-Aug-2009

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received 28-Jul-2009 28-Jul-2009

Date Printed

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

Job: G005862/JPL Groundwater Monitoring

BMI09072804-08A BMI09072804-07A EB-4-7/24/09 BMI09072804-06A BMI09072804-05A MW-21-1 BMI09072804-04A MW-21-2 BMI09072804-03A MW-21-3 BMI09072804-02A MW-21-4 Sample ID BMI09072804-01A MW-21-5 TB-4-7/24/09 DUPE-4-3Q09 Client Sample ID Š å Š Š Š Š Š Matrix Date Š 07/24/09 08:18 07/24/09 07/24/09 09:05 07/24/09 07/24/09 00:00 07/24/09 08:40 07/24/09 Collection No. of Bottles 07/24/09 07:43 08:52 Alpha Sub G G S G S S Ç G 0 0 0 0 0 0 0 0 ¥ 6 5 5 **5** 6 6 5 6 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314_W METALS_D VOC_TIC_ Ç Ω. Ç Ç Ω ζ. VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC.

Logged in by: anaboth (Lecox Hizabuth HdCax Alpha Analytical, Inc. Company 7-28-01 1142 Date/Time

No security seals. Frozen ice. Temp Blank #7356 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Comments:

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: Name GEHAUS TOMPKINS /BA Address 505 King AVE	Sparks, N	Alpha Analytical, Inc. 255 Giendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Samples Collected From Which State? AZ CA X WA VI WA ID OR OTHER I	NV WA Page # / of /
le, Zip <u>(a</u> L			Analyses Required
Client Name BATIELLE / DAVID CONNER	P.O.# 218013	10 K C 2385co 2 # 40c	Required QC Level?
OLD TOWN AND	EMail Address		
CA 9211	Phone # 77 6 - 7311	Fax#	EDD / EDF? YES NO
Matrix* Sampled by	ion	Total and type of O	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	See below	REMARKS
720 1/4/05/ AG BMT 09072804-01	MW-21-5	NORTH VO 15 XXX	LEVEL IT OC
743 ,	MW-21-4		
· 03		XXX	
NO.	MW-21-2	XXX	
96	MW, 21-1	X X X	
.02	DOE-4-3009	× × ×	DUPLICATE
.07	EB- 4- 7/24/25	\ \ \ \ \	EQUIP. BLANK
, ix	TB-4-7/24/05	X 4/1	TRIP BLANK
ADDITIONAL INSTRUCTIONS:		-	
Signature	Print Name	Company	Date Time
Relinquished by	MARCO MENDOZA	INSIGHT GGC	7/27/05 /230
Relinquished by	Elizabeth Hollox	Alpha	7.28.09 11/2
Received by			
Relinquished by			
Received by			
*Key: AQ - Aqueous SO - Soil WA - Waste NOTE: Samples are discarded 60 days after results are of the above samples is applicable only to those samples	te OT - Other AR - Air **: It e reported unless other arrangements are may les received by the laboratory with this coc. Ti	*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.	B-Brass P-Plastic OT-Other of at client expense. The report for the analysis he report.
of the above earthies to applicable of ity to those earth	to located by the inpolately with the oper in	to hability of the laboratory to infilted to the arrivality paid to the	



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

Date: 10-Aug-09
David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110 (818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09072805

Cooler Temp:

4 °C

Alpha's Sample ID	Client's Sample ID	Matrix	
09072805-01A	MW-20-5	Aqueous	
09072805-02A	MW-20-4	Aqueous	
09072805-03A	MW-20-3	Aqueous	
09072805-04A	MW-20-2	Aqueous	
09072805-05A	MW-20-1	Aqueous	
09072805-06A	DUPE-5-3Q09	Aqueous	
09072805-07A	EB-5-7/27/09	Aqueous	
09072805-08A	TB-5-7/27/09	Aqueous	

Manually Integrated Analytes

	Manually Integrated Allar	<u>1tes</u>
Alpha's Sample ID	Test Reference	<u>Analyte</u>
09072805-04A	EPA Method 314.0	Perchlorate

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

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

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

Roger Scholl

Kandy Sandner

Walter Hirihour



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

ANALYTICAL REPORT

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

Attn: David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/28/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-20-5 BMI09072805-01A	Perchlorate	ND	1.00 μg/L	07/27/09	07/31/09
Client ID : Lab ID :	MW-20-4 BMI09072805-02A	Perchlorate	ND	1.00 μg/L	07/27/09	07/31/09
Client ID : Lab ID :	MW-20-3 BMI09072805-03A	Perchlorate	ND	1.00 μg/L	07/27/09	07/31/09
Client ID : Lab ID :	MW-20-2 BMI09072805-04A	Perchlorate	2.16	1.00 μg/L	07/27/09	07/31/09
Client ID : Lab ID :	MW-20-1 BMI09072805-05A	Perchlorate	ND	1.00 µg/L	07/27/09	07/31/09
Client ID : Lab ID :	DUPE-5-3Q09 BMI09072805-06A	Perchlorate	ND	1.00 µg/L	07/27/09	07/31/09
Client ID : Lab ID :	EB-5-7/27/09 BMI09072805-07A	Perchlorate	ND	1.00 µg/L	07/27/09	07/31/09

ND = Not Detected

Roger Scholl Ka

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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 / info@alpha-analytical.com

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.

8/10/09

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

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 07/28/09

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-20-5 BMI09072805-01A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab ID :	MW-20-4 BMI09072805-02A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab ID :	MW-20-3 BMI09072805-03A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab ID :	MW-20-2 BMI09072805-04A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab ID :	MW-20-1 BMI09072805-05A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab ID :	DUPE-5-3Q09 BMI09072805-06A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09
Client ID : Lab 1D :	EB-5-7/27/09 BM109072805-07A	Chromium (Cr)	ND	0.0050 mg/L	07/27/09	08/10/09

ND = Not Detected

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

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8/10/09 **Report Date**



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ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

Attn: David Conner Phone: (818) 393-2808

San Diego, CA 92110

Fax: (614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

		1977		Estimated			Backetonia (State of State of
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID : Lab ID :	MW-20-5 BMI09072805-01 A	Sulfur dioxide	43	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID: Lab ID:	MW- 20-4 BMI09072805-02A	Sulfur dioxide	25	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID: Lab ID:	MW-20-3 BMI09072805-03A	Sulfur dioxide	22	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID: Lab ID:	MW-20-2 BMI09072805-04A	Sulfur dioxide	4.7	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID: Lab ID:	MW-20-1 BMI09072805-05A	Sulfur dioxide	14	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID: Lab ID:	DUPE-5-3Q09 BMI09072805-06A	Sulfur dioxide	21	2.0 μg/L	07/28/09	07/27/09	07/30/09
Client ID : Lab ID :	EB-5-7/27/09 BMI09072805-07A	2-Methyl-1-propene Tertiary Butyl Alcohol (TBA)	13 25	2.0 μg/L 10 μg/L	07/28/09 07/28/09	07/27/09 07/27/09	07/31/09 07/31/09
Client ID: Lab ID:	TB-5-7/27/09 BMI09072805-08A	*** None Found ***	ND	2.0 μg/L	07/28/09	07/27/09	07/30/09

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

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0/10/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072805-01A

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

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/27/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

an comme	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting 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 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 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	μg/L	60	1,2.4-Trichlorobenzene	, ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	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	97	(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 μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L μg/L	00	Carr. 1 Diomondoroponzone	100	(.0 100)	/s: _O
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
		110	1.0	μ9/∟					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

ND

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

0.50

µg/L

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8/10/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072805-02A

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

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 07/27/09

Received: 07/28/09

Analyzed: 07/30/09

Volatile Organics by GC/MS

	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	Vinyt 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-Isopropyttoluene	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	2.0	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	91	(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	- •		1	(,	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	ua/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

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

μg/L

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8/10/09

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09072805-03A

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

Attn:

David Conner

Phone: Fax:

(818) 393-2808 (614) 458-6641

Sampled: 07/27/09

Received: 07/28/09 Analyzed: 07/30/09

Volatile Organics by GC/MS

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 (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	2.0	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	89	(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			1	(, , , , , , , , , , , , , , , , , , ,	
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
25	Totrochloroothono	1 1 1 1		L-8, -					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

ND

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

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8/10/09

Report Date