



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/29/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-21-5	pH	7.8	1.7 pH Units	04/28/09 08:50	04/29/09 14:30
Lab ID : BMI09042940-01A	pH - Temperature	17	1.0 °C	04/28/09 08:50	04/29/09 14:30
Client ID : MW-21-4	pH	7.7	1.7 pH Units	04/28/09 09:20	04/29/09 14:35
Lab ID : BMI09042940-02A	pH - Temperature	17	1.0 °C	04/28/09 09:20	04/29/09 14:35
Client ID : MW-21-3	pH	7.7	1.7 pH Units	04/28/09 10:02	04/29/09 14:42
Lab ID : BMI09042940-03A	pH - Temperature	17	1.0 °C	04/28/09 10:02	04/29/09 14:42
Client ID : MW-21-2	pH	7.2	1.7 pH Units	04/28/09 10:35	04/29/09 14:46
Lab ID : BMI09042940-04A	pH - Temperature	18	1.0 °C	04/28/09 10:35	04/29/09 14:46
Client ID : MW-21-1	pH	6.9	1.7 pH Units	04/28/09 11:08	04/29/09 14:52
Lab ID : BMI09042940-05A	pH - Temperature	17	1.0 °C	04/28/09 11:08	04/29/09 14:52
Client ID : DUPE-03-2Q09	pH	7.6	1.7 pH Units	04/28/09 00:00	04/29/09 14:55
Lab ID : BMI09042940-06A	pH - Temperature	17	1.0 °C	04/28/09 00:00	04/29/09 14:55
Client ID : EB-05-4/28/09	pH	6.8	1.7 pH Units	04/28/09 10:55	04/29/09 15:00
Lab ID : BMI09042940-07A	pH - Temperature	17	1.0 °C	04/28/09 10:55	04/29/09 15:00

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

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.

5/12/09

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 : 04/29/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-21-5 Lab ID : BMI09042940-01A Solids, Total Dissolved (TDS)	600	10 mg/L	04/28/09	05/01/09
Client ID : MW-21-4 Lab ID : BMI09042940-02A Solids, Total Dissolved (TDS)	490	10 mg/L	04/28/09	05/04/09
Client ID : MW-21-3 Lab ID : BMI09042940-03A Solids, Total Dissolved (TDS)	740	10 mg/L	04/28/09	05/04/09
Client ID : MW-21-2 Lab ID : BMI09042940-04A Solids, Total Dissolved (TDS)	940	10 mg/L	04/28/09	05/01/09
Client ID : MW-21-1 Lab ID : BMI09042940-05A Solids, Total Dissolved (TDS)	1,100	10 mg/L	04/28/09	05/01/09
Client ID : DUPE-03-2Q09 Lab ID : BMI09042940-06A Solids, Total Dissolved (TDS)	530	10 mg/L	04/28/09	05/01/09
Client ID : EB-05-4/28/09 Lab ID : BMI09042940-07A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/28/09	05/01/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer  
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San Diego, CA 92110  
Job#: G005862/JPL Groundwater Monitoring

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

### Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : <b>MW-21-5</b> Lab ID : BMI09042940-01A	Sulfur dioxide	7.5	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>MW-21-4</b> Lab ID : BMI09042940-02A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>MW-21-3</b> Lab ID : BMI09042940-03A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>MW-21-2</b> Lab ID : BMI09042940-04A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>MW-21-1</b> Lab ID : BMI09042940-05A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>DUPE-03-2Q09</b> Lab ID : BMI09042940-06A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>EB-05-4/28/09</b> Lab ID : BMI09042940-07A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/05/09
Client ID : <b>TB-05-4/28/09</b> Lab ID : BMI09042940-08A	*** None Found ***	ND	2.0 µg/L	04/29/09	04/28/09	05/04/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09042940-01A  
Client I.D. Number: MW-21-5

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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	3.1	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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	1.2	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042940-02A  
Client I.D. Number: MW-21-4

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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	7.1	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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.96	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09042940-03A  
Client I.D. Number: MW-21-3

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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	0.94	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	3.1	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
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24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	1.2	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	5.0	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09042940-04A  
Client I.D. Number: MW-21-2

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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	0.77	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.81	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	4.0	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

5/12/09

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Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042940-05A  
Client I.D. Number: MW-21-1

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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	0.69	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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5/12/09

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042940-06A  
Client I.D. Number: DUPE-03-2Q09

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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-Dichloroethane	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	7.5	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	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	117	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	1.1	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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5/12/09

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042940-07A  
Client I.D. Number: EB-05-4/28/09

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/05/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	106	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger 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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5/12/09

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042940-08A  
Client I.D. Number: TB-05-4/28/09

Sampled: 04/28/09  
Received: 04/29/09  
Analyzed: 05/04/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

Note: Due to lab error, this sample was analyzed without a daily LCS/CV or associated QC Batch. There was no sample left for re-analysis.

This replaces the report originally signed 5/12/09, due to the addition of the above footnote.

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

6/3/09

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Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## VOC Sample Preservation Report

Work Order: BMI09042940

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09042940-01A	MW-21-5	Aqueous	2
09042940-02A	MW-21-4	Aqueous	2
09042940-03A	MW-21-3	Aqueous	2
09042940-04A	MW-21-2	Aqueous	2
09042940-05A	MW-21-1	Aqueous	2
09042940-06A	DUPE-03-2Q09	Aqueous	2
09042940-07A	EB-05-4/28/09	Aqueous	2
09042940-08A	TB-05-4/28/09	Aqueous	2

5/12/09  
Report Date

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**CA**

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

WorkOrder : BMIS09042940  
 Report Due By : 5:00 PM On : 13-May-09

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

Report Attention Phone Number Email Address  
 David Conner (619) 574-4827 x connerd@battelle.org  
 Shane Walton (614) 424-4117 x waltons@battelle.org  
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org

EDD Required : Yes

Sampled by : Client

Client's COC # : 25543 Job : G005862/JPL Groundwater Monitoring  
 QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD with Surrogates  
 Cooler Temp 4 °C Samples Received 29-Apr-09 Date Printed 29-Apr-09

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles			Requested Tests		METALS_D W	PH_W	TDS	Sample Remarks			
			Alpha	Sub	TAT	300 g(A)_W	300 g(B)_W					300 g(C)_W		
BMIO9042940-01A	MW-21-5	04/28/09 08:50	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-02A	MW-21-4	04/28/09 09:20	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-03A	MW-21-3	04/28/09 10:02	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-04A	MW-21-2	04/28/09 10:35	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-05A	MW-21-1	04/28/09 11:08	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-06A	DUP-03-2C09	04/28/09 00:00	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-07A	EB-05-4/28/09	04/28/09 10:55	5	0	10	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMIO9042940-08A	TB-05-4/28/09	04/28/09 00:00	1	0	10									Reno Trip Blank 9/30/08

Comments: No security seals. Frozen ice. Temp Blank #7197 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).

Logged in by: Patricia Edrosa Signature: Patricia Edrosa Print Name: Patricia Edrosa Company: Alpha Analytical, Inc. Date/Time: 4/29/09 9:55

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

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**CA**

**Alpha Analytical, Inc.**

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

WorkOrder : **BMIS09042940**  
 Report Due By : **5:00 PM On : 13-May-09**

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

Report Attention	Phone Number	Email Address
David Conner	(619) 574-4827 x	connerd@battelle.org
Shane Walton	(614) 424-4117 x	walton@battelle.org
Betsy Cutie	(614) 424-4899 x	cutie@battelle.org

EDD Required : Yes

Sampled by : Client

PO : 218013  
 Client's COC # : 25543

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 4 °C Samples Received 29-Apr-09 Date Printed 29-Apr-09

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles			Requested Tests		Sample Remarks
			Alpha	Sub	TAT	VOC_TIC_W	VOC_W	
BM109042940-01A	MW-21-5	AQ 04/28/09 08:50	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-02A	MW-21-4	AQ 04/28/09 09:20	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-03A	MW-21-3	AQ 04/28/09 10:02	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-04A	MW-21-2	AQ 04/28/09 10:35	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-05A	MW-21-1	AQ 04/28/09 11:08	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-06A	DUPE-03-2Q09	AQ 04/28/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-07A	EB-05-4/28/09	AQ 04/28/09 10:55	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042940-08A	TB-05-4/28/09	AQ 04/28/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 9/30/08

Comments: No security seals. Frozen ice. Temp Blank #7197 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).

Logged in by: *Fatima Salwa* Signature: *Fatima Salwa* Print Name: *Katricia Edwosa* Company: Alpha Analytical, Inc. Date/Time: 4/29/09 9:55

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

**Billing Information:**

Name GERALD TORRINKS  
 Address 525 KILL AVE  
 City, State, Zip COLUMBIUS, OH 43201  
 Phone Number \_\_\_\_\_ Fax \_\_\_\_\_



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

Samples Collected From Which State? **25543**

AZ \_\_\_\_\_ CA  NV \_\_\_\_\_ WA \_\_\_\_\_  
 ID \_\_\_\_\_ OR \_\_\_\_\_ OTHER \_\_\_\_\_

Page # 1 of 1

Analyses Required

Client Name <u>DAVID CANNON</u>	PO # <u>248013</u>	Job # <u>6005862</u>
Address <u>3990 RD TOWN AVE, C-205</u>	Email Address	
City, State, Zip <u>500 BELGO, CA 92110</u>	Phone # <u>619-726-7311</u>	Fax #
Time Sampled	Date Sampled	Matrix See Key Below
		Sampled by
		Lab ID Number (Use Only)
		Office (Use Only)
		Report Attention
		Sample Description
		TAT
		Field Filtered
		Total and type of containers ** See below
		Required QC Level? I II III IV
		EDD / EDT YES NO
		Global ID #
		REMARKS

Time Sampled	Date Sampled	Matrix See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	REMARKS
0850	4/24/09	AR		BM10904394D-01		MW-21-5				5	VOC's (524.2) TOTAL Cr, LEAD, ARSENIC (200.8) GEN CHEM. (Na, K, Ca, Mg, Fe) (200.7) Clay - (314.0) GEN CHEM (300.0) 310.1, 160.1, 150.1 O-PHOSPHATE (300.0)	
0920						MW-21-4				1		
1002						MW-21-3				1		
1035						MW-21-2				1		
1108						MW-21-1				1		
-						DUP - 03 - 2009				1		Duplicate
1055						-07 53-05-4/28/09				5		EQUIPMENT BAK
-						-08 73-05-4/28/09				1		724P BPAWK 9/30/08

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	<u>CHRIS BRADSON</u>	<u>INS/LEAD</u>	<u>04/28/09</u>	<u>1:30</u>
Received by <i>[Signature]</i>	<u>Patricia Edwards</u>	<u>Alpha</u>	<u>4/29/09</u>	<u>9:55</u>
Relinquished by				
Received by				
Relinquished by				
Received by				

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



# Alpha Analytical, Inc.

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

Date: 08-May-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: BMI09043040

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09043040-01A	MW-25-5	Aqueous
09043040-02A	MW-25-4	Aqueous
09043040-03A	MW-25-3	Aqueous
09043040-04A	MW-25-2	Aqueous
09043040-05A	MW-25-1	Aqueous
09043040-06A	DUPE-04-2Q09	Aqueous
09043040-07A	EB-06-4/29/09	Aqueous
09043040-08A	TB-06-4/29/09	Aqueous

### Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09043040-02A	EPA Method 314.0	Perchlorate
09043040-03A	EPA Method 314.0	Perchlorate
09043040-04A	EPA Method 314.0	Perchlorate
09043040-05A	EPA Method 314.0	Perchlorate
09043040-06A	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*      *Randy Gardner*      *Walter Hinchman*

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

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

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





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-25-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 10:22	04/30/09 12:22
Lab ID : BMI09043040-01A	Nitrate (NO3) - N	ND	0.25 mg/L	04/29/09 10:22	04/30/09 12:22
Client ID : MW-25-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 10:55	04/30/09 12:40
Lab ID : BMI09043040-02A	Nitrate (NO3) - N	5.8	0.25 mg/L	04/29/09 10:55	04/30/09 12:40
Client ID : MW-25-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 11:21	04/30/09 12:59
Lab ID : BMI09043040-03A	Nitrate (NO3) - N	11	0.25 mg/L	04/29/09 11:21	04/30/09 12:59
Client ID : MW-25-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 12:27	04/30/09 13:17
Lab ID : BMI09043040-04A	Nitrate (NO3) - N	10	0.25 mg/L	04/29/09 12:27	04/30/09 13:17
Client ID : MW-25-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 13:17	04/30/09 13:36
Lab ID : BMI09043040-05A	Nitrate (NO3) - N	12	0.25 mg/L	04/29/09 13:17	04/30/09 13:36
Client ID : DUPE-04-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 00:00	04/30/09 13:54
Lab ID : BMI09043040-06A	Nitrate (NO3) - N	11	0.25 mg/L	04/29/09 00:00	04/30/09 13:54
Client ID : EB-06-4/29/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/09 11:52	04/30/09 14:13
Lab ID : BMI09043040-07A	Nitrate (NO3) - N	ND	0.25 mg/L	04/29/09 11:52	04/30/09 14:13

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.

5/13/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-25-5</b>				
Lab ID : BMI09043040-01A Chloride	21	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	96	0.50 mg/L	04/29/09	04/30/09
Client ID : <b>MW-25-4</b>				
Lab ID : BMI09043040-02A Chloride	43	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	73	0.50 mg/L	04/29/09	04/30/09
Client ID : <b>MW-25-3</b>				
Lab ID : BMI09043040-03A Chloride	40	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	65	0.50 mg/L	04/29/09	04/30/09
Client ID : <b>MW-25-2</b>				
Lab ID : BMI09043040-04A Chloride	44	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	78	0.50 mg/L	04/29/09	04/30/09
Client ID : <b>MW-25-1</b>				
Lab ID : BMI09043040-05A Chloride	58	2.5 mg/L	04/29/09	04/30/09
Sulfate (SO4)	140	2.5 mg/L	04/29/09	04/30/09
Client ID : <b>DUPE-04-2Q09</b>				
Lab ID : BMI09043040-06A Chloride	40	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	65	0.50 mg/L	04/29/09	04/30/09
Client ID : <b>EB-06-4/29/09</b>				
Lab ID : BMI09043040-07A Chloride	ND	0.50 mg/L	04/29/09	04/30/09
Sulfate (SO4)	ND	0.50 mg/L	04/29/09	04/30/09

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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

*5/13/09*

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-25-5 Lab ID : BMI09043040-01A Perchlorate	ND	1.00 µg/L	04/29/09	04/30/09
Client ID : MW-25-4 Lab ID : BMI09043040-02A Perchlorate	7.19	1.00 µg/L	04/29/09	04/30/09
Client ID : MW-25-3 Lab ID : BMI09043040-03A Perchlorate	8.40	1.00 µg/L	04/29/09	04/30/09
Client ID : MW-25-2 Lab ID : BMI09043040-04A Perchlorate	13.4	1.00 µg/L	04/29/09	04/30/09
Client ID : MW-25-1 Lab ID : BMI09043040-05A Perchlorate	9.32	1.00 µg/L	04/29/09	04/30/09
Client ID : DUPE-04-2Q09 Lab ID : BMI09043040-06A Perchlorate	8.41	1.00 µg/L	04/29/09	04/30/09
Client ID : EB-06-4/29/09 Lab ID : BMI09043040-07A Perchlorate	ND	1.00 µg/L	04/29/09	04/30/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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

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

4/13/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-25-5</b>				
Lab ID : BMI09043040-01A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	110	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	110	10 mg/L	04/29/09 05/05/09
Client ID : <b>MW-25-4</b>				
Lab ID : BMI09043040-02A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	230	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	230	10 mg/L	04/29/09 05/05/09
Client ID : <b>MW-25-3</b>				
Lab ID : BMI09043040-03A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	200	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	200	10 mg/L	04/29/09 05/05/09
Client ID : <b>MW-25-2</b>				
Lab ID : BMI09043040-04A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	04/29/09 05/05/09
Client ID : <b>MW-25-1</b>				
Lab ID : BMI09043040-05A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	160	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	160	10 mg/L	04/29/09 05/05/09
Client ID : <b>DUPE-04-2Q09</b>				
Lab ID : BMI09043040-06A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	04/29/09 05/05/09
Client ID : <b>EB-06-4/29/09</b>				
Lab ID : BMI09043040-07A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/29/09 05/05/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	ND	10 mg/L	04/29/09 05/05/09



# Alpha Analytical, Inc.

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

---

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

*C*  
5/13/09

**Report Date**



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-25-5				
Lab ID : BMI09043040-01A	Sodium (Na)	70	0.50 mg/L	04/29/09 05/06/09
	Magnesium (Mg)	8.1	0.50 mg/L	04/29/09 05/06/09
	Potassium (K)	2.1	0.50 mg/L	04/29/09 05/06/09
	Calcium (Ca)	18	0.50 mg/L	04/29/09 05/06/09
	Chromium (Cr)	ND	0.0050 mg/L	04/29/09 05/06/09
	Iron (Fe)	0.36	0.10 mg/L	04/29/09 05/06/09
	Arsenic (As)	ND	0.0020 mg/L	04/29/09 05/06/09
	Lead (Pb)	ND	0.0050 mg/L	04/29/09 05/06/09
Client ID : MW-25-4				
Lab ID : BMI09043040-02A	Sodium (Na)	48	0.50 mg/L	04/29/09 05/06/09
	Magnesium (Mg)	19	0.50 mg/L	04/29/09 05/06/09
	Potassium (K)	2.2	0.50 mg/L	04/29/09 05/06/09
	Calcium (Ca)	74	0.50 mg/L	04/29/09 05/06/09
	Chromium (Cr)	ND	0.0050 mg/L	04/29/09 05/06/09
	Iron (Fe)	0.42	0.10 mg/L	04/29/09 05/06/09
	Arsenic (As)	ND	0.0020 mg/L	04/29/09 05/06/09
	Lead (Pb)	ND	0.0050 mg/L	04/29/09 05/06/09
Client ID : MW-25-3				
Lab ID : BMI09043040-03A	Sodium (Na)	35	0.50 mg/L	04/29/09 05/06/09
	Magnesium (Mg)	22	0.50 mg/L	04/29/09 05/06/09
	Potassium (K)	2.8	0.50 mg/L	04/29/09 05/06/09
	Calcium (Ca)	80	0.50 mg/L	04/29/09 05/06/09
	Chromium (Cr)	ND	0.0050 mg/L	04/29/09 05/06/09
	Iron (Fe)	0.40	0.10 mg/L	04/29/09 05/06/09
	Arsenic (As)	ND	0.0020 mg/L	04/29/09 05/06/09
	Lead (Pb)	ND	0.0050 mg/L	04/29/09 05/06/09
Client ID : MW-25-2				
Lab ID : BMI09043040-04A	Sodium (Na)	31	0.50 mg/L	04/29/09 05/06/09
	Magnesium (Mg)	23	0.50 mg/L	04/29/09 05/06/09
	Potassium (K)	2.5	0.50 mg/L	04/29/09 05/06/09
	Calcium (Ca)	79	0.50 mg/L	04/29/09 05/06/09
	Chromium (Cr)	ND	0.0050 mg/L	04/29/09 05/06/09
	Iron (Fe)	0.44	0.10 mg/L	04/29/09 05/06/09
	Arsenic (As)	ND	0.0020 mg/L	04/29/09 05/06/09
	Lead (Pb)	ND	0.0050 mg/L	04/29/09 05/06/09



# Alpha Analytical, Inc.

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Client ID : **MW-25-1**

Lab ID :	BMI09043040-05A	Sodium (Na)	29	0.50 mg/L	04/29/09	05/06/09
		Magnesium (Mg)	28	0.50 mg/L	04/29/09	05/06/09
		Potassium (K)	2.6	0.50 mg/L	04/29/09	05/06/09
		Calcium (Ca)	96	0.50 mg/L	04/29/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/29/09	05/06/09
		Iron (Fe)	1.2	0.10 mg/L	04/29/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/29/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/29/09	05/06/09

Client ID : **DUPE-04-2Q09**

Lab ID :	BMI09043040-06A	Sodium (Na)	33	0.50 mg/L	04/29/09	05/06/09
		Magnesium (Mg)	21	0.50 mg/L	04/29/09	05/06/09
		Potassium (K)	2.7	0.50 mg/L	04/29/09	05/06/09
		Calcium (Ca)	76	0.50 mg/L	04/29/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/29/09	05/06/09
		Iron (Fe)	0.39	0.10 mg/L	04/29/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/29/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/29/09	05/06/09

Client ID : **EB-06-4/29/09**

Lab ID :	BMI09043040-07A	Sodium (Na)	ND	0.50 mg/L	04/29/09	05/06/09
		Magnesium (Mg)	ND	0.50 mg/L	04/29/09	05/06/09
		Potassium (K)	ND	0.50 mg/L	04/29/09	05/06/09
		Calcium (Ca)	ND	0.50 mg/L	04/29/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/29/09	05/06/09
		Iron (Fe)	ND	0.10 mg/L	04/29/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/29/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/29/09	05/06/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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

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

5/13/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-25-5	pH	8.8	1.7 pH Units	04/29/09 10:22	04/30/09 16:08
Lab ID : BMI09043040-01A	pH - Temperature	19	1.0 °C	04/29/09 10:22	04/30/09 16:08
Client ID : MW-25-4	pH	7.6	1.7 pH Units	04/29/09 10:55	04/30/09 16:10
Lab ID : BMI09043040-02A	pH - Temperature	18	1.0 °C	04/29/09 10:55	04/30/09 16:10
Client ID : MW-25-3	pH	7.7	1.7 pH Units	04/29/09 11:21	04/30/09 16:13
Lab ID : BMI09043040-03A	pH - Temperature	18	1.0 °C	04/29/09 11:21	04/30/09 16:13
Client ID : MW-25-2	pH	7.5	1.7 pH Units	04/29/09 12:27	04/30/09 16:14
Lab ID : BMI09043040-04A	pH - Temperature	19	1.0 °C	04/29/09 12:27	04/30/09 16:14
Client ID : MW-25-1	pH	7.1	1.7 pH Units	04/29/09 13:17	04/30/09 16:15
Lab ID : BMI09043040-05A	pH - Temperature	19	1.0 °C	04/29/09 13:17	04/30/09 16:15
Client ID : DUPE-04-2Q09	pH	7.7	1.7 pH Units	04/29/09 00:00	04/30/09 16:18
Lab ID : BMI09043040-06A	pH - Temperature	18	1.0 °C	04/29/09 00:00	04/30/09 16:18
Client ID : EB-06-4/29/09	pH	6.1	1.7 pH Units	04/29/09 11:52	04/30/09 16:19
Lab ID : BMI09043040-07A	pH - Temperature	18	1.0 °C	04/29/09 11:52	04/30/09 16:19

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

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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5/13/09

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 : 04/30/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-25-5</b> Lab ID : BMI09043040-01A Solids, Total Dissolved (TDS)	270	10 mg/L	04/29/09	05/05/09
Client ID : <b>MW-25-4</b> Lab ID : BMI09043040-02A Solids, Total Dissolved (TDS)	430	10 mg/L	04/29/09	05/05/09
Client ID : <b>MW-25-3</b> Lab ID : BMI09043040-03A Solids, Total Dissolved (TDS)	400	10 mg/L	04/29/09	05/05/09
Client ID : <b>MW-25-2</b> Lab ID : BMI09043040-04A Solids, Total Dissolved (TDS)	390	10 mg/L	04/29/09	05/05/09
Client ID : <b>MW-25-1</b> Lab ID : BMI09043040-05A Solids, Total Dissolved (TDS)	520	10 mg/L	04/29/09	05/05/09
Client ID : <b>DUPE-04-2Q09</b> Lab ID : BMI09043040-06A Solids, Total Dissolved (TDS)	370	10 mg/L	04/29/09	05/06/09
Client ID : <b>EB-06-4/29/09</b> Lab ID : BMI09043040-07A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/29/09	05/05/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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## ANALYTICAL REPORT

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

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

### Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : <b>MW-25-5</b> Lab ID : BMI09043040-01A	Sulfur dioxide	32	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>MW-25-4</b> Lab ID : BMI09043040-02A	Sulfur dioxide	16	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>MW-25-3</b> Lab ID : BMI09043040-03A	Sulfur dioxide	8.4	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>MW-25-2</b> Lab ID : BMI09043040-04A	Sulfur dioxide	4.3	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>MW-25-1</b> Lab ID : BMI09043040-05A	Sulfur dioxide	3.1	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>DUPE-04-2Q09</b> Lab ID : BMI09043040-06A	Sulfur dioxide	2.4	2.0 µg/L	04/30/09	04/29/09	05/06/09
Client ID : <b>EB-06-4/29/09</b> Lab ID : BMI09043040-07A	*** None Found ***	ND	2.0 µg/L	04/30/09	04/29/09	05/05/09
Client ID : <b>TB-06-4/29/09</b> Lab ID : BMI09043040-08A	*** None Found ***	ND	2.0 µg/L	04/30/09	04/29/09	05/05/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09043040-01A  
Client I.D. Number: MW-25-5

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	112	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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Page 1 of 1



# Alpha Analytical, Inc.

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## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09043040-02A  
Client I.D. Number: MW-25-4

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	112	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

Battelle Memorial Institute  
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San Diego, CA 92110  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09043040-03A  
Client I.D. Number: MW-25-3

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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	0.80	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger 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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5/13/09

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09043040-04A  
Client I.D. Number: MW-25-2

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	111	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09043040-05A  
Client I.D. Number: MW-25-1

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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	0.50	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

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

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

Alpha Analytical Number: BMI09043040-06A  
Client I.D. Number: DUPE-04-2Q09

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/06/09

### 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-Dichloroethane	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-Dichloroethane	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-Dichloroethane	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	0.77	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethane	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	115	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09043040-07A  
Client I.D. Number: EB-06-4/29/09

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	105	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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## ANALYTICAL REPORT

Battelle Memorial Institute  
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San Diego, CA 92110  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09043040-08A  
Client I.D. Number: TB-06-4/29/09

Sampled: 04/29/09  
Received: 04/30/09  
Analyzed: 05/05/09

### 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-Dichloroethane	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-Dichloroethane	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-Dichloroethane	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(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			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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

5/13/09

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## VOC Sample Preservation Report

Work Order: BMI09043040

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09043040-01A	MW-25-5	Aqueous	2
09043040-02A	MW-25-4	Aqueous	2
09043040-03A	MW-25-3	Aqueous	2
09043040-04A	MW-25-2	Aqueous	2
09043040-05A	MW-25-1	Aqueous	2
09043040-06A	DUPE-04-2Q09	Aqueous	2
09043040-07A	EB-06-4/29/09	Aqueous	2
09043040-08A	TB-06-4/29/09	Aqueous	2

5/13/09  
Report Date

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**CA**

**Alpha Analytical, Inc.**

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

WorkOrder : BMIS09043040  
 Report Due By : 5:00 PM On : 14-May-09

Client: Battelle Memorial Institute

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

Report Attention Phone Number Email Address

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

EDD Required : Yes

Sampled by : Client

Client's COC # : 25540

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 4 °C Samples Received 30-Apr-09 Date Printed 30-Apr-09

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

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles			Matrix	Requested Tests			Sample Remarks				
			Alpha	Sub	TAT		300 g(A)_w	300 g(B)_w	300 g(C)_w		314_w	ALKALINT_Y_w	METALS_D_w	PH_w
BM109043040-01A	MW-25-5	04/29/09 10:22	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-02A	MW-25-4	04/29/09 10:55	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-03A	MW-25-3	04/29/09 11:21	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-04A	MW-25-2	04/29/09 12:27	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-05A	MW-25-1	04/29/09 13:17	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-06A	DUPE-04-2Q09	04/29/09 00:00	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-07A	EB-06-4/29/09	04/29/09 11:52	5	0	10	AQ	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS
BM109043040-08A	TB-06-4/29/09	04/29/09 00:00	1	0	10	AQ								Reno Trip Blank 9/30/08

Comments: No security seals. Frozen ice. Temp Blank #8336 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). Client COC not signed to relinquish samples.

Logged in by: Fatima Salasa Signature: Fatima Salasa Print Name: Fatricia Edrosa Company: Alpha Analytical, Inc. Date/Time: 4/30/09 9:51

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

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**CA**

Page: *John*

**Alpha Analytical, Inc.**

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

WorkOrder : BMIS09043040

Report Due By : 5:00 PM On : 14-May-09

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

Report Attention	Phone Number	Email Address
David Conner	(818) 393-2808 x	connerd@battelle.org
Shane Walton	(614) 424-4117 x	waltonsh@battelle.org
Betsy Cuite	(614) 424-4899 x	cuiteb@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 30-Apr-09 Date Printed 30-Apr-09

Client's COC # : 25540 Job : G005862/JPL Groundwater Monitoring  
 QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, Initial/ConCal data, LCS, MS/MSD with Surrogates

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles			Requested Tests		Sample Remarks
			Alpha	Sub	TAT	VOC_TIC_W	VOC_W	
BM109043040-01A	MW-25-5	AQ 04/29/09 10:22	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-02A	MW-25-4	AQ 04/29/09 10:55	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-03A	MW-25-3	AQ 04/29/09 11:21	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-04A	MW-25-2	AQ 04/29/09 12:27	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-05A	MW-25-1	AQ 04/29/09 13:17	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-06A	DUPE-04-2Q09	AQ 04/29/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-07A	EB-06-4/29/09	AQ 04/29/09 11:52	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109043040-08A	TB-06-4/29/09	AQ 04/29/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 9/30/08

Comments: No security seals. Frozen ice. Temp Blank #8336 received @ 4°C. Perchlorate RL of 1.0 µg/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Client COC not signed to relinquish samples.

Logged in by: *Patricia Edwards* Signature: *Patricia Edwards* Print Name: Patricia Edwards Company: Alpha Analytical, Inc. Date/Time: 4/30/09 9:51

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

**Billing Information:**

Name GERALD TOMPKINS  
 Address 505 KING AVE.  
 City, State, Zip COLUMBUS OH 43201  
 Phone Number \_\_\_\_\_ Fax \_\_\_\_\_



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

**Samples Collected From Which State?**

AZ  CA  NV  WA   
 ID  OR  OTHER

25540

**Analyses Required**

VOC's (574.2)  
 TOTAL Cr, Lead, ARSENIC (200.8)  
 GEN CHEM. (Na, K, Ca, Mg, Fe) (200.0)  
 Clat- (314.0)  
 GEN CHEM. (300.0)  
 310, 160, 150, 1  
 o-PHOSPHATE (300.0)

Client Name DAVID CONNER P.O. # 218013 Job # 6005862  
 Address 3990 OLD TOWN AVE, C-205 Email Address \_\_\_\_\_  
 City, State, Zip SDN DIEGO CA 92110 Phone # 619-726-7311 Fax # \_\_\_\_\_

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Office Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Global ID #	REMARKS
1022	2/29/09	AR	BMI	D9043040-01		MW-25-5			5	X		
1055						MW-25-4			5	X		
1121						MW-25-3			5	X		
1224						MW-25-2			5	X		
1317						MW-25-1			5	X		
1152						DUPLE-04-28.09			5	X		DUPPLICATE
						EB-06-4/29/09			1	X		EBURMENT BLANK
						TR-06-4/29/09			1	X		TRIP BLANK

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
Relinquished by _____	_____	_____	_____	_____
Received by <u>Patricia Edrosa</u>	<u>Patricia Edrosa</u>	<u>Alpha</u>	<u>4/30/09</u>	<u>9:51</u>
Relinquished by _____	_____	_____	_____	_____
Received by _____	_____	_____	_____	_____
Relinquished by _____	_____	_____	_____	_____
Received by _____	_____	_____	_____	_____

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



# Alpha Analytical, Inc.

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

Date: 08-Jun-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: BMI09052703

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09052703-01A	MW-5	Aqueous
09052703-02A	MW-6	Aqueous
09052703-03A	<i>gpc</i> Trip Blank TB-19-05/26/09	Aqueous

### Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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

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



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/26/09 08:13	05/27/09 13:14
Lab ID : BMI09052703-01A	Nitrate (NO3) - N	2.0	0.25 mg/L	05/26/09 08:13	05/27/09 13:14
Client ID : MW-6	Nitrite (NO2) - N	ND	0.25 mg/L	05/26/09 09:58	05/27/09 13:33
Lab ID : BMI09052703-02A	Nitrate (NO3) - N	14	0.25 mg/L	05/26/09 09:58	05/27/09 13:33

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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

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6/9/09

Report Date





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: MW-5				
Lab ID: BMI09052703-01A Chloride	35	5.0 mg/L	05/26/09	05/27/09
Sulfate (SO4)	66	0.50 mg/L	05/26/09	05/27/09
Client ID: MW-6				
Lab ID: BMI09052703-02A Chloride	130	5.0 mg/L	05/26/09	05/27/09
Sulfate (SO4)	210	0.50 mg/L	05/26/09	05/27/09

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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*e*  
6/9/09

**Report Date**



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

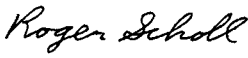

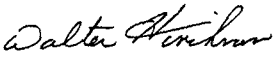
Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-5 Lab ID : BMI09052703-01A Perchlorate	ND	1.00 µg/L	05/26/09	06/01/09
Client ID : MW-6 Lab ID : BMI09052703-02A Perchlorate	2.11	1.00 µg/L	05/26/09	06/01/09

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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6/9/09  
**Report Date**



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-5				
Lab ID : BMI09052703-01A	Alkalinity, Bicarbonate (As CaCO3)	120	10 mg/L	05/26/09 06/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/26/09 06/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	120	10 mg/L	05/26/09 06/05/09
Client ID : MW-6				
Lab ID : BMI09052703-02A	Alkalinity, Bicarbonate (As CaCO3)	230	10 mg/L	05/26/09 06/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/26/09 06/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	230	10 mg/L	05/26/09 06/05/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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

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6/5/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-5				
Lab ID : BMI09052703-01A	Sodium (Na)	24	0.50 mg/L	05/26/09 05/29/09
	Magnesium (Mg)	15	0.50 mg/L	05/26/09 05/29/09
	Potassium (K)	3.8	0.50 mg/L	05/26/09 05/29/09
	Calcium (Ca)	56	0.50 mg/L	05/26/09 05/29/09
	Chromium (Cr)	0.0051	0.0050 mg/L	05/26/09 05/29/09
	Iron (Fe)	0.50	0.10 mg/L	05/26/09 05/29/09
	Arsenic (As)	ND	0.0020 mg/L	05/26/09 05/29/09
	Lead (Pb)	ND	0.0050 mg/L	05/26/09 05/29/09
Client ID : MW-6				
Lab ID : BMI09052703-02A	Sodium (Na)	40	0.50 mg/L	05/26/09 05/29/09
	Magnesium (Mg)	49	0.50 mg/L	05/26/09 05/29/09
	Potassium (K)	2.8	0.50 mg/L	05/26/09 05/29/09
	Calcium (Ca)	170	0.50 mg/L	05/26/09 05/29/09
	Chromium (Cr)	0.023	0.0050 mg/L	05/26/09 05/29/09
	Iron (Fe)	3.0	0.10 mg/L	05/26/09 05/29/09
	Arsenic (As)	ND	0.0020 mg/L	05/26/09 05/29/09
	Lead (Pb)	ND	0.0050 mg/L	05/26/09 05/29/09

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.

6/9/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-5	pH	6.7	1.7 pH Units	05/26/09 08:13	05/27/09 14:23
Lab ID : BMI09052703-01A	pH - Temperature	20	1.0 °C	05/26/09 08:13	05/27/09 14:23
Client ID : MW-6	pH	6.6	1.7 pH Units	05/26/09 09:58	05/27/09 14:27
Lab ID : BMI09052703-02A	pH - Temperature	20	1.0 °C	05/26/09 09:58	05/27/09 14:27

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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6/4/09

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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 : 05/27/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-5</b>				
Lab ID : BMI09052703-01A Solids, Total Dissolved (TDS)	300	10 mg/L	05/26/09	06/01/09
Client ID : <b>MW-6</b>				
Lab ID : BMI09052703-02A Solids, Total Dissolved (TDS)	810	10 mg/L	05/26/09	06/02/09

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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## ANALYTICAL REPORT

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

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

### Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : <b>MW-5</b>						
Lab ID : BMI09052703-01A	*** None Found ***	ND	2.0 µg/L	05/27/09	05/26/09	06/03/09
Client ID : <b>MW-6</b>						
Lab ID : BMI09052703-02A	*** None Found ***	ND	2.0 µg/L	05/27/09	05/26/09	06/03/09
Client ID : <sup>Sal</sup> <del>Trip Blank</del> TB-19-05/26/09						
Lab ID : BMI09052703-03A	*** None Found ***	ND	2.0 µg/L	05/27/09	05/26/09	06/03/09

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

6/9/09

**Report Date**

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052703-01A  
Client I.D. Number: MW-5

Sampled: 05/26/09  
Received: 05/27/09  
Analyzed: 06/03/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052703-02A  
Client I.D. Number: MW-6

Sampled: 05/26/09  
Received: 05/27/09  
Analyzed: 06/03/09

### 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	0.63	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	2.9	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	1.2	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052703-03A  
Client I.D. Number: ~~Trip Blank~~ TB-19-05/26/09  
*ELC*

Sampled: 05/26/09  
Received: 05/27/09  
Analyzed: 06/03/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	102	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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6/9/09

Report Date

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# Alpha Analytical, Inc.

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

## VOC Sample Preservation Report

Work Order: BMI09052703

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09052703-01A	MW-5	Aqueous	2
09052703-02A	MW-6	Aqueous	2
09052703-03A	Trip Blank TB-19-05/26/09	Aqueous	2

6/9/09  
Report Date

Billing Information :

# CHAIN-OF-CUSTODY RECORD

Page: 1 of 2

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

# CA

**WorkOrder : BMIS09052703**  
**Report Due By : 5:00 PM On : 10-Jun-2009**

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

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

EDD Required : Yes

Sampled by : Client

PO : 218013

<u>Cooler Temp</u>	<u>Samples Received</u>	<u>Date Printed</u>
4 °C	27-May-2009	27-May-2009

Client's COC # : 25535

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix	No. of Bottles Alpha Sub TAT	Requested Tests										Sample Remarks	
				300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINIT Y_W	METALS_D W	PH_W	TDS				
BMI09052703-01A	MW-5	AQ	05/26/09 08:13	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09052703-02A	MW-6	AQ	05/26/09 09:58	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09052703-03A	Trip-Blank TB-19-05/26/09 <i>EE</i>	AQ	05/26/09 00:00	1	0	10									Reno Trip-Blank 3/16/09 N/A <i>EE</i>

**Comments:** No security seals. Frozen ice. Temp Blank #5041 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). :

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adcox</i>	Elizabeth Adcox	Alpha Analytical, Inc.	5:27:09 10/18

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

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

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

# CHAIN-OF-CUSTODY RECORD

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

# CA

**WorkOrder : BMIS09052703**  
**Report Due By : 5:00 PM On : 10-Jun-2009**

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

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

EDD Required : Yes

Sampled by : Client

PO : 218013

<u>Cooler Temp</u>	<u>Samples Received</u>	<u>Date Printed</u>
4 °C	27-May-2009	27-May-2009

Client's COC # : 25535

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles			Requested Tests						Sample Remarks		
				Alpha	Sub	TAT	VOC_TIC_W	VOC_W							
BMI09052703-01A	MW-5	AQ	05/26/09 08:13	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria							
BMI09052703-02A	MW-6	AQ	05/26/09 09:58	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria							
BMI09052703-03A	Trip Blank TB-19-05/26/09 <i>EAL</i>	AQ	05/26/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria							Reno Trip Blank 3/16/09 N/A <i>EAL</i>

**Comments:** No security seals. Frozen ice. Temp Blank #5041 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).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adcox</i>	Elizabeth Adcox	Alpha Analytical, Inc.	5-27-09 1018

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





# Alpha Analytical, Inc.

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

Date: 04-Jun-09

David Conner  
Battelle Memorial Institute  
3990 Old Town Ave  
San Diego, CA 92110  
(618) 393-2808

Suite C-205

## CASE NARRATIVE

Project: G005862/JPL Groundwater Monitoring

Work Order: BMI09052202

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09052202-01A	MW-10	Aqueous
09052202-02A	MW-15	Aqueous
09052202-03A	TB-18-5/21/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09052202-01A	EPA Method 314.0	Perchlorate

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

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

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

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : <b>MW-10</b>	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	05/21/09 07:38	05/22/09 14:45
Lab ID : BMI09052202-01A	Nitrate (NO <sub>3</sub> ) - N	15	2.5 mg/L	05/21/09 07:38	05/22/09 15:22
Client ID : <b>MW-15</b>	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	05/21/09 08:58	05/22/09 15:03
Lab ID : BMI09052202-02A	Nitrate (NO <sub>3</sub> ) - N	0.86	0.25 mg/L	05/21/09 08:58	05/22/09 15:03

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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6/5/09

Report Date





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## ANALYTICAL REPORT

Battelle Memorial Institute  
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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-10</b>				
Lab ID : BMI09052202-01A Chloride	110	5.0 mg/L	05/21/09	05/22/09
Sulfate (SO4)	160	5.0 mg/L	05/21/09	05/22/09
Client ID : <b>MW-15</b>				
Lab ID : BMI09052202-02A Chloride	27	0.50 mg/L	05/21/09	05/22/09
Sulfate (SO4)	52	0.50 mg/L	05/21/09	05/22/09

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*6/5/09*

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## ANALYTICAL REPORT

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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-10</b>				
Lab ID : BMI09052202-01A Perchlorate	2.73	1.00 µg/L	05/21/09	05/26/09
Client ID : <b>MW-15</b>				
Lab ID : BMI09052202-02A Perchlorate	ND	1.00 µg/L	05/21/09	05/26/09

ND = Not Detected

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## ANALYTICAL REPORT

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3990 Old Town Ave  
San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-10</b>				
Lab ID : BMI09052202-01A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	230	10 mg/L	05/21/09 05/28/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	05/21/09 05/28/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	230	10 mg/L	05/21/09 05/28/09
Client ID : <b>MW-15</b>				
Lab ID : BMI09052202-02A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	05/21/09 05/28/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	05/21/09 05/28/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	05/21/09 05/28/09

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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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 : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-10				
Lab ID : BMI09052202-01A Sodium (Na)	32	0.50 mg/L	05/21/09	05/27/09
Magnesium (Mg)	43	0.50 mg/L	05/21/09	05/27/09
Potassium (K)	3.4	0.50 mg/L	05/21/09	05/27/09
Calcium (Ca)	140	0.50 mg/L	05/21/09	05/27/09
Chromium (Cr)	0.011	0.0050 mg/L	05/21/09	05/27/09
Iron (Fe)	0.73	0.10 mg/L	05/21/09	05/27/09
Arsenic (As)	ND	0.0020 mg/L	05/21/09	05/27/09
Lead (Pb)	ND	0.0050 mg/L	05/21/09	05/27/09
Client ID : MW-15				
Lab ID : BMI09052202-02A Sodium (Na)	28	0.50 mg/L	05/21/09	05/27/09
Magnesium (Mg)	17	0.50 mg/L	05/21/09	05/27/09
Potassium (K)	3.0	0.50 mg/L	05/21/09	05/27/09
Calcium (Ca)	57	0.50 mg/L	05/21/09	05/27/09
Chromium (Cr)	0.0068	0.0050 mg/L	05/21/09	05/27/09
Iron (Fe)	0.31	0.10 mg/L	05/21/09	05/27/09
Arsenic (As)	ND	0.0020 mg/L	05/21/09	05/27/09
Lead (Pb)	0.017	0.0050 mg/L	05/21/09	05/27/09

ND = Not Detected

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## ANALYTICAL REPORT

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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-10	pH	6.9	1.7 pH Units	05/21/09 07:38	05/22/09 17:50
Lab ID : BMI09052202-01A	pH - Temperature	20	1.0 °C	05/21/09 07:38	05/22/09 17:50
Client ID : MW-15	pH	7.5	1.7 pH Units	05/21/09 08:58	05/22/09 17:54
Lab ID : BMI09052202-02A	pH - Temperature	20	1.0 °C	05/21/09 08:58	05/22/09 17:54

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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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 : 05/22/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-10</b>				
Lab ID : BMI09052202-01A Solids, Total Dissolved (TDS)	720	10 mg/L	05/21/09	06/01/09
Client ID : <b>MW-15</b>				
Lab ID : BMI09052202-02A Solids, Total Dissolved (TDS)	320	10 mg/L	05/21/09	05/29/09

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**6/5/09**

**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

Job#: G005862/JPL Groundwater Monitoring

### Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : <b>MW-10</b>						
Lab ID : BMI09052202-01A	*** None Found ***	ND	2.0 µg/L	05/22/09	05/21/09	06/03/09
Client ID : <b>MW-15</b>						
Lab ID : BMI09052202-02A	*** None Found ***	ND	2.0 µg/L	05/22/09	05/21/09	06/03/09
Client ID : <b>TB-18-5/21/09</b>						
Lab ID : BMI09052202-03A	*** None Found ***	ND	2.0 µg/L	05/22/09	05/21/09	06/03/09

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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6/5/09

**Report Date**

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052202-01A  
Client I.D. Number: MW-10

Sampled: 05/21/09  
Received: 05/22/09  
Analyzed: 06/03/09

### 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	0.53	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	0.68	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	1.9	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	112	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	1.2	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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6/5/09

**Report Date**

Page 1 of 1





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052202-02A  
Client I.D. Number: MW-15

Sampled: 05/21/09  
Received: 05/22/09  
Analyzed: 06/03/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger 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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6/5/09

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052202-03A  
Client I.D. Number: TB-18-5/21/09

Sampled: 05/21/09  
Received: 05/22/09  
Analyzed: 06/03/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

6/5/09

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Page 1 of 1



# Alpha Analytical, Inc.

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

---

## VOC Sample Preservation Report

**Work Order:** BMI09052202

**Project:** G005862/JPL Groundwater Monitoring

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Alpha's Sample ID	Client's Sample ID	Matrix	pH
09052202-01A	MW-10	Aqueous	2
09052202-02A	MW-15	Aqueous	2
09052202-03A	TB-18-5/21/09	Aqueous	2

---

6/5/09

**Report Date**

# CHAIN-OF-CUSTODY RECORD

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

# CA

**WorkOrder : BMIS09052202**  
**Report Due By : 5:00 PM On : 08-Jun-2009**

**Client:**  
 Battelle Memorial Institute  
 3990 Old Town Ave  
 Suite C-205  
 San Diego, CA 92110  
 PO : 218013

Report Attention	Phone Number	Email Address
David Comer	(818) 393-2808 x	comerd@battelle.org
Shane Walton	(614) 424-4117 x	waltonsh@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 22-May-2009 Date Printed 22-May-2009

Client's COC # : 25536 Job : G005862/JPL Groundwater Monitoring  
 QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles		Requested Tests			PH_W	TDS	Sample Remarks			
			Alpha	Sub	300_0(A)_W	300_0(B)_W	300_0(C)_W				314_W	ALCALINITY_W	METALS_D W
BM109052202-01A	MMW-10	AQ 05/21/09 07:38	5	0	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Ct, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109052202-02A	MMW-15	AQ 05/21/09 08:58	5	0	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Ct, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109052202-03A	TB--18-5/21/09	AQ 05/21/09 00:00	1	0									Reno Trip Blank 3/16/09

**Comments:** No security seals. Frozen ice Temp Blank #5066 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).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adcox</i>	Elizabeth Adcox	Alpha Analytical, Inc.	5-22-09 10:07

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

Billing Information :

# CHAIN-OF-CUSTODY RECORD

# CA

## Alpha Analytical, Inc.

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

WorkOrder : BMIS09052202

Report Due By : 5:00 PM On : 08-Jun-2009

Client:

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

Report Attention Phone Number Email Address

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

EDD Required : Yes

Sampled by : Client

Cooler Temp

4 °C

Samples Received

22-May-2009

Date Printed

22-May-2009

Client's COC # : 25536 Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles		Requested Tests		Sample Remarks
			Alpha	Sub TAT	VOC_TIC_w	VOC_w	
BM109052202-01A	MW-10	AQ 05/21/09 07:38	5	0 10	VOC by 324 Criteria	VOC by 324 Criteria	
BM109052202-02A	MW-15	AQ 05/21/09 08:58	5	0 10	VOC by 324 Criteria	VOC by 324 Criteria	
BM109052202-03A	TB-18-5/21/09	AQ 05/21/09 00:00	1	0 10	VOC by 324 Criteria	VOC by 324 Criteria	Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #5066 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).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adcox</i>	Elizabeth Adcox	Alpha Analytical, Inc.	5:22:09 10:07

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





# Alpha Analytical, Inc.

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

Date: 04-Jun-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: BMI09052103

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09052103-01A	MW-13	Aqueous
09052103-02A	MW-8	Aqueous
09052103-03A	TB-17-5/20/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09052103-01A	EPA Method 314.0	Perchlorate
09052103-02A	EPA Method 314.0	Perchlorate

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

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

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

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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

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

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# Alpha Analytical, Inc.

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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 : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : <b>MW-13</b>	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	05/20/09 08:33	05/21/09 17:47
Lab ID : BMI09052103-01A	Nitrate (NO <sub>3</sub> ) - N	6.7	0.25 mg/L	05/20/09 08:33	05/21/09 17:47
	Phosphate, ortho - P	ND	0.25 mg/L	05/20/09 08:33	05/21/09 17:47
	Client ID : <b>MW-8</b>	Nitrite (NO <sub>2</sub> ) - N	ND	05/20/09 10:33	05/21/09 19:01
Lab ID : BMI09052103-02A	Nitrate (NO <sub>3</sub> ) - N	2.4	0.25 mg/L	05/20/09 10:33	05/21/09 19:01
	Phosphate, ortho - P	ND	0.25 mg/L	05/20/09 10:33	05/21/09 19:01

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*  
 Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer  
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6/4/09

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 : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-13</b>				
Lab ID : BMI09052103-01A Chloride	42	0.50 mg/L	05/20/09	05/21/09
Sulfate (SO4)	53	0.50 mg/L	05/20/09	05/21/09
Client ID : <b>MW-8</b>				
Lab ID : BMI09052103-02A Chloride	32	0.50 mg/L	05/20/09	05/21/09
Sulfate (SO4)	70	0.50 mg/L	05/20/09	05/21/09

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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6/4/09

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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: MW-13				
Lab ID: BMI09052103-01A Perchlorate	972	50.0 µg/L	05/20/09	06/01/09
Client ID: MW-8				
Lab ID: BMI09052103-02A Perchlorate	45.4	1.00 µg/L	05/20/09	05/26/09

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

6/4/09

**Report Date**



# Alpha Analytical, Inc.

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## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-13</b>				
Lab ID : BMI09052103-01A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/20/09 05/28/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/20/09 05/28/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/20/09 05/28/09
Client ID : <b>MW-8</b>				
Lab ID : BMI09052103-02A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/20/09 05/28/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/20/09 05/28/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/20/09 05/28/09

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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Report Date



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## ANALYTICAL REPORT

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



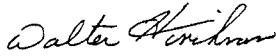
Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-13				
Lab ID : BMI09052103-01A	Sodium (Na)	27	0.50 mg/L	05/20/09 05/27/09
	Magnesium (Mg)	20	0.50 mg/L	05/20/09 05/27/09
	Potassium (K)	2.6	0.50 mg/L	05/20/09 05/27/09
	Calcium (Ca)	63	0.50 mg/L	05/20/09 05/27/09
	Chromium (Cr)	0.033	0.0050 mg/L	05/20/09 05/27/09
	Iron (Fe)	0.30	0.10 mg/L	05/20/09 05/27/09
	Arsenic (As)	ND	0.0020 mg/L	05/20/09 05/27/09
	Lead (Pb)	0.010	0.0050 mg/L	05/20/09 05/27/09
Client ID : MW-8				
Lab ID : BMI09052103-02A	Sodium (Na)	19	0.50 mg/L	05/20/09 05/27/09
	Magnesium (Mg)	19	0.50 mg/L	05/20/09 05/27/09
	Potassium (K)	2.8	0.50 mg/L	05/20/09 05/27/09
	Calcium (Ca)	64	0.50 mg/L	05/20/09 05/27/09
	Chromium (Cr)	0.0075	0.0050 mg/L	05/20/09 05/27/09
	Iron (Fe)	0.29	0.10 mg/L	05/20/09 05/27/09
	Arsenic (As)	ND	0.0020 mg/L	05/20/09 05/27/09
	Lead (Pb)	0.012	0.0050 mg/L	05/20/09 05/27/09

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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6/1/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-13	pH	6.9	1.7 pH Units	05/20/09 08:33	05/21/09 16:20
Lab ID : BMI09052103-01A	pH - Temperature	18	1.0 °C	05/20/09 08:33	05/21/09 16:20
Client ID : MW-8	pH	7.1	1.7 pH Units	05/20/09 10:33	05/21/09 16:28
Lab ID : BMI09052103-02A	pH - Temperature	17	1.0 °C	05/20/09 10:33	05/21/09 16:28

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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



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

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/21/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-13</b>				
Lab ID : BMI09052103-01A Solids, Total Dissolved (TDS)	380	10 mg/L	05/20/09	05/29/09
Client ID : <b>MW-8</b>				
Lab ID : BMI09052103-02A Solids, Total Dissolved (TDS)	330	10 mg/L	05/20/09	05/29/09

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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*6/4/09*

Report Date



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## ANALYTICAL REPORT

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

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

### Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID: MW-13						
Lab ID: BMI09052103-01A	*** None Found ***	ND	2.0 µg/L	05/21/09	05/20/09	05/27/09
Client ID: MW-8						
Lab ID: BMI09052103-02A	*** None Found ***	ND	2.0 µg/L	05/21/09	05/20/09	05/27/09
Client ID: TB-17-5/20/09						
Lab ID: BMI09052103-03A	Sulfur dioxide	2.5	2.0 µg/L	05/21/09	05/20/09	05/27/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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6/4/09

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**Report Date**

Page 1 of 1



# Alpha Analytical, Inc.

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## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052103-01A  
Client I.D. Number: MW-13

Sampled: 05/20/09  
Received: 05/21/09  
Analyzed: 05/27/09

### 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	2.8	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	0.92	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	105	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.53	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052103-02A  
Client I.D. Number: MW-8

Sampled: 05/20/09  
Received: 05/21/09  
Analyzed: 05/27/09

### 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	0.64	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09052103-03A  
Client I.D. Number: TB-17-5/20/09

Sampled: 05/20/09  
Received: 05/21/09  
Analyzed: 05/27/09

### 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 (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	93	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	105	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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# Alpha Analytical, Inc.

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

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## VOC Sample Preservation Report

**Work Order:** BMI09052103

**Project:** G005862/JPL Groundwater Monitoring

---

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09052103-01A	MW-13	Aqueous	2
09052103-02A	MW-8	Aqueous	2
09052103-03A	TB-17-5/20/09	Aqueous	2

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6/4/09

**Report Date**

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# Alpha Analytical, Inc.

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

Date:  
03-Jun-09

## QC Summary Report

Work Order:  
09052103

### Method Blank

File ID:	Type <b>MBLK</b>	Test Code: <b>SM2540C</b>					Analysis Date: <b>05/29/2009 00:00</b>
Sample ID: <b>MBLK-W0527DS</b>	Units : <b>mg/L</b>	Run ID: <b>WETLAB_090527F</b>					Prep Date: <b>05/29/2009</b>
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual	
Solids, Total Dissolved (TDS)	ND	10					

### Laboratory Control Spike

File ID:	Type <b>LCS</b>	Test Code: <b>SM2540C</b>					Analysis Date: <b>05/29/2009 00:00</b>
Sample ID: <b>LCS-W0527DS</b>	Units : <b>mg/L</b>	Run ID: <b>WETLAB_090527F</b>					Prep Date: <b>05/29/2009</b>
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual	
Solids, Total Dissolved (TDS)	190	10	200		95	80 120	

### Comments:

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



# Alpha Analytical, Inc.

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Date:  
04-Jun-09

## QC Summary Report

Work Order:  
09052103

### Method Blank

Type **MBLK** Test Code: \_\_\_\_\_

File ID: **09052707.D**

Batch ID: **MS15W0527M**

Analysis Date: **05/27/2009 12:13**

Sample ID: **MBLK MS15W0527M**

Units : **µg/L**

Run ID: **MSD\_15\_090527B**

Prep Date: **05/27/2009**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDReVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.25		10		93	70	130			
Surr: Toluene-d8	10.7		10		107	70	130			



# Alpha Analytical, Inc.

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

Date:  
04-Jun-09

## QC Summary Report

Work Order:  
09052103

Surr: 4-Bromofluorobenzene 9.71 10 97 70 130

### Laboratory Control Spike

Type LCS

Test Code:

File ID: 09052704.D

Batch ID: MS15W0527M

Analysis Date: 05/27/2009 10:58

Sample ID: LCS MS15W0527M

Units : µg/L

Run ID: MSD\_15\_090527B

Prep Date: 05/27/2009

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.55	1	10		86	70	130			
Chloromethane	11.6	2	10		116	70	130			
Vinyl chloride	9.32	1	10		93	70	130			
Chloroethane	13.3	1	10		105	70	130			
Bromomethane	7.42	2	10		74	70	130			
Trichlorofluoromethane	7.4	1	10		74	70	130			
1,1-Dichloroethene	11.4	1	10		114	70	130			
Dichloromethane	13.1	2	10		131	70	130(130)			L51
trans-1,2-Dichloroethene	10.8	1	10		108	70	130			
Methyl tert-butyl ether (MTBE)	9.76	0.5	10		98	70	130			
1,1-Dichloroethane	10.5	1	10		105	70	130			
cis-1,2-Dichloroethene	11.2	1	10		112	70	130			
Bromochloromethane	10.6	1	10		106	70	130			
Chloroform	9.58	1	10		96	70	130			
2,2-Dichloropropane	9.67	1	10		97	70	130			
1,2-Dichloroethane	8.72	1	10		87	70	130			
1,1,1-Trichloroethane	8.96	1	10		90	70	130			
1,1-Dichloropropene	10.5	1	10		105	70	130			
Carbon tetrachloride	7.96	1	10		80	70	130			
Benzene	10.6	0.5	10		106	70	130			
Dibromomethane	10.7	1	10		107	70	130			
1,2-Dichloropropane	11.7	1	10		117	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	9.44	1	10		94	70	130			
cis-1,3-Dichloropropene	10.3	1	10		103	70	130			
trans-1,3-Dichloropropene	9.5	1	10		95	70	130			
1,1,2-Trichloroethane	10.2	1	10		102	70	130			
Toluene	11.3	0.5	10		113	70	130			
1,3-Dichloropropane	11.9	1	10		119	70	130			
Dibromochloromethane	10.2	1	10		102	70	130			
1,2-Dibromoethane (EDB)	23.9	2	20		120	70	130			
Tetrachloroethene	11.2	1	10		112	70	130			
1,1,1,2-Tetrachloroethane	9.15	1	10		92	70	130			
Chlorobenzene	10.5	1	10		105	70	130			
Ethylbenzene	10.6	0.5	10		106	70	130			
m,p-Xylene	11.2	0.5	10		112	70	130			
Bromoform	9.66	1	10		97	70	130			
Styrene	11.1	1	10		111	70	130			
o-Xylene	10.8	0.5	10		108	70	130			
1,1,2,2-Tetrachloroethane	11.3	1	10		113	70	130			
1,2,3-Trichloropropane	18.7	2	20		94	70	130			
Isopropylbenzene	10.4	1	10		104	70	130			
Bromobenzene	9.83	1	10		98	70	130			
n-Propylbenzene	11.4	1	10		114	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.3	1	10		103	70	130			
1,3,5-Trimethylbenzene	10.1	1	10		101	70	130			
tert-Butylbenzene	10.4	1	10		104	70	130			
1,2,4-Trimethylbenzene	10.1	1	10		101	70	130			
sec-Butylbenzene	10.8	1	10		108	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	10.1	1	10		101	70	130			
4-Isopropyltoluene	10.6	1	10		106	70	130			
1,2-Dichlorobenzene	10	1	10		100	70	130			
n-Butylbenzene	10.2	1	10		102	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	48.6	3	50		97	70	130			
1,2,4-Trichlorobenzene	10.1	2	10		101	70	130			
Naphthalene	10.5	2	10		105	70	130			
Hexachlorobutadiene	21.1	2	20		105	70	130			
1,2,3-Trichlorobenzene	10.6	2	10		106	70	130			
Surr: 1,2-Dichloroethane-d4	8.31		10		83	70	130			
Surr: Toluene-d8	10.5		10		105	70	130			
Surr: 4-Bromofluorobenzene	9.71		10		97	70	130			



# Alpha Analytical, Inc.

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Date:  
04-Jun-09

## QC Summary Report

Work Order:  
09052103

### Sample Matrix Spike

Type MS

Test Code:

File ID: 09052708.D

Batch ID: MS15W0527M

Analysis Date: 05/27/2009 12:36

Sample ID: 09052103-02AMS

Units: µg/L

Run ID: MSD\_15\_090527B

Prep Date: 05/27/2009

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	31.3	2.5	50	0	63	13	167			
Chloromethane	41.3	10	50	0	83	28	145			
Vinyl chloride	36.7	2.5	50	0	73	43	134			
Chloroethane	47.6	2.5	50	0	95	39	154			
Bromomethane	28.4	10	50	0	57	19	176			
Trichlorofluoromethane	32.3	2.5	50	0.64	63	34	160			
1,1-Dichloroethene	47.8	2.5	50	0	96	60	130			
Dichloromethane	61.9	10	50	0	124	68	130			
trans-1,2-Dichloroethene	47.5	2.5	50	0	95	63	130			
Methyl tert-butyl ether (MTBE)	49.8	1.3	50	0	99.6	56	141			
1,1-Dichloroethane	46.8	2.5	50	0	94	61	130			
cis-1,2-Dichloroethene	50.9	2.5	50	0	102	70	130			
Bromochloromethane	51.3	2.5	50	0	103	70	130			
Chloroform	43.6	2.5	50	0	87	67	130			
2,2-Dichloropropane	40.6	2.5	50	0	81	30	152			
1,2-Dichloroethane	44	2.5	50	0	88	60	135			
1,1,1-Trichloroethane	39	2.5	50	0	78	59	137			
1,1-Dichloropropene	43.9	2.5	50	0	88	63	130			
Carbon tetrachloride	35.1	2.5	50	0	70	50	147			
Benzene	46.7	1.3	50	0	93	67	130			
Dibromomethane	50.6	2.5	50	0	101	69	133			
1,2-Dichloropropane	52.7	2.5	50	0	105	69	130			
Trichloroethene	44.2	2.5	50	0	88	69	130			
Bromodichloromethane	44.6	2.5	50	0	89	66	134			
cis-1,3-Dichloropropene	44.6	2.5	50	0	89	63	130			
trans-1,3-Dichloropropene	42.2	2.5	50	0	84	66	131			
1,1,2-Trichloroethane	48.7	2.5	50	0	97	68	130			
Toluene	44.6	1.3	50	0	89	66	130			
1,3-Dichloropropane	54.1	2.5	50	0	108	70	130			
Dibromochloromethane	48.4	2.5	50	0	97	70	130			
1,2-Dibromoethane (EDB)	106	10	100	0	106	70	130			
Tetrachloroethene	44	2.5	50	0	88	61	134			
1,1,1,2-Tetrachloroethane	41.8	2.5	50	0	84	70	130			
Chlorobenzene	44.5	2.5	50	0	89	70	130			
Ethylbenzene	41.5	1.3	50	0	83	68	130			
m,p-Xylene	41.5	1.3	50	0	83	64	130			
Bromoform	48.2	2.5	50	0	96	64	138			
Styrene	46	2.5	50	0	92	69	130			
o-Xylene	43.1	1.3	50	0	86	70	130			
1,1,2,2-Tetrachloroethane	53.8	2.5	50	0	108	65	131			
1,2,3-Trichloropropane	89.4	10	100	0	89	70	130			
Isopropylbenzene	39.5	2.5	50	0	79	64	138			
Bromobenzene	42.9	2.5	50	0	86	70	130			
n-Propylbenzene	41.7	2.5	50	0	83	66	132			
4-Chlorotoluene	42.8	2.5	50	0	86	70	130			
2-Chlorotoluene	41.2	2.5	50	0	82	70	130			
1,3,5-Trimethylbenzene	40.8	2.5	50	0	82	66	136			
tert-Butylbenzene	40.4	2.5	50	0	81	65	137			
1,2,4-Trimethylbenzene	41	2.5	50	0	82	65	137			
sec-Butylbenzene	41.3	2.5	50	0	83	66	134			
1,3-Dichlorobenzene	43.1	2.5	50	0	86	70	130			
1,4-Dichlorobenzene	44.2	2.5	50	0	88	70	130			
4-Isopropyltoluene	41.7	2.5	50	0	83	66	137			
1,2-Dichlorobenzene	44.1	2.5	50	0	88	70	130			
n-Butylbenzene	39.9	2.5	50	0	80	60	142			
1,2-Dibromo-3-chloropropane (DBCP)	227	15	250	0	91	67	130			
1,2,4-Trichlorobenzene	46.6	10	50	0	93	61	137			
Naphthalene	49.9	10	50	0	99.8	40	167			
Hexachlorobutadiene	85.7	10	100	0	86	61	130			
1,2,3-Trichlorobenzene	52.7	10	50	0	105	51	144			
Surr: 1,2-Dichloroethane-d4	46		50		92	70	130			
Surr: Toluene-d8	49.8		50		99.5	70	130			
Surr: 4-Bromofluorobenzene	46.9		50		94	70	130			



# Alpha Analytical, Inc.

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

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

Date:  
04-Jun-09

## QC Summary Report

Work Order:  
09052103

### Sample Matrix Spike Duplicate

Type **MSD**

Test Code: \_\_\_\_\_

File ID: **09052709.D**

Batch ID: **MS15W0527M**

Analysis Date: **05/27/2009 12:58**

Sample ID: **09052103-02AMSD**

Units : **µg/L**

Run ID: **MSD\_15\_090527B**

Prep Date: **05/27/2009**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRfVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	28	2.5	50	0	56	13	167	31.34	11.4(20)	
Chloromethane	40.8	10	50	0	82	28	145	41.25	1.2(20)	
Vinyl chloride	34.2	2.5	50	0	68	43	134	36.72	7.1(20)	
Chloroethane	46.4	2.5	50	0	93	39	154	47.56	2.5(20)	
Bromomethane	28.6	10	50	0	57	19	176	28.35	0.8(20)	
Trichlorofluoromethane	28.7	2.5	50	0.64	56	34	160	32.34	11.9(20)	
1,1-Dichloroethene	43.3	2.5	50	0	87	60	130	47.75	9.9(20)	
Dichloromethane	57.6	10	50	0	115	68	130	61.89	7.3(20)	
trans-1,2-Dichloroethene	44.6	2.5	50	0	89	63	130	47.45	6.3(20)	
Methyl tert-butyl ether (MTBE)	47.9	1.3	50	0	96	56	141	49.82	4.0(20)	
1,1-Dichloroethane	43.9	2.5	50	0	88	61	130	46.8	6.5(20)	
cis-1,2-Dichloroethene	48.2	2.5	50	0	96	70	130	50.89	5.5(20)	
Bromochloromethane	49.4	2.5	50	0	99	70	130	51.25	3.7(20)	
Chloroform	42.1	2.5	50	0	84	67	130	43.62	3.5(20)	
2,2-Dichloropropane	37.9	2.5	50	0	76	30	152	40.55	6.8(20)	
1,2-Dichloroethane	41.4	2.5	50	0	83	60	135	44.01	6.0(20)	
1,1,1-Trichloroethane	36.3	2.5	50	0	73	59	137	39.01	7.2(20)	
1,1-Dichloropropene	41.2	2.5	50	0	82	63	130	43.9	6.4(20)	
Carbon tetrachloride	33.3	2.5	50	0	67	50	147	35.05	5.2(20)	
Benzene	44.5	1.3	50	0	89	67	130	46.69	4.9(20)	
Dibromomethane	49.3	2.5	50	0	99	69	133	50.58	2.6(20)	
1,2-Dichloropropane	50.8	2.5	50	0	102	69	130	52.72	3.8(20)	
Trichloroethene	42.3	2.5	50	0	85	69	130	44.2	4.4(20)	
Bromodichloromethane	43.4	2.5	50	0	87	66	134	44.61	2.8(20)	
cis-1,3-Dichloropropene	43.6	2.5	50	0	87	63	130	44.63	2.3(20)	
trans-1,3-Dichloropropene	43	2.5	50	0	86	66	131	42.18	1.9(20)	
1,1,2-Trichloroethane	47.8	2.5	50	0	96	68	130	48.67	1.8(20)	
Toluene	43.9	1.3	50	0	88	66	130	44.64	1.6(20)	
1,3-Dichloropropane	54.1	2.5	50	0	108	70	130	54.05	0.1(20)	
Dibromochloromethane	48	2.5	50	0	96	70	130	48.43	0.8(20)	
1,2-Dibromoethane (EDB)	105	10	100	0	105	70	130	105.8	1.0(20)	
Tetrachloroethene	42.2	2.5	50	0	84	61	134	44.03	4.3(20)	
1,1,1,2-Tetrachloroethane	41.8	2.5	50	0	84	70	130	41.79	0.0(20)	
Chlorobenzene	44.6	2.5	50	0	89	70	130	44.53	0.1(20)	
Ethylbenzene	41.8	1.3	50	0	84	68	130	41.5	0.8(20)	
m,p-Xylene	41.6	1.3	50	0	83	64	130	41.51	0.1(20)	
Bromoform	48.1	2.5	50	0	96	64	138	48.16	0.0(20)	
Styrene	46.9	2.5	50	0	94	69	130	45.98	2.1(20)	
o-Xylene	43.3	1.3	50	0	87	70	130	43.13	0.5(20)	
1,1,2,2-Tetrachloroethane	54.6	2.5	50	0	109	65	131	53.83	1.5(20)	
1,2,3-Trichloropropane	89.4	10	100	0	89	70	130	89.41	0.0(20)	
Isopropylbenzene	39.6	2.5	50	0	79	64	138	39.52	0.2(20)	
Bromobenzene	43.8	2.5	50	0	88	70	130	42.86	2.1(20)	
n-Propylbenzene	41.1	2.5	50	0	82	66	132	41.74	1.5(20)	
4-Chlorotoluene	43.2	2.5	50	0	86	70	130	42.84	0.9(20)	
2-Chlorotoluene	40.8	2.5	50	0	82	70	130	41.18	0.9(20)	
1,3,5-Trimethylbenzene	39.2	2.5	50	0	78	66	136	40.75	3.9(20)	
tert-Butylbenzene	40	2.5	50	0	80	65	137	40.39	1.1(20)	
1,2,4-Trimethylbenzene	39.9	2.5	50	0	80	65	137	40.99	2.6(20)	
sec-Butylbenzene	39.8	2.5	50	0	80	66	134	41.25	3.5(20)	
1,3-Dichlorobenzene	43.2	2.5	50	0	86	70	130	43.12	0.3(20)	
1,4-Dichlorobenzene	44.1	2.5	50	0	88	70	130	44.16	0.0(20)	
4-Isopropyltoluene	40.2	2.5	50	0	80	66	137	41.7	3.8(20)	
1,2-Dichlorobenzene	45.2	2.5	50	0	90	70	130	44.12	2.5(20)	
n-Butylbenzene	39.2	2.5	50	0	78	60	142	39.9	1.7(20)	
1,2-Dibromo-3-chloropropane (DBCP)	230	15	250	0	92	67	130	227.2	1.2(20)	
1,2,4-Trichlorobenzene	48.8	10	50	0	98	61	137	46.61	4.6(20)	
Naphthalene	52.7	10	50	0	105	40	167	49.89	5.5(20)	
Hexachlorobutadiene	87.7	10	100	0	88	61	130	85.72	2.3(20)	
1,2,3-Trichlorobenzene	55.1	10	50	0	110	51	144	52.65	4.5(20)	
Surr: 1,2-Dichloroethane-d4	42.2		50		84	70	130			
Surr: Toluene-d8	50.7		50		101	70	130			
Surr: 4-Bromofluorobenzene	47.1		50		94	70	130			





# *Alpha Analytical, Inc.*

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

**Date:**  
*04-Jun-09*

## QC Summary Report

**Work Order:**  
09052103

**Comments:**

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

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

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



# CHAIN-OF-CUSTODY RECORD

# CA

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

**WorkOrder : BMIS09052103**  
**Report Due By : 5:00 PM On : 05-Jun-2009**

**Client:**  
 Battelle Memorial Institute  
 3990 Old Town Ave  
 Suite C-205  
 San Diego, CA 92110  
 PO : 218013

Report Attention	Phone Number	Email Address
David Comer	(818) 393-2808 x	comend@battelle.org
Shane Walton	(614) 424-4117 x	waltonsm@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C      Samples Received 21-May-2009      Date Printed 21-May-2009

Client's COC # : 25537      Job : G005862/JPL Groundwater Monitoring  
 QC Level : DS4      = DOD QC Required : Final Rpt. MBLK, InitCal/Concal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles		Matrix	Requested Tests		Sample Remarks
			Alpha	Sub		VOC_TIC_W	VOC_W	
BM109052103-01A	MW-13	AQ 05/20/09 08:33	5	0	AQ	VOC by 524 Criteria	VOC by 524 Criteria	
BM109052103-02A	MW-8	AQ 05/20/09 10:33	5	0	AQ	VOC by 524 Criteria	VOC by 524 Criteria	
BM109052103-03A	TB-17-5/20/09	AQ 05/20/09 00:00	1	0	AQ	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 3/16/09

**Comments:** No security seals. Frozen ice. Temp Blank #7650 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).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Alex</i>	Elizabeth Alex	Alpha Analytical, Inc.	5-21-09 1339

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

**Billing Information:**

Name GERALD TOMPKINS  
 Address 505 KINK AVE  
 City, State, Zip COLUMBUS, OH 43201  
 Phone Number \_\_\_\_\_ Fax \_\_\_\_\_



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

**Samples Collected From Which State?** 25537  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

Analyses Required

Required QC Level?  
 I II III IV

EDD / EDF? YES \_\_\_ NO \_\_\_

Global ID # \_\_\_\_\_  
 REMARKS

Client Name	Address	City, State, Zip	P.O. #	Email Address	Phone #	Fax #	Job #	Sampled	Date	Matrix	See Key Below	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VR's (524.2)	TOTAL CR. LEAD. (200.8)	GEN CHEM. (Pb, Hg, Cu, Mn, Fe) (200.7)	CLAY - (314.0)	GEN CHEM. (300.0), 310.1, 160.1, 150.1	0-PHOSPHATE (30.0)	Global ID #	REMARKS
DAVID CONNER	3990 OLD TOWN AVE, C-205	SPR DILGO, CA 92110	218013	619-726-7311	619-726-7311		G005862	833	5/20/09	AR		BMT09052103-01		MW-13		norm		5	X	X	X	X	X			
								1033										5	X	X	X	X	X			
																		1	X	X	X	X	X			

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARCO MENDOZA	INSIGHT ETC	5/20/09	1130
<i>[Signature]</i>	Elizabeth Alder	Alpha	5-21-09	1339
Received by				
Relinquished by				
Received by				
Relinquished by				
Received by				

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



# Alpha Analytical, Inc.

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

Date: 01-Jun-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: BMI09052005

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09052005-01A	MW-7	Aqueous
09052005-02A	MW-16	Aqueous
09052005-03A	TB-16-05/19/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09052005-01A	EPA Method 314.0	Perchlorate
09052005-02A	EPA Method 314.0	Perchlorate

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

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

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

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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



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## 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 : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-7	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	05/19/09 09:41	05/20/09 16:44
Lab ID : BMI09052005-01A	Nitrate (NO <sub>3</sub> ) - N	1.3	0.25 mg/L	05/19/09 09:41	05/20/09 16:44
	Phosphate, ortho - P	ND	0.25 mg/L	05/19/09 09:41	05/20/09 16:44
Client ID : MW-16	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	05/19/09 11:47	05/20/09 17:39
Lab ID : BMI09052005-02A	Nitrate (NO <sub>3</sub> ) - N	1.1	0.25 mg/L	05/19/09 11:47	05/20/09 17:39
	Phosphate, ortho - P	ND	0.25 mg/L	05/19/09 11:47	05/20/09 17:39

ND = Not Detected

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*

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6/3/09

Report Date



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Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7				
Lab ID : BMI09052005-01A Chloride	83	0.50 mg/L	05/19/09	05/20/09
Sulfate (SO4)	48	0.50 mg/L	05/19/09	05/20/09
Client ID : MW-16				
Lab ID : BMI09052005-02A Chloride	82	0.50 mg/L	05/19/09	05/20/09
Sulfate (SO4)	49	0.50 mg/L	05/19/09	05/20/09

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Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7 Lab ID : BMI09052005-01A Perchlorate	9.43	1.00 µg/L	05/19/09	05/21/09
Client ID : MW-16 Lab ID : BMI09052005-02A Perchlorate	9.52	1.00 µg/L	05/19/09	05/21/09

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

*[Signature]*

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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-7</b>				
Lab ID : BMI09052005-01A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	05/19/09 05/28/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	05/19/09 05/28/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	05/19/09 05/28/09
Client ID : <b>MW-16</b>				
Lab ID : BMI09052005-02A	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	170	10 mg/L	05/19/09 05/28/09
	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	05/19/09 05/28/09
	Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	170	10 mg/L	05/19/09 05/28/09

ND = Not Detected

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Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-7</b>				
Lab ID : BMI09052005-01A	Sodium (Na)	30	0.50 mg/L	05/19/09 05/27/09
	Magnesium (Mg)	20	0.50 mg/L	05/19/09 05/27/09
	Potassium (K)	3.4	0.50 mg/L	05/19/09 05/27/09
	Calcium (Ca)	66	0.50 mg/L	05/19/09 05/27/09
	Chromium (Cr)	0.011	0.0050 mg/L	05/19/09 05/27/09
	Iron (Fe)	0.66	0.10 mg/L	05/19/09 05/27/09
	Arsenic (As)	ND	0.0020 mg/L	05/19/09 05/27/09
	Lead (Pb)	ND	0.0050 mg/L	05/19/09 05/27/09
Client ID : <b>MW-16</b>				
Lab ID : BMI09052005-02A	Sodium (Na)	35	0.50 mg/L	05/19/09 05/27/09
	Magnesium (Mg)	23	0.50 mg/L	05/19/09 05/27/09
	Potassium (K)	3.0	0.50 mg/L	05/19/09 05/27/09
	Calcium (Ca)	60	0.50 mg/L	05/19/09 05/27/09
	Chromium (Cr)	0.028	0.0050 mg/L	05/19/09 05/27/09
	Iron (Fe)	0.27	0.10 mg/L	05/19/09 05/27/09
	Arsenic (As)	ND	0.0020 mg/L	05/19/09 05/27/09
	Lead (Pb)	0.013	0.0050 mg/L	05/19/09 05/27/09

ND = Not Detected

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6/3/09

**Report Date**



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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-7	pH	7.5	1.7 pH Units	05/19/09 09:41	05/20/09 16:03
Lab ID : BMI09052005-01A	pH - Temperature	19	1.0 °C	05/19/09 09:41	05/20/09 16:03
Client ID : MW-16	pH	7.1	1.7 pH Units	05/19/09 11:47	05/20/09 16:25
Lab ID : BMI09052005-02A	pH - Temperature	18	1.0 °C	05/19/09 11:47	05/20/09 16:25

The EPA has established an analytical holding time of 15 minutes for this method as documented in the Methods Update Rule, Federal Register, Vol 72, No 47, March 2007. This holding time will always be exceeded, unless samples are analyzed in the field.

The laboratory performed this analysis in the shortest practical holding time after sample receipt.

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*6/3/09*

**Report Date**



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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 05/20/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7				
Lab ID : BMI09052005-01A Solids, Total Dissolved (TDS)	390	10 mg/L	05/19/09	05/27/09
Client ID : MW-16				
Lab ID : BMI09052005-02A Solids, Total Dissolved (TDS)	370	10 mg/L	05/19/09	05/28/09

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