

### **ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS (SUMMARY SHEETS)**

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This attachment contains the groundwater monitoring well results from the laboratory analytical reports prepared by Alpha Analytical Inc. of Sparks, Nevada and Columbia Analytical Services (CAS) of Simi Valley, California. Complete laboratory analytical reports are available upon request.



# 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-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: BMI09042240

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09042240-01A	MW-14-5	Aqueous
09042240-02A	MW-14-4	Aqueous
09042240-03A	MW-14-3	Aqueous
09042240-04A	MW-14-2	Aqueous
09042240-05A	MW-14-1	Aqueous
09042240-06A	EB-01-4/21/09	Aqueous
09042240-07A	TB-01-4/21/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09042240-02A	EPA Method 314.0	Perchlorate
09042240-03A	EPA Method 314.0	Perchlorate
09042240-04A	EPA Method 314.0	Perchlorate
09042240-05A	EPA Method 314.0	Perchlorate

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

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

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

*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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## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/22/09

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 : MW-14-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 09:00	04/22/09 13:52
Lab ID : BMI09042240-01A	Nitrate (NO3) - N	ND	0.25 mg/L	04/21/09 09:00	04/22/09 13:52
Client ID : MW-14-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 09:40	04/22/09 14:47
Lab ID : BMI09042240-02A	Nitrate (NO3) - N	13	0.25 mg/L	04/21/09 09:40	04/22/09 14:47
Client ID : MW-14-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 10:15	04/22/09 15:06
Lab ID : BMI09042240-03A	Nitrate (NO3) - N	15 *	1.3 mg/L	04/21/09 10:15	04/23/09 17:01
Client ID : MW-14-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 10:55	04/22/09 15:24
Lab ID : BMI09042240-04A	Nitrate (NO3) - N	14	1.3 mg/L	04/21/09 10:55	04/23/09 10:50
Client ID : MW-14-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 11:40	04/22/09 15:43
Lab ID : BMI09042240-05A	Nitrate (NO3) - N	15	1.3 mg/L	04/21/09 11:40	04/23/09 11:09
Client ID : EB-01-4/21/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/21/09 11:20	04/22/09 16:01
Lab ID : BMI09042240-06A	Nitrate (NO3) - N	ND	0.25 mg/L	04/21/09 11:20	04/22/09 16:01

\*Note: Sample was originally analyzed within the 48 hour holding time for non-preserved samples, due to the high concentration of target analyte sample was re-run outside of hold time.

ND = Not Detected

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5/5/09

Report Date



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San Diego, CA 92110

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/22/09

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-14-5</b>				
Lab ID : BMI09042240-01A Chloride	9.3	0.50 mg/L	04/21/09	04/22/09
Sulfate (SO4)	17	0.50 mg/L	04/21/09	04/22/09
Client ID : <b>MW-14-4</b>				
Lab ID : BMI09042240-02A Chloride	48	2.5 mg/L	04/21/09	04/23/09
Sulfate (SO4)	49	0.50 mg/L	04/21/09	04/22/09
Client ID : <b>MW-14-3</b>				
Lab ID : BMI09042240-03A Chloride	100	2.5 mg/L	04/21/09	04/23/09
Sulfate (SO4)	160	2.5 mg/L	04/21/09	04/23/09
Client ID : <b>MW-14-2</b>				
Lab ID : BMI09042240-04A Chloride	110	2.5 mg/L	04/21/09	04/23/09
Sulfate (SO4)	180	2.5 mg/L	04/21/09	04/23/09
Client ID : <b>MW-14-1</b>				
Lab ID : BMI09042240-05A Chloride	130	2.5 mg/L	04/21/09	04/23/09
Sulfate (SO4)	190	2.5 mg/L	04/21/09	04/23/09
Client ID : <b>EB-01-4/21/09</b>				
Lab ID : BMI09042240-06A Chloride	ND	0.50 mg/L	04/21/09	04/22/09
Sulfate (SO4)	ND	0.50 mg/L	04/21/09	04/22/09

ND = Not Detected

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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/22/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-14-5 Lab ID : BMI09042240-01A Perchlorate	ND	1.00 µg/L	04/21/09	04/23/09
Client ID : MW-14-4 Lab ID : BMI09042240-02A Perchlorate	2.94	1.00 µg/L	04/21/09	04/23/09
Client ID : MW-14-3 Lab ID : BMI09042240-03A Perchlorate	4.90	1.00 µg/L	04/21/09	04/23/09
Client ID : MW-14-2 Lab ID : BMI09042240-04A Perchlorate	3.32	1.00 µg/L	04/21/09	04/23/09
Client ID : MW-14-1 Lab ID : BMI09042240-05A Perchlorate	2.64	1.00 µg/L	04/21/09	04/23/09
Client ID : EB-01-4/21/09 Lab ID : BMI09042240-06A Perchlorate	ND	1.00 µg/L	04/21/09	04/23/09

ND = Not Detected

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Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/22/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-14-5</b>				
Lab ID : BMI09042240-01A	Alkalinity, Bicarbonate (As CaCO3)	140	10 mg/L	04/21/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	13	10 mg/L	04/21/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	04/21/09 04/27/09
Client ID : <b>MW-14-4</b>				
Lab ID : BMI09042240-02A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	04/21/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/21/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	04/21/09 04/27/09
Client ID : <b>MW-14-3</b>				
Lab ID : BMI09042240-03A	Alkalinity, Bicarbonate (As CaCO3)	240	10 mg/L	04/21/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/21/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	240	10 mg/L	04/21/09 04/27/09
Client ID : <b>MW-14-2</b>				
Lab ID : BMI09042240-04A	Alkalinity, Bicarbonate (As CaCO3)	270	10 mg/L	04/21/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/21/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	270	10 mg/L	04/21/09 04/27/09
Client ID : <b>MW-14-1</b>				
Lab ID : BMI09042240-05A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	04/21/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/21/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	04/21/09 04/27/09
Client ID : <b>EB-01-4/21/09</b>				
Lab ID : BMI09042240-06A	Alkalinity, Bicarbonate (As CaCO3)	ND *	10 mg/L	04/21/09 04/28/09
	Alkalinity, Carbonate (As CaCO3)	ND *	10 mg/L	04/21/09 04/28/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND *	10 mg/L	04/21/09 04/28/09

\*pH too low, 4.2, to analyze Alkalinity.

ND = Not Detected

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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/22/09

Job#: G005862/JPL Groundwater Monitoring

### Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-14-5				
Lab ID : BMI09042240-01A	Sodium (Na)	32	0.50 mg/L	04/21/09 04/27/09
	Magnesium (Mg)	13	0.50 mg/L	04/21/09 04/27/09
	Potassium (K)	2.0	0.50 mg/L	04/21/09 04/27/09
	Calcium (Ca)	19	0.50 mg/L	04/21/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/21/09 04/27/09
	Iron (Fe)	0.34	0.10 mg/L	04/21/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/21/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/21/09 04/27/09
Client ID : MW-14-4				
Lab ID : BMI09042240-02A	Sodium (Na)	31	0.50 mg/L	04/21/09 04/27/09
	Magnesium (Mg)	23	0.50 mg/L	04/21/09 04/27/09
	Potassium (K)	2.3	0.50 mg/L	04/21/09 04/27/09
	Calcium (Ca)	68	0.50 mg/L	04/21/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/21/09 04/27/09
	Iron (Fe)	0.45	0.10 mg/L	04/21/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/21/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/21/09 04/27/09
Client ID : MW-14-3				
Lab ID : BMI09042240-03A	Sodium (Na)	43	0.50 mg/L	04/21/09 04/27/09
	Magnesium (Mg)	50	0.50 mg/L	04/21/09 04/27/09
	Potassium (K)	3.1	0.50 mg/L	04/21/09 04/27/09
	Calcium (Ca)	130	0.50 mg/L	04/21/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/21/09 04/27/09
	Iron (Fe)	0.85	0.10 mg/L	04/21/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/21/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/21/09 04/27/09
Client ID : MW-14-2				
Lab ID : BMI09042240-04A	Sodium (Na)	38	0.50 mg/L	04/21/09 04/27/09
	Magnesium (Mg)	53	0.50 mg/L	04/21/09 04/27/09
	Potassium (K)	2.9	0.50 mg/L	04/21/09 04/27/09
	Calcium (Ca)	150	0.50 mg/L	04/21/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/21/09 04/27/09
	Iron (Fe)	0.99	0.10 mg/L	04/21/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/21/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/21/09 04/27/09



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Client ID : **MW-14-1**

Lab ID :	BMI09042240-05A	Sodium (Na)	68	0.50 mg/L	04/21/09	04/27/09
		Magnesium (Mg)	43	0.50 mg/L	04/21/09	04/27/09
		Potassium (K)	2.9	0.50 mg/L	04/21/09	04/27/09
		Calcium (Ca)	130	0.50 mg/L	04/21/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/21/09	04/27/09
		Iron (Fe)	0.96	0.10 mg/L	04/21/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/21/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/21/09	04/27/09

Client ID : **EB-01-4/21/09**

Lab ID :	BMI09042240-06A	Sodium (Na)	ND	0.50 mg/L	04/21/09	04/27/09
		Magnesium (Mg)	ND	0.50 mg/L	04/21/09	04/27/09
		Potassium (K)	ND	0.50 mg/L	04/21/09	04/27/09
		Calcium (Ca)	ND	0.50 mg/L	04/21/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/21/09	04/27/09
		Iron (Fe)	ND	0.10 mg/L	04/21/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/21/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/21/09	04/27/09

ND = Not Detected

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## ANALYTICAL REPORT

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Attn: David Conner  
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Date Received : 04/22/09

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-14-5	pH	8.5	1.7 pH Units	04/21/09 09:00	04/22/09 15:42
Lab ID : BMI09042240-01A	pH - Temperature	21	1.0 °C	04/21/09 09:00	04/22/09 15:42
Client ID : MW-14-4	pH	7.9	1.7 pH Units	04/21/09 09:40	04/22/09 15:45
Lab ID : BMI09042240-02A	pH - Temperature	20	1.0 °C	04/21/09 09:40	04/22/09 15:45
Client ID : MW-14-3	pH	7.6	1.7 pH Units	04/21/09 10:15	04/22/09 15:48
Lab ID : BMI09042240-03A	pH - Temperature	20	1.0 °C	04/21/09 10:15	04/22/09 15:48
Client ID : MW-14-2	pH	7.6	1.7 pH Units	04/21/09 10:55	04/22/09 15:52
Lab ID : BMI09042240-04A	pH - Temperature	20	1.0 °C	04/21/09 10:55	04/22/09 15:52
Client ID : MW-14-1	pH	6.6	1.7 pH Units	04/21/09 11:40	04/22/09 15:56
Lab ID : BMI09042240-05A	pH - Temperature	21	1.0 °C	04/21/09 11:40	04/22/09 15:56
Client ID : EB-01-4/21/09	pH	5.9	1.7 pH Units	04/21/09 11:20	04/22/09 16:00
Lab ID : BMI09042240-06A	pH - Temperature	21	1.0 °C	04/21/09 11:20	04/22/09 16:00

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.

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Date Received : 04/22/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: <b>MW-14-5</b> Lab ID: BMI09042240-01A Solids, Total Dissolved (TDS)	170	10 mg/L	04/21/09	04/28/09
Client ID: <b>MW-14-4</b> Lab ID: BMI09042240-02A Solids, Total Dissolved (TDS)	360	10 mg/L	04/21/09	04/27/09
Client ID: <b>MW-14-3</b> Lab ID: BMI09042240-03A Solids, Total Dissolved (TDS)	700	10 mg/L	04/21/09	04/27/09
Client ID: <b>MW-14-2</b> Lab ID: BMI09042240-04A Solids, Total Dissolved (TDS)	770	10 mg/L	04/21/09	04/27/09
Client ID: <b>MW-14-1</b> Lab ID: BMI09042240-05A Solids, Total Dissolved (TDS)	740	10 mg/L	04/21/09	04/27/09
Client ID: <b>EB-01-4/21/09</b> Lab ID: BMI09042240-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/21/09	04/28/09

ND = Not Detected

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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-14-5</b> Lab ID : BMI09042240-01A	Sulfur dioxide	13	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>MW-14-4</b> Lab ID : BMI09042240-02A	Sulfur dioxide	6.1	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>MW-14-3</b> Lab ID : BMI09042240-03A	Sulfur dioxide	4.5	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>MW-14-2</b> Lab ID : BMI09042240-04A	Sulfur dioxide	3.7	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>MW-14-1</b> Lab ID : BMI09042240-05A	Sulfur dioxide	2.9	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>EB-01-4/21/09</b> Lab ID : BMI09042240-06A	Tertiary Butyl Alcohol (TBA)	73	10 µg/L	04/22/09	04/21/09	04/29/09
	2-Methyl-1-propene	3.0	2.0 µg/L	04/22/09	04/21/09	04/29/09
Client ID : <b>TB-01-4/21/09</b> Lab ID : BMI09042240-07A	*** None Found ***	ND	2.0 µg/L	04/22/09	04/21/09	04/29/09

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

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5/5/09

**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

Date: 03-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: BMI09042240

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09042240-01A	MW-14-5	Aqueous
09042240-02A	MW-14-4	Aqueous
09042240-03A	MW-14-3	Aqueous
09042240-04A	MW-14-2	Aqueous
09042240-05A	MW-14-1	Aqueous
09042240-06A	EB-01-4/21/09	Aqueous
09042240-07A	TB-01-4/21/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
NONE		

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

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

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

*Roger Scholl*      *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.

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: BMI09042240-01A  
Client I.D. Number: MW-14-5

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### 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	125	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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: BMI09042240-02A  
Client I.D. Number: MW-14-4

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### 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	123	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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5/5/09

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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: BMI09042240-03A  
Client I.D. Number: MW-14-3

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### Volatil 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	1.1	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	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	128	(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	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

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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: BMI09042240-04A  
Client I.D. Number: MW-14-2

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### 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	7.1	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	124	(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	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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# 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: BMI09042240-05A  
Client I.D. Number: MW-14-1

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### Volatil 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	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	3.4	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	128	(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	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

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.

5/5/09

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: BMI09042240-06A  
Client I.D. Number: EB-01-4/21/09

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### 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	116	(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

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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5/5/09

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: BMI09042240-07A  
Client I.D. Number: TB-01-4/21/09

Sampled: 04/21/09  
Received: 04/22/09  
Analyzed: 04/29/09

### 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	116	(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

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5/5/09

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

## VOC Sample Preservation Report

Work Order: BMI09042240

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09042240-01A	MW-14-5	Aqueous	2
09042240-02A	MW-14-4	Aqueous	2
09042240-03A	MW-14-3	Aqueous	2
09042240-04A	MW-14-2	Aqueous	2
09042240-05A	MW-14-1	Aqueous	2
09042240-06A	EB-01-4/21/09	Aqueous	2
09042240-07A	TB-01-4/21/09	Aqueous	2

5/5/09  
Report Date

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**AMENDED** Page: 1 of 2  
CA

**Alpha Analytical, Inc.**

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

WorkOrder : BMIS09042240  
Report Due By : 5:00 PM On : 06-May-09

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

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

Client's COC #: 25549 Job : G005862/JPL Groundwater Monitoring

EDD Required : No  
Sampled by : Client  
Cooler Temp 4 °C Samples Received 22-Apr-09 Date Printed 23-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 Date	No. of Bottles Alpha Sub	TAT	Requested Tests			PH_W	TDS	Sample Remarks				
					300.0(A)_W	300.0(B)_W	300.0(C)_W							
BM109042240-01A	MW-14-5	04/21/09 09:00	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-02A	MW-14-4	04/21/09 09:40	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-03A	MW-14-3	04/21/09 10:15	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-04A	MW-14-2	04/21/09 10:55	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-05A	MW-14-1	04/21/09 11:40	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-06A	EB-01-4/21/09	04/21/09 11:20	5	0	10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> , CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-07A	TB-01-4/21/09	04/21/09 00:00	1	0	10									Reno Trip Blank 1/6/09

Comments: No security seals. Frozen ice. Temp Blank # 4980 received @ 4 ° Celcius. 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 Gen Chem per spreadsheet from sampler. Amended 4/23/09 @ 14:51 to remove PO4 from all samples, due to login error. LE

Signature: *Jatiana Edwards* Print Name: Jatiana Edwards Company: Alpha Analytical, Inc. Date/Time: 4/23/09 14:51

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**

**AMENDED** Page: 2 of 2

**Alpha Analytical, Inc.**

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

WorkOrder : BMIS09042240  
 Report Due By : 5:00 PM On : 06-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	waltonsh@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org

Client's COC #: 25549

Job : G005862/JPL Groundwater Monitoring

EDD Required : No  
 Sampled by : Client  
 Cooler Temp 4 °C Samples Received 22-Apr-09 Date Printed 23-Apr-09

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		TAT	Requested Tests		Sample Remarks
			Alpha	Sub		VOC TIC_W	VOC_W	
BM109042240-01A	MW-14-5	04/21/09 09:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-02A	MW-14-4	04/21/09 09:40	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-03A	MW-14-3	04/21/09 10:15	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-04A	MW-14-2	04/21/09 10:55	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-05A	MW-14-1	04/21/09 11:40	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-06A	EB-01-4/21/09	04/21/09 11:20	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BM109042240-07A	TB-01-4/21/09	04/21/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 1/6/09

**Comments:** No security seals. Frozen ice. Temp Blank # 4980 received (@ 4 ° Celcius. 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 Gen Chem per spreadsheet from sampler.: Amended 4/23/09 @ 14:51 to remove PO4 from all samples, due to login error. LE

Signature	Print Name	Company	Date/Time
<i>Fatima Edrosa</i>	Fatima Edrosa	Alpha Analytical, Inc.	4/23/09 14:51
Logged in by:			

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

Billing Information :

**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 : BMIS09042240**  
**Report Due By : 5:00 PM On : 06-May-09**

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

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

EDD Required : Yes

Sampled by : Client

Client's COC # : 25549

Job : G005862/JPL Groundwater Monitoring

Cooler Temp    4 °C

Samples Received    22-Apr-09

Date Printed    22-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 Date	No. of Bottles		TAT	Requested Tests			PH_W	TDS	Sample Remarks			
			Alpha	Sub		300 g(A)_W	300 g(B)_W	300 g(C)_W				314_W	ALKALINITY_W	METALS_D_W
BM109042240-01A	MW-14-5	04/21/09 09:00	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-02A	MW-14-4	04/21/09 09:40	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-03A	MW-14-3	04/21/09 10:15	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-04A	MW-14-2	04/21/09 10:55	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-05A	MW-14-1	04/21/09 11:40	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-06A	EB-01-4/21/09	04/21/09 11:20	5	0	10	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	NO2, NO3, PO4, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	As, Cr, Pb, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042240-07A	TB-01-4/21/09	04/21/09 00:00	1	0	10									Reno Trip Blank 1/6/09

**Comments:** No security seals. Frozen ice. Temp Blank # 4980 received @ 4 ° Celcius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (L.E.: MS/MSD).  
 Logged in Gen Chem per spreadsheet from sampler.:

Logged in by: Patricia Edrassa    Patricia Edrassa    Patricia Edrassa    Patricia Edrassa  
 Signature    Print Name    Company    Date/Time  
 Alpha Analytical, Inc.    4/22/09 10:31

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

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

**CA**

Page: *JofA*

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

WorkOrder : **BMIS09042240**  
 Report Due By : **5:00 PM On : 06-May-09**

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

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

EDD Required : Yes

Sampled by : Client

Cooler Temp **4 °C** Samples Received **22-Apr-09** Date Printed **22-Apr-09**

Client's COC # : 25549 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			TAT	Requested Tests		Sample Remarks
			Alpha	Sub	Alpha		VOC_TIC_W	VOC_W	
BMI09042240-01A	MW-14-5	04/21/09 09:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-02A	MW-14-4	04/21/09 09:40	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-03A	MW-14-3	04/21/09 10:15	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-04A	MW-14-2	04/21/09 10:55	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-05A	MW-14-1	04/21/09 11:40	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-06A	EB-01-4/21/09	04/21/09 11:20	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria		
BMI09042240-07A	TB-01-4/21/09	04/21/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 1/6/09	

Comments: No security seals. Frozen ice. Temp Blank #4980 received @ 4 ° Celsius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible. (E.: MS/MSD).  
 Logged in Gen Chem per spreadsheet from sampler. :

Logged in by: *Fatima Edrosa* *Katricia Edrosa* **Alpha Analytical, Inc.** Date/Time *4/22/09 10:31*

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.  
 The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.  
 Matrix Type : AQA(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?** 25549  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

Client Name DAVID CORWELL PO # 218013 Job # 6005862  
 Address 3990 OLD TOWN AVE, C-205 Email Address \_\_\_\_\_  
 City, State, Zip SAV WELB, CA 92110 Phone # 619-726-7311 Fax # \_\_\_\_\_

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (use Office only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	REMARKS
0900	11/19	AQ	BM169042340-01			MW-14-5			5	VOC's (574.2) TOTAL OF ARSENIC (200.0) GEN CHEM (Na, K, Ca, Mg, Fe) (200.0) Chlor (314.0) GEN CHEM (300.0) 310.1, 160.1, 150.1 O-PHOSPHATE (300.0)	
0910						MW-14-4			1		
1015						MW-14-3			1		
1055						MW-14-2			1		
1140						MW-14-1			5		
1120						EB-01-4/21/09			5		3 EQUIPMENT BANK
						TS-01-4/21/09			1		TRIBANK

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	CHRIS BRADY	ALPHA ETC	04/21/09	1300
Received by <i>[Signature]</i>	Katricia Edusa	Alpha	4/22/09	10:05
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-Teclar 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-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: BMI09042341

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09042341-01A	MW-22-5	Aqueous
09042341-02A	MW-22-4	Aqueous
09042341-03A	MW-22-3	Aqueous
09042341-04A	MW-22-2	Aqueous
09042341-05A	MW-22-1	Aqueous
09042341-06A	EB-02-04/22/09	Aqueous
09042341-07A	TB-02-04/22/09	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09042341-03A	EPA Method 314.0	Perchlorate
09042341-04A	EPA Method 314.0	Perchlorate
09042341-05A	EPA Method 314.0	Perchlorate

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

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

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

*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.

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 : 04/23/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-22-5 Lab ID : BMI09042341-01A Perchlorate	ND	1.00 µg/L	04/22/09	04/23/09
Client ID : MW-22-4 Lab ID : BMI09042341-02A Perchlorate	ND	1.00 µg/L	04/22/09	04/23/09
Client ID : MW-22-3 Lab ID : BMI09042341-03A Perchlorate	2.48	1.00 µg/L	04/22/09	04/23/09
Client ID : MW-22-2 Lab ID : BMI09042341-04A Perchlorate	2.14	1.00 µg/L	04/22/09	04/23/09
Client ID : MW-22-1 Lab ID : BMI09042341-05A Perchlorate	2.27	1.00 µg/L	04/22/09	04/23/09
Client ID : EB-02-04/22/09 Lab ID : BMI09042341-06A Perchlorate	ND	1.00 µg/L	04/22/09	04/23/09

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.

5/6/09

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

## QC Summary Report

Date:  
27-Apr-09

Work Order:  
09042341

### Method Blank

File ID: 14	Type	MBLK	Test Code: EPA Method 314.0	Batch ID: 21868	Analysis Date: 04/23/2009 13:27					
Sample ID: MB-21868	Units :	µg/L	Run ID: IC_3_090423A	Prep Date: 04/23/2009						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

File ID: 15	Type	LFB	Test Code: EPA Method 314.0	Batch ID: 21868	Analysis Date: 04/23/2009 13:45					
Sample ID: LFB-21868	Units :	µg/L	Run ID: IC_3_090423A	Prep Date: 04/23/2009						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.8	2	25	99	85	115				

### Sample Matrix Spike

File ID: 31	Type	LFM	Test Code: EPA Method 314.0	Batch ID: 21868	Analysis Date: 04/23/2009 18:40					
Sample ID: 09042341-02ALFM	Units :	µg/L	Run ID: IC_3_090423A	Prep Date: 04/23/2009						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.7	2	25	0	95	80	120			

### Sample Matrix Spike Duplicate

File ID: 32	Type	LFMD	Test Code: EPA Method 314.0	Batch ID: 21868	Analysis Date: 04/23/2009 18:58					
Sample ID: 09042341-02ALFMD	Units :	µg/L	Run ID: IC_3_090423A	Prep Date: 04/23/2009						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.8	2	25	0	95	80	120	23.73	0.5(15)	

### Comments:

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



# 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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/23/09

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-22-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 08:13	04/23/09 12:41
Lab ID : BMI09042341-01A	Nitrate (NO3) - N	ND	0.25 mg/L	04/22/09 08:13	04/23/09 12:41
Client ID : MW-22-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 08:55	04/23/09 13:00
Lab ID : BMI09042341-02A	Nitrate (NO3) - N	3.3	0.25 mg/L	04/22/09 08:55	04/23/09 13:00
Client ID : MW-22-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 09:51	04/23/09 13:55
Lab ID : BMI09042341-03A	Nitrate (NO3) - N	8.7	0.25 mg/L	04/22/09 09:51	04/23/09 13:55
Client ID : MW-22-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 10:25	04/23/09 14:14
Lab ID : BMI09042341-04A	Nitrate (NO3) - N	8.2	0.25 mg/L	04/22/09 10:25	04/23/09 14:14
Client ID : MW-22-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 11:03	04/23/09 14:32
Lab ID : BMI09042341-05A	Nitrate (NO3) - N	13	0.25 mg/L	04/22/09 11:03	04/23/09 14:32
Client ID : EB-02-04/22/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/22/09 10:50	04/23/09 14:51
Lab ID : BMI09042341-06A	Nitrate (NO3) - N	ND	0.25 mg/L	04/22/09 10:50	04/23/09 14:51

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.

5/6/09

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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/23/09

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-22-5</b>				
Lab ID : BMI09042341-01A Chloride	7.5	0.50 mg/L	04/22/09	04/23/09
Sulfate (SO4)	36	0.50 mg/L	04/22/09	04/23/09
Client ID : <b>MW-22-4</b>				
Lab ID : BMI09042341-02A Chloride	14	0.50 mg/L	04/22/09	04/23/09
Sulfate (SO4)	17	0.50 mg/L	04/22/09	04/23/09
Client ID : <b>MW-22-3</b>				
Lab ID : BMI09042341-03A Chloride	45	2.5 mg/L	04/22/09	04/24/09
Sulfate (SO4)	60	0.50 mg/L	04/22/09	04/23/09
Client ID : <b>MW-22-2</b>				
Lab ID : BMI09042341-04A Chloride	47	0.50 mg/L	04/22/09	04/23/09
Sulfate (SO4)	42	0.50 mg/L	04/22/09	04/23/09
Client ID : <b>MW-22-1</b>				
Lab ID : BMI09042341-05A Chloride	120	2.5 mg/L	04/22/09	04/24/09
Sulfate (SO4)	180	2.5 mg/L	04/22/09	04/24/09
Client ID : <b>EB-02-04/22/09</b>				
Lab ID : BMI09042341-06A Chloride	ND	0.50 mg/L	04/22/09	04/23/09
Sulfate (SO4)	ND	0.50 mg/L	04/22/09	04/23/09

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.

5/6/09

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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/23/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-22-5				
Lab ID : BMI09042341-01A	Alkalinity, Bicarbonate (As CaCO3)	23	10 mg/L	04/22/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	92	10 mg/L	04/22/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	120	10 mg/L	04/22/09 04/27/09
Client ID : MW-22-4				
Lab ID : BMI09042341-02A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	04/22/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	04/22/09 04/27/09
Client ID : MW-22-3				
Lab ID : BMI09042341-03A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	04/22/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	04/22/09 04/27/09
Client ID : MW-22-2				
Lab ID : BMI09042341-04A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	04/22/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	04/22/09 04/27/09
Client ID : MW-22-1				
Lab ID : BMI09042341-05A	Alkalinity, Bicarbonate (As CaCO3)	280	10 mg/L	04/22/09 04/27/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/27/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	280	10 mg/L	04/22/09 04/27/09
Client ID : EB-02-04/22/09				
Lab ID : BMI09042341-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/28/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/22/09 04/28/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	04/22/09 04/28/09

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.

5/6/09

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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/23/09

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-22-5	pH	9.4	1.7 pH Units	04/22/09 08:13	04/23/09 16:48
Lab ID : BMI09042341-01A	pH - Temperature	19	1.0 °C	04/22/09 08:13	04/23/09 16:48
Client ID : MW-22-4	pH	7.8	1.7 pH Units	04/22/09 08:55	04/23/09 16:50
Lab ID : BMI09042341-02A	pH - Temperature	18	1.0 °C	04/22/09 08:55	04/23/09 16:50
Client ID : MW-22-3	pH	7.9	1.7 pH Units	04/22/09 09:51	04/23/09 16:52
Lab ID : BMI09042341-03A	pH - Temperature	18	1.0 °C	04/22/09 09:51	04/23/09 16:52
Client ID : MW-22-2	pH	7.9	1.7 pH Units	04/22/09 10:25	04/23/09 16:54
Lab ID : BMI09042341-04A	pH - Temperature	18	1.0 °C	04/22/09 10:25	04/23/09 16:54
Client ID : MW-22-1	pH	7.2	1.7 pH Units	04/22/09 11:03	04/23/09 16:56
Lab ID : BMI09042341-05A	pH - Temperature	18	1.0 °C	04/22/09 11:03	04/23/09 16:56
Client ID : EB-02-04/22/09	pH	6.0	1.7 pH Units	04/22/09 10:50	04/23/09 16:59
Lab ID : BMI09042341-06A	pH - Temperature	19	1.0 °C	04/22/09 10:50	04/23/09 16:59

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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5/6/09

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 : 04/23/09

Job#: G005862/JPL Groundwater Monitoring

### Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-22-5				
Lab ID : BMI09042341-01A	Sodium (Na)	72	0.50 mg/L	04/22/09 04/27/09
	Magnesium (Mg)	0.99	0.50 mg/L	04/22/09 04/27/09
	Potassium (K)	0.91	0.50 mg/L	04/22/09 04/27/09
	Calcium (Ca)	4.7	0.50 mg/L	04/22/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/22/09 04/27/09
	Iron (Fe)	ND	0.10 mg/L	04/22/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/22/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/22/09 04/27/09
Client ID : MW-22-4				
Lab ID : BMI09042341-02A	Sodium (Na)	31	0.50 mg/L	04/22/09 04/27/09
	Magnesium (Mg)	12	0.50 mg/L	04/22/09 04/27/09
	Potassium (K)	1.8	0.50 mg/L	04/22/09 04/27/09
	Calcium (Ca)	40	0.50 mg/L	04/22/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/22/09 04/27/09
	Iron (Fe)	0.18	0.10 mg/L	04/22/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/22/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/22/09 04/27/09
Client ID : MW-22-3				
Lab ID : BMI09042341-03A	Sodium (Na)	41	0.50 mg/L	04/22/09 04/27/09
	Magnesium (Mg)	21	0.50 mg/L	04/22/09 04/27/09
	Potassium (K)	2.3	0.50 mg/L	04/22/09 04/27/09
	Calcium (Ca)	65	0.50 mg/L	04/22/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/22/09 04/27/09
	Iron (Fe)	0.47	0.10 mg/L	04/22/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/22/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/22/09 04/27/09
Client ID : MW-22-2				
Lab ID : BMI09042341-04A	Sodium (Na)	31	0.50 mg/L	04/22/09 04/27/09
	Magnesium (Mg)	21	0.50 mg/L	04/22/09 04/27/09
	Potassium (K)	2.1	0.50 mg/L	04/22/09 04/27/09
	Calcium (Ca)	56	0.50 mg/L	04/22/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/22/09 04/27/09
	Iron (Fe)	0.39	0.10 mg/L	04/22/09 04/27/09
	Arsenic (As)	ND	0.0020 mg/L	04/22/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/22/09 04/27/09



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Client ID : **MW-22-1**

Lab ID :	BMI09042341-05A	Sodium (Na)	36	0.50 mg/L	04/22/09	04/27/09
		Magnesium (Mg)	54	0.50 mg/L	04/22/09	04/27/09
		Potassium (K)	2.9	0.50 mg/L	04/22/09	04/27/09
		Calcium (Ca)	160	0.50 mg/L	04/22/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/22/09	04/27/09
		Iron (Fe)	1.5	0.10 mg/L	04/22/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/22/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/22/09	04/27/09

Client ID : **EB-02-04/22/09**

Lab ID :	BMI09042341-06A	Sodium (Na)	ND	0.50 mg/L	04/22/09	04/27/09
		Magnesium (Mg)	ND	0.50 mg/L	04/22/09	04/27/09
		Potassium (K)	ND	0.50 mg/L	04/22/09	04/27/09
		Calcium (Ca)	ND	0.50 mg/L	04/22/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/22/09	04/27/09
		Iron (Fe)	ND	0.10 mg/L	04/22/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/22/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/22/09	04/27/09

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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*AS*  
5/6/09

**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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/23/09

Job#: G005862/JPL Groundwater Monitoring

### Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-22-5</b> Lab ID : BMI09042341-01A Solids, Total Dissolved (TDS)	210	10 mg/L	04/22/09	04/27/09
Client ID : <b>MW-22-4</b> Lab ID : BMI09042341-02A Solids, Total Dissolved (TDS)	230	10 mg/L	04/22/09	04/27/09
Client ID : <b>MW-22-3</b> Lab ID : BMI09042341-03A Solids, Total Dissolved (TDS)	380	10 mg/L	04/22/09	04/28/09
Client ID : <b>MW-22-2</b> Lab ID : BMI09042341-04A Solids, Total Dissolved (TDS)	340	10 mg/L	04/22/09	04/27/09
Client ID : <b>MW-22-1</b> Lab ID : BMI09042341-05A Solids, Total Dissolved (TDS)	800	10 mg/L	04/22/09	04/27/09
Client ID : <b>EB-02-04/22/09</b> Lab ID : BMI09042341-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/22/09	04/27/09

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  
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-22-5 Lab ID : BMI09042341-01A	Sulfur dioxide	67	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : MW-22-4 Lab ID : BMI09042341-02A	Sulfur dioxide	26	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : MW-22-3 Lab ID : BMI09042341-03A	Sulfur dioxide	16	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : MW-22-2 Lab ID : BMI09042341-04A	Sulfur dioxide	11	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : MW-22-1 Lab ID : BMI09042341-05A	Sulfur dioxide	6.8	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : EB-02-04/22/09 Lab ID : BMI09042341-06A	Tertiary Butyl Alcohol (TBA)	39	10 µg/L	04/23/09	04/22/09	04/29/09
	2-Methyl-1-propene	3.9	2.0 µg/L	04/23/09	04/22/09	04/29/09
Client ID : TB-02-04/22/09 Lab ID : BMI09042341-07A	*** None Found ***	ND	2.0 µg/L	04/23/09	04/22/09	04/29/09

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: BMI09042341-01A  
Client I.D. Number: MW-22-5

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	122	(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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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: BMI09042341-02A  
Client I.D. Number: MW-22-4

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	122	(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	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  
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: BMI09042341-03A  
Client I.D. Number: MW-22-3

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	125	(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	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

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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5/6/09

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: BMI09042341-04A  
Client I.D. Number: MW-22-2

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	124	(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	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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# 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: BMI09042341-05A  
Client I.D. Number: MW-22-1

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	127	(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	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.66	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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5/6/09

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: BMI09042341-06A  
Client I.D. Number: EB-02-04/22/09

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	120	(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	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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5/6/09

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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: BMI09042341-07A  
Client I.D. Number: TB-02-04/22/09

Sampled: 04/22/09  
Received: 04/23/09  
Analyzed: 04/29/09

### 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	119	(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	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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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: BMI09042341

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09042341-01A	MW-22-5	Aqueous	2
09042341-02A	MW-22-4	Aqueous	2
09042341-03A	MW-22-3	Aqueous	2
09042341-04A	MW-22-2	Aqueous	2
09042341-05A	MW-22-1	Aqueous	2
09042341-06A	EB-02-04/22/09	Aqueous	2
09042341-07A	TB-02-04/22/09	Aqueous	2

5/6/09  
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 : BMIS09042341

Report Due By : 5:00 PM On : 07-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 # : 25542

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 4 °C

Samples Received 23-Apr-09

Date Printed 23-Apr-09

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			PH_W	TDS	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
BMIO9042341-01A	MW-22-5	04/22/09 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	
BMIO9042341-02A	MW-22-4	04/22/09 08:55	10	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	MS/MSD
BMIO9042341-03A	MW-22-3	04/22/09 09:51	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	
BMIO9042341-04A	MW-22-2	04/22/09 10:25	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	
BMIO9042341-05A	MW-22-1	04/22/09 11:03	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	
BMIO9042341-06A	EB-02-04/22/09	04/22/09 10:50	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	
BMIO9042341-07A	TB-02-04/22/09	04/22/09 00:00	1	0	10									Reno Trip Blank 9/30/08

Comments: No security seals. Frozen ice. Temp Blank # 7771 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 Gen Chem per spreadsheet from sampler. :

Signature: [Signature] Print Name: Patricia Edrosa Company: Alpha Analytical, Inc. Date/Time: 4/23/09 10:48

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: *2 of 2*

**Alpha Analytical, Inc.**

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

**WorkOrder : BMIS09042341**  
**Report Due By : 5:00 PM On : 07-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	waltonsh@battelle.org
Betsy Cuite	(614) 424-4899 x	cuiteb@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 23-Apr-09 Date Printed 23-Apr-09

Client's COC # : 25542 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			Requested Tests		Sample Remarks
			Alpha	Sub	TAT	VOC_TIC_W	VOC_W	
BMIO9042341-01A	MW-22-5	04/22/09 08:13	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042341-02A	MW-22-4	04/22/09 08:55	10	0	10	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMIO9042341-03A	MW-22-3	04/22/09 09:51	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042341-04A	MW-22-2	04/22/09 10:25	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042341-05A	MW-22-1	04/22/09 11:03	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042341-06A	EB-02-04/22/09	04/22/09 10:50	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042341-07A	TB-02-04/22/09	04/22/09 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 # 7771 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 Gen Chem per spreadsheet from sampler. :

Logged in by: *Fatima Eduasa* Signature *Katricia Edrosa* Print Name Alpha Analytical, Inc. Company 4/23/09 10:48 Date/Time

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.  
 The report for the analysis 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 GETZOLD TOMPKINS  
 Address 505 KIVA AVE  
 City, State, Zip COVINGTON, 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? 25542  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

Analyses Required

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

Required QC Level? III  
 I II III IV  
 EDD / EDF? 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
0813	9/24/09	AR	BM	109042341	-01		MW-22-5			5	Vol's (524.2) TOTAL OF LEAD, ARSENIC, (200.8) GEN CHEM (Na, K, Ca, Mg, Fe) (200.0) CUH (314.0) GEN CHEM (300.0) 310.1, 160.1, 150.0 P-PHOSPHATE (300.0)	MS/MSD
0855					-02		MW-22-4			10		
0951					-03		MW-22-3			5		
1025					-04		MW-22-2			1		
1103					-05		MW-22-1			1		
1050					-06		23-02-04/22/09			5		SAMPLET BLANK
					-07		78-02-04/22/09			1		TRIP BLANK

**ADDITIONAL INSTRUCTIONS:**

Relinquished by \_\_\_\_\_ Signature \_\_\_\_\_ Print Name \_\_\_\_\_ Company \_\_\_\_\_  
 Received by Katrina Edrso Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_ Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_ Relinquished by \_\_\_\_\_

Date 9/23/09 Time 1300  
 Date 4/23/09 Time 10:48

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



# Alpha Analytical, Inc.

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

Date: 07-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: BMI09042440

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09042440-01A	MW-24-5	Aqueous
09042440-02A	MW-24-4	Aqueous
09042440-03A	MW-24-3	Aqueous
09042440-04A	MW-24-2	Aqueous
09042440-05A	MW-24-1	Aqueous
09042440-06A	DUPE-01-2Q09	Aqueous
09042440-07A	DUPE-02-2Q09	Aqueous
09042440-08A	EB-03-4/23/09	Aqueous
09042440-09A	TB-03-4/23/09	Aqueous

### Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09042440-01A	EPA Method 314.0	Perchlorate
09042440-04A	EPA Method 314.0	Perchlorate
09042440-05A	EPA Method 314.0	Perchlorate
09042440-07A	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.

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 : 04/24/09

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-24-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 08:45	04/24/09 11:04
Lab ID : BMI09042440-01A	Nitrate (NO3) - N	1.2	0.25 mg/L	04/23/09 08:45	04/24/09 11:04
Client ID : MW-24-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 09:45	04/24/09 11:22
Lab ID : BMI09042440-02A	Nitrate (NO3) - N	0.35	0.25 mg/L	04/23/09 09:45	04/24/09 11:22
Client ID : MW-24-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 10:48	04/24/09 12:18
Lab ID : BMI09042440-03A	Nitrate (NO3) - N	ND	0.25 mg/L	04/23/09 10:48	04/24/09 12:18
Client ID : MW-24-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 12:00	04/24/09 12:36
Lab ID : BMI09042440-04A	Nitrate (NO3) - N	2.0	0.25 mg/L	04/23/09 12:00	04/24/09 12:36
Client ID : MW-24-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 12:37	04/24/09 12:55
Lab ID : BMI09042440-05A	Nitrate (NO3) - N	1.1	0.25 mg/L	04/23/09 12:37	04/24/09 12:55
	Phosphate, ortho - P	ND	0.25 mg/L	04/23/09 12:37	04/24/09 12:55
Client ID : DUPE-01-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 00:00	04/24/09 13:13
Lab ID : BMI09042440-06A	Nitrate (NO3) - N	ND	0.25 mg/L	04/23/09 00:00	04/24/09 13:13
Client ID : DUPE-02-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 00:00	04/24/09 14:09
Lab ID : BMI09042440-07A	Nitrate (NO3) - N	1.1	0.25 mg/L	04/23/09 00:00	04/24/09 14:09
	Phosphate, ortho - P	ND	0.25 mg/L	04/23/09 00:00	04/24/09 14:09
Client ID : EB-03-4/23/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/23/09 12:51	04/24/09 14:27
Lab ID : BMI09042440-08A	Nitrate (NO3) - N	ND	0.25 mg/L	04/23/09 12:51	04/24/09 14:27

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.

5/7/09

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 : 04/24/09

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-24-5</b>				
Lab ID : BMI09042440-01A Chloride	9.3	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	21	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>MW-24-4</b>				
Lab ID : BMI09042440-02A Chloride	18	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	2.9	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>MW-24-3</b>				
Lab ID : BMI09042440-03A Chloride	14	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	12	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>MW-24-2</b>				
Lab ID : BMI09042440-04A Chloride	44	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	25	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>MW-24-1</b>				
Lab ID : BMI09042440-05A Chloride	66	2.5 mg/L	04/23/09	04/24/09
Sulfate (SO4)	47	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>DUPE-01-2Q09</b>				
Lab ID : BMI09042440-06A Chloride	14	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	12	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>DUPE-02-2Q09</b>				
Lab ID : BMI09042440-07A Chloride	66	2.5 mg/L	04/23/09	04/28/09
Sulfate (SO4)	47	0.50 mg/L	04/23/09	04/24/09
Client ID : <b>EB-03-4/23/09</b>				
Lab ID : BMI09042440-08A Chloride	ND	0.50 mg/L	04/23/09	04/24/09
Sulfate (SO4)	ND	0.50 mg/L	04/23/09	04/24/09

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.

0  
5/7/09

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 : 04/24/09

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-24-5</b> Lab ID : BMI09042440-01A Perchlorate	ND	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>MW-24-4</b> Lab ID : BMI09042440-02A Perchlorate	ND	1.00 µg/L	04/23/09	05/07/09
Client ID : <b>MW-24-3</b> Lab ID : BMI09042440-03A Perchlorate	ND	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>MW-24-2</b> Lab ID : BMI09042440-04A Perchlorate	12.9	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>MW-24-1</b> Lab ID : BMI09042440-05A Perchlorate	3.62	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>DUPE-01-2Q09</b> Lab ID : BMI09042440-06A Perchlorate	ND	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>DUPE-02-2Q09</b> Lab ID : BMI09042440-07A Perchlorate	3.97	1.00 µg/L	04/23/09	04/28/09
Client ID : <b>EB-03-4/23/09</b> Lab ID : BMI09042440-08A Perchlorate	ND	1.00 µg/L	04/23/09	04/28/09

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.

5/7/09

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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/24/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
<b>Client ID : MW-24-5</b>				
Lab ID : BMI09042440-01A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	04/23/09	04/27/09
<b>Client ID : MW-24-4</b>				
Lab ID : BMI09042440-02A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	37	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	85	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	120	10 mg/L	04/23/09	04/27/09
<b>Client ID : MW-24-3</b>				
Lab ID : BMI09042440-03A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	170	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	170	10 mg/L	04/23/09	04/27/09
<b>Client ID : MW-24-2</b>				
Lab ID : BMI09042440-04A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	180	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	180	10 mg/L	04/23/09	04/27/09
<b>Client ID : MW-24-1</b>				
Lab ID : BMI09042440-05A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	04/23/09	04/27/09
<b>Client ID : DUPE-01-2Q09</b>				
Lab ID : BMI09042440-06A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	170	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	170	10 mg/L	04/23/09	04/27/09
<b>Client ID : DUPE-02-2Q09</b>				
Lab ID : BMI09042440-07A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	190	10 mg/L	04/23/09	04/27/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/27/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	190	10 mg/L	04/23/09	04/27/09
<b>Client ID : EB-03-4/23/09</b>				
Lab ID : BMI09042440-08A Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/28/09
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	10 mg/L	04/23/09	04/28/09
Alkalinity, Total (As CaCO <sub>3</sub> at pH 4.5)	ND	10 mg/L	04/23/09	04/28/09



# Alpha Analytical, Inc.

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(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.

*CA*  
**5/7/09**

**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 : 04/24/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-24-5</b>				
Lab ID : BMI09042440-01A	Sodium (Na)	41	0.50 mg/L	04/23/09 04/27/09
	Magnesium (Mg)	9.6	0.50 mg/L	04/23/09 04/27/09
	Potassium (K)	2.0	0.50 mg/L	04/23/09 04/27/09
	Calcium (Ca)	40	0.50 mg/L	04/23/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/23/09 04/27/09
	Iron (Fe)	0.20	0.10 mg/L	04/23/09 04/27/09
	Arsenic (As)	0.0032	0.0020 mg/L	04/23/09 05/01/09
	Lead (Pb)	ND	0.0050 mg/L	04/23/09 04/27/09
Client ID : <b>MW-24-4</b>				
Lab ID : BMI09042440-02A	Sodium (Na)	40	0.50 mg/L	04/23/09 05/01/09
	Magnesium (Mg)	11	0.50 mg/L	04/23/09 05/01/09
	Potassium (K)	2.1	0.50 mg/L	04/23/09 05/01/09
	Calcium (Ca)	25	0.50 mg/L	04/23/09 05/01/09
	Chromium (Cr)	ND	0.0050 mg/L	04/23/09 05/01/09
	Iron (Fe)	0.26	0.10 mg/L	04/23/09 05/01/09
	Arsenic (As)	0.0033	0.0020 mg/L	04/23/09 05/01/09
	Lead (Pb)	ND	0.0050 mg/L	04/23/09 05/01/09
Client ID : <b>MW-24-3</b>				
Lab ID : BMI09042440-03A	Sodium (Na)	41	0.50 mg/L	04/23/09 04/27/09
	Magnesium (Mg)	11	0.50 mg/L	04/23/09 04/27/09
	Potassium (K)	2.1	0.50 mg/L	04/23/09 04/27/09
	Calcium (Ca)	27	0.50 mg/L	04/23/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/23/09 04/27/09
	Iron (Fe)	0.20	0.10 mg/L	04/23/09 04/27/09
	Arsenic (As)	0.0030	0.0020 mg/L	04/23/09 04/27/09
	Lead (Pb)	ND	0.0050 mg/L	04/23/09 04/27/09
Client ID : <b>MW-24-2</b>				
Lab ID : BMI09042440-04A	Sodium (Na)	45	0.50 mg/L	04/23/09 04/27/09
	Magnesium (Mg)	14	0.50 mg/L	04/23/09 04/27/09
	Potassium (K)	3.2	0.50 mg/L	04/23/09 04/27/09
	Calcium (Ca)	49	0.50 mg/L	04/23/09 04/27/09
	Chromium (Cr)	ND	0.0050 mg/L	04/23/09 04/27/09
	Iron (Fe)	0.30	0.10 mg/L	04/23/09 04/27/09
	Arsenic (As)	0.0024	0.0020 mg/L	04/23/09 04/28/09
	Lead (Pb)	ND	0.0050 mg/L	04/23/09 04/27/09



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Client ID : **MW-24-1**

Lab ID :	BMI09042440-05A	Sodium (Na)	30	0.50 mg/L	04/23/09	04/27/09
		Magnesium (Mg)	24	0.50 mg/L	04/23/09	04/27/09
		Potassium (K)	3.7	0.50 mg/L	04/23/09	04/27/09
		Calcium (Ca)	84	0.50 mg/L	04/23/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/23/09	04/27/09
		Iron (Fe)	0.57	0.10 mg/L	04/23/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/23/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/23/09	04/27/09

Client ID : **DUPE-01-2Q09**

Lab ID :	BMI09042440-06A	Sodium (Na)	41	0.50 mg/L	04/23/09	04/27/09
		Magnesium (Mg)	11	0.50 mg/L	04/23/09	04/27/09
		Potassium (K)	2.2	0.50 mg/L	04/23/09	04/27/09
		Calcium (Ca)	27	0.50 mg/L	04/23/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/23/09	04/27/09
		Iron (Fe)	0.18	0.10 mg/L	04/23/09	04/27/09
		Arsenic (As)	0.0035	0.0020 mg/L	04/23/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/23/09	04/27/09

Client ID : **DUPE-02-2Q09**

Lab ID :	BMI09042440-07A	Sodium (Na)	30	0.50 mg/L	04/23/09	04/27/09
		Magnesium (Mg)	25	0.50 mg/L	04/23/09	04/27/09
		Potassium (K)	3.8	0.50 mg/L	04/23/09	04/27/09
		Calcium (Ca)	87	0.50 mg/L	04/23/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/23/09	04/27/09
		Iron (Fe)	0.56	0.10 mg/L	04/23/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/23/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/23/09	04/27/09

Client ID : **EB-03-4/23/09**

Lab ID :	BMI09042440-08A	Sodium (Na)	ND	0.50 mg/L	04/23/09	04/27/09
		Magnesium (Mg)	ND	0.50 mg/L	04/23/09	04/27/09
		Potassium (K)	ND	0.50 mg/L	04/23/09	04/27/09
		Calcium (Ca)	ND	0.50 mg/L	04/23/09	04/27/09
		Chromium (Cr)	ND	0.0050 mg/L	04/23/09	04/27/09
		Iron (Fe)	ND	0.10 mg/L	04/23/09	04/27/09
		Arsenic (As)	ND	0.0020 mg/L	04/23/09	04/27/09
		Lead (Pb)	ND	0.0050 mg/L	04/23/09	04/27/09

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.

*SP*  
5/1/09

**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: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/24/09

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-24-5	pH	8.1	1.7 pH Units	04/23/09 08:45	04/24/09 11:35
Lab ID : BMI09042440-01A	pH - Temperature	15	1.0 °C	04/23/09 08:45	04/24/09 11:35
Client ID : MW-24-4	pH	9.3	1.7 pH Units	04/23/09 09:45	04/24/09 11:39
Lab ID : BMI09042440-02A	pH - Temperature	15	1.0 °C	04/23/09 09:45	04/24/09 11:39
Client ID : MW-24-3	pH	8.5	1.7 pH Units	04/23/09 10:48	04/24/09 11:43
Lab ID : BMI09042440-03A	pH - Temperature	15	1.0 °C	04/23/09 10:48	04/24/09 11:43
Client ID : MW-24-2	pH	7.9	1.7 pH Units	04/23/09 12:00	04/24/09 11:47
Lab ID : BMI09042440-04A	pH - Temperature	15	1.0 °C	04/23/09 12:00	04/24/09 11:47
Client ID : MW-24-1	pH	7.4	1.7 pH Units	04/23/09 12:37	04/24/09 11:50
Lab ID : BMI09042440-05A	pH - Temperature	15	1.0 °C	04/23/09 12:37	04/24/09 11:50
Client ID : DUPE-01-2Q09	pH	8.4	1.7 pH Units	04/23/09 00:00	04/24/09 11:54
Lab ID : BMI09042440-06A	pH - Temperature	15	1.0 °C	04/23/09 00:00	04/24/09 11:54
Client ID : DUPE-02-2Q09	pH	7.2	1.7 pH Units	04/23/09 00:00	04/24/09 11:58
Lab ID : BMI09042440-07A	pH - Temperature	15	1.0 °C	04/23/09 00:00	04/24/09 11:58
Client ID : EB-03-4/23/09	pH	6.1	1.7 pH Units	04/23/09 12:51	04/24/09 12:02
Lab ID : BMI09042440-08A	pH - Temperature	15	1.0 °C	04/23/09 12:51	04/24/09 12:02

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

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

5/7/09

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 : 04/24/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-24-5</b> Lab ID : BMI09042440-01A Solids, Total Dissolved (TDS)	210	10 mg/L	04/23/09	04/29/09
Client ID : <b>MW-24-4</b> Lab ID : BMI09042440-02A Solids, Total Dissolved (TDS)	130	10 mg/L	04/23/09	04/28/09
Client ID : <b>MW-24-3</b> Lab ID : BMI09042440-03A Solids, Total Dissolved (TDS)	190	10 mg/L	04/23/09	04/28/09
Client ID : <b>MW-24-2</b> Lab ID : BMI09042440-04A Solids, Total Dissolved (TDS)	280	10 mg/L	04/23/09	04/28/09
Client ID : <b>MW-24-1</b> Lab ID : BMI09042440-05A Solids, Total Dissolved (TDS)	330	10 mg/L	04/23/09	04/28/09
Client ID : <b>DUPE-01-2Q09</b> Lab ID : BMI09042440-06A Solids, Total Dissolved (TDS)	210	10 mg/L	04/23/09	04/30/09
Client ID : <b>DUPE-02-2Q09</b> Lab ID : BMI09042440-07A Solids, Total Dissolved (TDS)	360	10 mg/L	04/23/09	04/28/09
Client ID : <b>EB-03-4/23/09</b> Lab ID : BMI09042440-08A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/23/09	04/29/09

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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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.

5/1/09

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 : <b>MW-24-5</b> Lab ID : BMI09042440-01A	*** None Found ***	ND	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>MW-24-4</b> Lab ID : BMI09042440-02A	Sulfur dioxide	28	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>MW-24-3</b> Lab ID : BMI09042440-03A	Sulfur dioxide	18	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>MW-24-2</b> Lab ID : BMI09042440-04A	Sulfur dioxide	15	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>MW-24-1</b> Lab ID : BMI09042440-05A	Sulfur dioxide	14	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>DUPE-01-2Q09</b> Lab ID : BMI09042440-06A	Sulfur dioxide	8.9	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>DUPE-02-2Q09</b> Lab ID : BMI09042440-07A	Sulfur dioxide	12	2.0 µg/L	04/24/09	04/23/09	04/30/09
Client ID : <b>EB-03-4/23/09</b> Lab ID : BMI09042440-08A	Tertiary Butyl Alcohol (TBA) 2-Methyl-1-propene	22 4.1	10 µg/L 2.0 µg/L	04/24/09 04/24/09	04/23/09 04/23/09	04/30/09 04/30/09
Client ID : <b>TB-03-4/23/09</b> Lab ID : BMI09042440-09A	*** None Found ***	ND	2.0 µg/L	04/24/09	04/23/09	04/30/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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5/7/09

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: BMI09042440-01A  
Client I.D. Number: MW-24-5

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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-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	106	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

ND = Not Detected

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

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5/13/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042440-02A  
Client I.D. Number: MW-24-4

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	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	110	(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	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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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

5/13/09

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: BMI09042440-03A  
Client I.D. Number: MW-24-3

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	110	(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	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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

ND = Not Detected

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5/13/09

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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: BMI09042440-04A  
Client I.D. Number: MW-24-2

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	108	(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	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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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: BMI09042440-05A  
Client I.D. Number: MW-24-1

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	1.3	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	108	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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.

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: BMI09042440-06A  
Client I.D. Number: DUPE-01-2Q09

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

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

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

ND = Not Detected

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# 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: BMI09042440-07A  
Client I.D. Number: DUPE-02-2Q09

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	1.6	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-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	101	(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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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

  
5/13/09

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

Report Date

Page 1 of 1



# 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: BMI09042440-08A  
Client I.D. Number: EB-03-4/23/09

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

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

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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

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: BMI09042440-09A  
Client I.D. Number: TB-03-4/23/09

Sampled: 04/23/09  
Received: 04/24/09  
Analyzed: 04/30/09

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	104	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
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.

This replaces the report originally signed 5/7/09, due to the removal of the Failed CV footnote, due to lab error.

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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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:** BMI09042440

**Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09042440-01A	MW-24-5	Aqueous	2
09042440-02A	MW-24-4	Aqueous	2
09042440-03A	MW-24-3	Aqueous	2
09042440-04A	MW-24-2	Aqueous	2
09042440-05A	MW-24-1	Aqueous	2
09042440-06A	DUPE-01-2Q09	Aqueous	2
09042440-07A	DUPE-02-2Q09	Aqueous	2
09042440-08A	EB-03-4/23/09	Aqueous	2
09042440-09A	TB-03-4/23/09	Aqueous	2

**5/7/09**  
**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 : BMIS09042440  
 Report Due By : 5:00 PM On : 08-May-09

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

Report Attention Phone Number Email Address  
 David Conner (619) 574-4827 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 # : 25561

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 4 °C Samples Received 24-Apr-09 Date Printed 24-Apr-09

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests			ALKALINITY <sub>w</sub>	METALS <sub>D</sub> <sub>w</sub>	PH <sub>w</sub>	TDS	Sample Remarks
				300.0(A) <sub>w</sub>	300.0(B) <sub>w</sub>	300.0(C) <sub>w</sub>					
BM109042440-01A	MW-24-5	AQ 04/23/09 08:45	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-02A	MW-24-4	AQ 04/23/09 09:45	10 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	MS/MSD
BM109042440-03A	MW-24-3	AQ 04/23/09 10:48	10 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	MS/MSD
BM109042440-04A	MW-24-2	AQ 04/23/09 12:00	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-05A	MW-24-1	AQ 04/23/09 12:37	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-06A	DUPE-01-2Q09	AQ 04/23/09 00:00	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-07A	DUPE-02-2Q09	AQ 04/23/09 00:00	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-08A	EB-03-4/23/09	AQ 04/23/09 12:51	5 0 10	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> CL	Perchlorate	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BM109042440-09A	TB-03-4/23/09	AQ 04/23/09 00:00	1 0 10								Reno Trip Blank 03/16/09

Comments: No security seals. Frozen ice. Temp Blank # 8691 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 Gen Chem per spreadsheet from sampler.:

Signature: [Signature] Print Name: Patricia Edrosa Company: Alpha Analytical, Inc. Date/Time: 4/24/09 10:01

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 : BMIS09042440**  
**Report Due By : 5:00 PM On : 08-May-09**

**Client:**

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

**Report Attention**

<b>Phone Number</b>	(619) 574-4827 x	<b>Email Address</b>	commerd@battelle.org
<b>Shane Walton</b>	(614) 424-4117 x	<b>waltonsb@battelle.org</b>	
<b>Betsy Cutie</b>	(614) 424-4899 x	<b>cutieeb@battelle.org</b>	

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 24-Apr-09 Date Printed 24-Apr-09

Client's COC # : 25561 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 Alpha	Sub	TAT	Requested Tests		Sample Remarks
						VOC_TIC_w	VOC_w	
BMIO9042440-01A	MW-24-5	04/23/09 08:45	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-02A	MW-24-4	04/23/09 09:45	10	0	10	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMIO9042440-03A	MW-24-3	04/23/09 10:48	10	0	10	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMIO9042440-04A	MW-24-2	04/23/09 12:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-05A	MW-24-1	04/23/09 12:37	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-06A	DUPE-01-2Q09	04/23/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-07A	DUPE-02-2Q09	04/23/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-08A	EB-03-4/23/09	04/23/09 12:51	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042440-09A	TB-03-4/23/09	04/23/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 03/16/09

**Comments:** No security seals. Frozen ice. Temp Blank # 8691 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 Gen Chem per spreadsheet from sampler. :

<b>Signature</b>	<i>Jatiana Edwards</i>	<b>Print Name</b>	Jatiana Edwards
<b>Company</b>	Alpha Analytical, Inc.	<b>Date/Time</b>	4/24/09 10:01

**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 KINDER 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? 25561

AZ \_\_\_\_\_ CA  NV \_\_\_\_\_ WA \_\_\_\_\_  
 ID \_\_\_\_\_ OR \_\_\_\_\_ OTHER \_\_\_\_\_  
 Page # 1 of 1

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

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Global ID #	REMARKS
0915	4/23/09	AQ	BMI	9042440-01			MW-24-5			5	VOC's (524.2) TOTAL Cr., Lead, MERCUR (200.8) Gen Chem (Na, K, Ca, Mg, Fe) (200.7) Clay - (314.0) Gen Chem. (300.0) 310.1, 162.1, 150.1 APPROXIMATE (300.0)		MS/MSD
1048					-02		MW-24-4			10			MS/MSD
1200					-03		MW-24-3			10			MS/MSD
1237					-04		MW-24-2			5			
					-05		MW-24-1			5			
					-06		DUP-01 - 2A09			5			DUPPLICATE
					-07		DUP-02 - 2A09			5			DUPPLICATE
1251					-08		EB-03 - 4/23/09			5			COMPACT BANK
					-09		73-03-4/23/09			1			TRIP BLANK

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	Patricia Edrosa	Alpha	4/23/09	1330
<i>[Signature]</i>	Patricia Edrosa	Alpha	4/24/09	10:01

\*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air \*\* L-Liter V-Voa S-Soil Jar O-Orbo T-Teclat 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: 30-Apr-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: BMI09042801

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09042801-01A	MW-3-5	Aqueous
09042801-02A	MW-3-4	Aqueous
09042801-03A	MW-3-3	Aqueous
09042801-04A	MW-3-2	Aqueous
09042801-05A	MW-3-1	Aqueous
09042801-06A	EB-04-4/27/09	Aqueous
09042801-07A	TB-04-4/27/09	Aqueous

### Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09042801-01A	EPA Method 300.0 / 9056	Chloride
09042801-02A	EPA Method 300.0 / 9056	Chloride
09042801-02A	EPA Method 314.0	Perchlorate
09042801-03A	EPA Method 300.0 / 9056	Chloride
09042801-04A	EPA Method 300.0 / 9056	Chloride
09042801-04A	EPA Method 314.0	Perchlorate
09042801-05A	EPA Method 300.0 / 9056	Chloride
09042801-05A	EPA Method 314.0	Perchlorate
09042801-06A	EPA Method 300.0 / 9056	Nitrate (NO3) - N
09042801-06A	EPA Method 300.0 / 9056	Nitrite (NO2) - N

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 : 04/28/09

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-3-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 07:50	04/28/09 11:40
Lab ID: BMI09042801-01A	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/09 07:50	04/28/09 11:40
Client ID: MW-3-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 08:20	04/28/09 11:59
Lab ID: BMI09042801-02A	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/09 08:20	04/28/09 11:59
Client ID: MW-3-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 08:50	04/28/09 12:17
Lab ID: BMI09042801-03A	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/09 08:50	04/28/09 12:17
Client ID: MW-3-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 09:22	04/28/09 12:36
Lab ID: BMI09042801-04A	Nitrate (NO3) - N	2.0	0.25 mg/L	04/27/09 09:22	04/28/09 12:36
Client ID: MW-3-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 09:54	04/28/09 12:54
Lab ID: BMI09042801-05A	Nitrate (NO3) - N	1.4	0.25 mg/L	04/27/09 09:54	04/28/09 12:54
Client ID: EB-04-4/27/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/09 09:40	04/28/09 13:13
Lab ID: BMI09042801-06A	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/09 09:40	04/28/09 13:13

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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✓  
5/11/09

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 : 04/28/09

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-3-5</b>				
Lab ID : BMI09042801-01A Chloride	14	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	ND	0.50 mg/L	04/27/09	04/28/09
Client ID : <b>MW-3-4</b>				
Lab ID : BMI09042801-02A Chloride	14	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	1.8	0.50 mg/L	04/27/09	04/28/09
Client ID : <b>MW-3-3</b>				
Lab ID : BMI09042801-03A Chloride	23	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	29	0.50 mg/L	04/27/09	04/28/09
Client ID : <b>MW-3-2</b>				
Lab ID : BMI09042801-04A Chloride	35	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	49	0.50 mg/L	04/27/09	04/28/09
Client ID : <b>MW-3-1</b>				
Lab ID : BMI09042801-05A Chloride	25	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	49	0.50 mg/L	04/27/09	04/28/09
Client ID : <b>EB-04-4/27/09</b>				
Lab ID : BMI09042801-06A Chloride	ND	0.50 mg/L	04/27/09	04/28/09
Sulfate (SO4)	ND	0.50 mg/L	04/27/09	04/28/09

ND = Not Detected

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Fax: (614) 458-6641  
Date Received : 04/28/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-3-5</b> Lab ID : BMI09042801-01A Perchlorate	ND	1.00 µg/L	04/27/09	04/28/09
Client ID : <b>MW-3-4</b> Lab ID : BMI09042801-02A Perchlorate	ND	1.00 µg/L	04/27/09	04/28/09
Client ID : <b>MW-3-3</b> Lab ID : BMI09042801-03A Perchlorate	ND	1.00 µg/L	04/27/09	04/28/09
Client ID : <b>MW-3-2</b> Lab ID : BMI09042801-04A Perchlorate	121	5.00 µg/L	04/27/09	04/28/09
Client ID : <b>MW-3-1</b> Lab ID : BMI09042801-05A Perchlorate	ND	1.00 µg/L	04/27/09	04/28/09
Client ID : <b>EB-04-4/27/09</b> Lab ID : BMI09042801-06A Perchlorate	ND	1.00 µg/L	04/27/09	04/28/09

ND = Not Detected

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**5/11/09**  
**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 : 04/28/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-3-5				
Lab ID : BMI09042801-01A	Alkalinity, Bicarbonate (As CaCO3)	220	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	220	10 mg/L	04/27/09 05/05/09
Client ID : MW-3-4				
Lab ID : BMI09042801-02A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	04/27/09 05/05/09
Client ID : MW-3-3				
Lab ID : BMI09042801-03A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	04/27/09 05/05/09
Client ID : MW-3-2				
Lab ID : BMI09042801-04A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	04/27/09 05/05/09
Client ID : MW-3-1				
Lab ID : BMI09042801-05A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	04/27/09 05/05/09
Client ID : EB-04-4/27/09				
Lab ID : BMI09042801-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/27/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	04/27/09 05/05/09

ND = Not Detected

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San Diego, CA 92110

Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/28/09

Job#: G005862/JPL Groundwater Monitoring

### Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-3-5				
Lab ID : BMI09042801-01A	Sodium (Na)	53	0.50 mg/L	04/27/09 04/28/09
	Magnesium (Mg)	11	0.50 mg/L	04/27/09 04/28/09
	Potassium (K)	2.3	0.50 mg/L	04/27/09 04/28/09
	Calcium (Ca)	36	0.50 mg/L	04/27/09 04/28/09
	Chromium (Cr)	ND	0.0050 mg/L	04/27/09 04/28/09
	Iron (Fe)	6.3	0.10 mg/L	04/27/09 04/28/09
	Arsenic (As)	0.0026	0.0020 mg/L	04/27/09 04/28/09
	Lead (Pb)	ND	0.0050 mg/L	04/27/09 04/28/09
Client ID : MW-3-4				
Lab ID : BMI09042801-02A	Sodium (Na)	47	0.50 mg/L	04/27/09 04/28/09
	Magnesium (Mg)	10	0.50 mg/L	04/27/09 04/28/09
	Potassium (K)	2.0	0.50 mg/L	04/27/09 04/28/09
	Calcium (Ca)	30	0.50 mg/L	04/27/09 04/28/09
	Chromium (Cr)	ND	0.0050 mg/L	04/27/09 04/28/09
	Iron (Fe)	0.68	0.10 mg/L	04/27/09 04/28/09
	Arsenic (As)	0.0022	0.0020 mg/L	04/27/09 04/28/09
	Lead (Pb)	ND	0.0050 mg/L	04/27/09 04/28/09
Client ID : MW-3-3				
Lab ID : BMI09042801-03A	Sodium (Na)	38	0.50 mg/L	04/27/09 04/28/09
	Magnesium (Mg)	14	0.50 mg/L	04/27/09 04/28/09
	Potassium (K)	2.6	0.50 mg/L	04/27/09 04/28/09
	Calcium (Ca)	32	0.50 mg/L	04/27/09 04/28/09
	Chromium (Cr)	ND	0.0050 mg/L	04/27/09 04/28/09
	Iron (Fe)	0.38	0.10 mg/L	04/27/09 04/28/09
	Arsenic (As)	ND	0.0020 mg/L	04/27/09 04/28/09
	Lead (Pb)	ND	0.0050 mg/L	04/27/09 04/28/09
Client ID : MW-3-2				
Lab ID : BMI09042801-04A	Sodium (Na)	21	0.50 mg/L	04/27/09 04/28/09
	Magnesium (Mg)	21	0.50 mg/L	04/27/09 04/28/09
	Potassium (K)	2.9	0.50 mg/L	04/27/09 04/28/09
	Calcium (Ca)	61	0.50 mg/L	04/27/09 04/28/09
	Chromium (Cr)	ND	0.0050 mg/L	04/27/09 04/28/09
	Iron (Fe)	0.68	0.10 mg/L	04/27/09 04/28/09
	Arsenic (As)	ND	0.0020 mg/L	04/27/09 04/28/09
	Lead (Pb)	ND	0.0050 mg/L	04/27/09 04/28/09



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Client ID : **MW-3-1**

Lab ID :	BMI09042801-05A	Sodium (Na)	24	0.50 mg/L	04/27/09	04/28/09
		Magnesium (Mg)	18	0.50 mg/L	04/27/09	04/28/09
		Potassium (K)	2.9	0.50 mg/L	04/27/09	04/28/09
		Calcium (Ca)	59	0.50 mg/L	04/27/09	04/28/09
		Chromium (Cr)	ND	0.0050 mg/L	04/27/09	04/28/09
		Iron (Fe)	0.71	0.10 mg/L	04/27/09	04/28/09
		Arsenic (As)	ND	0.0020 mg/L	04/27/09	04/28/09
		Lead (Pb)	ND	0.0050 mg/L	04/27/09	04/28/09

Client ID : **EB-04-4/27/09**


Lab ID :	BMI09042801-06A	Sodium (Na)	ND	0.50 mg/L	04/27/09	04/28/09
		Magnesium (Mg)	ND	0.50 mg/L	04/27/09	04/28/09
		Potassium (K)	ND	0.50 mg/L	04/27/09	04/28/09
		Calcium (Ca)	ND	0.50 mg/L	04/27/09	04/28/09
		Chromium (Cr)	ND	0.0050 mg/L	04/27/09	04/28/09
		Iron (Fe)	ND	0.10 mg/L	04/27/09	04/28/09
		Arsenic (As)	ND	0.0020 mg/L	04/27/09	04/28/09
		Lead (Pb)	ND	0.0050 mg/L	04/27/09	04/28/09

ND = Not Detected

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

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5/11/09

**Report Date**



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## ANALYTICAL REPORT

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

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 04/28/09

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-3-5	pH	7.6	1.7 pH Units	04/27/09 07:50	04/28/09 10:44
Lab ID: BMI09042801-01A	pH - Temperature	19	1.0 °C	04/27/09 07:50	04/28/09 10:44
Client ID: MW-3-4	pH	7.9	1.7 pH Units	04/27/09 08:20	04/28/09 10:46
Lab ID: BMI09042801-02A	pH - Temperature	20	1.0 °C	04/27/09 08:20	04/28/09 10:46
Client ID: MW-3-3	pH	8.3	1.7 pH Units	04/27/09 08:50	04/28/09 10:49
Lab ID: BMI09042801-03A	pH - Temperature	19	1.0 °C	04/27/09 08:50	04/28/09 10:49
Client ID: MW-3-2	pH	7.7	1.7 pH Units	04/27/09 09:22	04/28/09 10:54
Lab ID: BMI09042801-04A	pH - Temperature	19	1.0 °C	04/27/09 09:22	04/28/09 10:54
Client ID: MW-3-1	pH	7.6	1.7 pH Units	04/27/09 09:54	04/28/09 11:00
Lab ID: BMI09042801-05A	pH - Temperature	19	1.0 °C	04/27/09 09:54	04/28/09 11:00
Client ID: EB-04-4/27/09	pH	6.2	1.7 pH Units	04/27/09 09:40	04/28/09 11:05
Lab ID: BMI09042801-06A	pH - Temperature	19	1.0 °C	04/27/09 09:40	04/28/09 11:05

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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## ANALYTICAL REPORT

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Attn: David Conner  
Phone: (818) 393-2808  
Fax: (614) 458-6641  
Date Received : 04/28/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: MW-3-5 Lab ID: BMI09042801-01A Solids, Total Dissolved (TDS)	260	10 mg/L	04/27/09	05/01/09
Client ID: MW-3-4 Lab ID: BMI09042801-02A Solids, Total Dissolved (TDS)	230	10 mg/L	04/27/09	05/01/09
Client ID: MW-3-3 Lab ID: BMI09042801-03A Solids, Total Dissolved (TDS)	250	10 mg/L	04/27/09	05/01/09
Client ID: MW-3-2 Lab ID: BMI09042801-04A Solids, Total Dissolved (TDS)	300	10 mg/L	04/27/09	05/01/09
Client ID: MW-3-1 Lab ID: BMI09042801-05A Solids, Total Dissolved (TDS)	270	10 mg/L	04/27/09	05/01/09
Client ID: EB-04-4/27/09 Lab ID: BMI09042801-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/27/09	05/01/09

ND = Not Detected

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## ANALYTICAL REPORT

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

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

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

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : MW-3-5 Lab ID : BMI09042801-01A	*** None Found ***	ND	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : MW-3-4 Lab ID : BMI09042801-02A	Sulfur dioxide	18	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : MW-3-3 Lab ID : BMI09042801-03A	Sulfur dioxide	6.4	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : MW-3-2 Lab ID : BMI09042801-04A	*** None Found ***	ND	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : MW-3-1 Lab ID : BMI09042801-05A	*** None Found ***	ND	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : EB-04-4/27/09 Lab ID : BMI09042801-06A	2-Methyl-1-propene	2.1	2.0 µg/L	04/28/09	04/27/09	05/01/09
Client ID : TB-04-4/27/09 Lab ID : BMI09042801-07A	*** None Found ***	ND	2.0 µg/L	04/28/09	04/27/09	05/01/09

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

5/11/09

**Report Date**

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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

## 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: BMI09042801-01A  
Client I.D. Number: MW-3-5

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	0.52	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	96	(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.

Note: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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: BMI09042801-02A  
Client I.D. Number: MW-3-4

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	0.55	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	104	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
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: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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: BMI09042801-03A  
Client I.D. Number: MW-3-3

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	104	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
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: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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: BMI09042801-04A  
Client I.D. Number: MW-3-2

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	0.58	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	0.81	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	100	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	104	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	0.90	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: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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: BMI09042801-05A  
Client I.D. Number: MW-3-1

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

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

Note: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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.

  
5/11/09

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

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

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

Alpha Analytical Number: BMI09042801-06A  
Client I.D. Number: EB-04-4/27/09

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	89	(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	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.

Note: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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

5/11/09

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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: BMI09042801-07A  
Client I.D. Number: TB-04-4/27/09

Sampled: 04/27/09  
Received: 04/28/09  
Analyzed: 05/01/09

### 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	87	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	105	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
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: 2-Butanone (MEK) failed the method CV criteria of 70-130% @ 152%.

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

5/11/09

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

Report Date

Page 1 of 1





# 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: BMI09042801

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09042801-01A	MW-3-5	Aqueous	2
09042801-02A	MW-3-4	Aqueous	2
09042801-03A	MW-3-3	Aqueous	2
09042801-04A	MW-3-2	Aqueous	2
09042801-05A	MW-3-1	Aqueous	2
09042801-06A	EB-04-4/27/09	Aqueous	2
09042801-07A	TB-04-4/27/09	Aqueous	2

5/11/09  
Report Date

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

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

**CA**  
 WorkOrder : BMIS09042801  
 Report Due By : 5:00 PM On : 12-May-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 Conner    (619) 574-4827    x    connerd@battelle.org  
 Shane Walton    (614) 424-4117    x    waltonss@battelle.org  
 Betsy Cutie    (614) 424-4899    x    cutiee@battelle.org

EDD Required : Yes

Sampled by : Client

Client's COC # : 25552    Job : G005862/JPL Groundwater Monitoring

Cooler Temp    4 °C

Samples Received    28-Apr-2009

Date Printed    28-Apr-2009

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha	Sub	TAT	Requested Tests						Sample Remarks		
						300_0(A)_w	300_0(B)_w	300_0(C)_w	314_w	ALKALINITY_w	METALS_D_w		PH_w	TDS
BMI09042801-01A	MW-3-5	AQ 04/27/09 07:50	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09042801-02A	MW-3-4	AQ 04/27/09 08:20	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09042801-03A	MW-3-3	AQ 04/27/09 08:50	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09042801-04A	MW-3-2	AQ 04/27/09 09:22	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09042801-05A	MW-3-1	AQ 04/27/09 09:54	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	Level IV QC.
BMI09042801-06A	EB-04-4/27/09	AQ 04/27/09 09:40	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09042801-07A	TB-04-4/27/09	AQ 04/27/09 00:00	1	0	10									Reno Trip Blank 1/6/09

**Comments:**    No security seals. Frozen ice. Temp Blank #8672 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: Elizabeth Alder    Signature: \_\_\_\_\_    Print Name: Elizabeth Alder    Company: Alpha Analytical, Inc.    Date/Time: 4:28:59 9:56

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

Billing Information :

**CHAIN-OF-CUSTODY RECORD**

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

**CA**  
 WorkOrder : BMIS09042801  
 Report Due By : 5:00 PM On : 12-May-2009

Client:

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

Report Attention

Phone Number	Email Address
(619) 574-4827 x	commerd@battelle.org
(614) 424-4117 x	waltonsb@battelle.org
(614) 424-4899 x	cuttee@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp

Samples Received

Date Printed

4 °C

28-Apr-2009

28-Apr-2009

PO : 218013

Client's COC # : 25552

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	Matrix	Collection Date	No. of Bottles			Requested Tests		Sample Remarks
				Alpha	Sub	TAT	VOC_TIC_W	VOC_W	
BMIO9042801-01A	MW-3-5	AQ	04/27/09 07:50	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042801-02A	MW-3-4	AQ	04/27/09 08:20	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042801-03A	MW-3-3	AQ	04/27/09 08:50	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042801-04A	MW-3-2	AQ	04/27/09 09:22	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042801-05A	MW-3-1	AQ	04/27/09 09:54	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC.
BMIO9042801-06A	EB-04-4/27/09	AQ	04/27/09 09:40	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMIO9042801-07A	TB-04-4/27/09	AQ	04/27/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 1/6/09

Comments: No security seals. Frozen ice. Temp Blank #8672 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:	<i>Elizabeth Adcox</i>	Signature	<i>Elizabeth Adcox</i>	Print Name	Alpha Analytical, Inc.	Company	<i>4:28:09 9:56</i>	Date/Time
---------------	------------------------	-----------	------------------------	------------	------------------------	---------	---------------------	-----------

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.  
 The report for the analysis 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 TRAMPKINS  
 Address 505 KUL DVE  
 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?** 25552  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

Client Name DAVID GUNNER PO # 218013 Job # 6005862  
 Address 3990 OLD TOWN AVE, C-205 Email Address \_\_\_\_\_  
 City, State, Zip SDV PLECO, 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	REMARKS
0750	4/27/09	AQ	BMT0904	2801		MW-3-5			5	VOC's (524.2) TOTAL CR, L, EPDI (200.8) GEN CHEM (Na, K, Ca, Mg, Fe) (200.7) CLO4- (314.0) GEN CHEM (300.0) 310.1, 160.1, 150.1 orthophosphate (300.0)	Required QC Level? I <input type="checkbox"/> II <input type="checkbox"/> III <input checked="" type="checkbox"/> IV <input type="checkbox"/> EDD / EDF? YES <input type="checkbox"/> NO <input type="checkbox"/> Global ID # _____ OQ LEVEL IV EQUIPMENT BLANK TRIP BLANK
0820						MW-3-4					
0850						MW-3-3					
0922						MW-3-2					
0954						MW-3-1					
0940						EB-04-4 / 27/09					
---						TR-04-4 / 27/09			1		

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	CHASE BRADSON	INS/GTT	4/27/09	1200
<i>[Signature]</i>	Elizabeth Adcox	Alpha	4/28/09	9:56
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-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:** BMI09042940

**Cooler Temp:** 4 °C

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

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
09042940-01A	EPA Method 314.0	Perchlorate
09042940-02A	EPA Method 314.0	Perchlorate
09042940-03A	EPA Method 314.0	Perchlorate
09042940-04A	EPA Method 314.0	Perchlorate
09042940-05A	EPA Method 314.0	Perchlorate
09042940-06A	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.

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

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-21-5	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 08:50	04/29/09 14:05
Lab ID : BMI09042940-01A	Nitrate (NO3) - N	8.9	0.25 mg/L	04/28/09 08:50	04/29/09 14:05
Client ID : MW-21-4	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 09:20	04/29/09 14:24
Lab ID : BMI09042940-02A	Nitrate (NO3) - N	4.9	0.25 mg/L	04/28/09 09:20	04/29/09 14:24
Client ID : MW-21-3	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 10:02	04/29/09 14:42
Lab ID : BMI09042940-03A	Nitrate (NO3) - N	11	0.25 mg/L	04/28/09 10:02	04/29/09 14:42
Client ID : MW-21-2	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 10:35	04/29/09 15:01
Lab ID : BMI09042940-04A	Nitrate (NO3) - N	14	0.25 mg/L	04/28/09 10:35	04/29/09 15:01
Client ID : MW-21-1	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 11:08	04/29/09 15:19
Lab ID : BMI09042940-05A	Nitrate (NO3) - N	18	2.5 mg/L	04/28/09 11:08	04/29/09 23:02
Client ID : DUPE-03-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 00:00	04/29/09 15:38
Lab ID : BMI09042940-06A	Nitrate (NO3) - N	4.9	0.25 mg/L	04/28/09 00:00	04/29/09 15:38
Client ID : EB-05-4/28/09	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/09 10:55	04/29/09 15:56
Lab ID : BMI09042940-07A	Nitrate (NO3) - N	ND	0.25 mg/L	04/28/09 10:55	04/29/09 15:56

ND = Not Detected

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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

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-21-5				
Lab ID : BMI09042940-01A Chloride	73	2.5 mg/L	04/28/09	04/29/09
Sulfate (SO4)	130	2.5 mg/L	04/28/09	04/29/09
Client ID : MW-21-4				
Lab ID : BMI09042940-02A Chloride	70	2.5 mg/L	04/28/09	04/29/09
Sulfate (SO4)	120	2.5 mg/L	04/28/09	04/29/09
Client ID : MW-21-3				
Lab ID : BMI09042940-03A Chloride	110	5.0 mg/L	04/28/09	04/29/09
Sulfate (SO4)	160	5.0 mg/L	04/28/09	04/29/09
Client ID : MW-21-2				
Lab ID : BMI09042940-04A Chloride	130	5.0 mg/L	04/28/09	04/29/09
Sulfate (SO4)	190	5.0 mg/L	04/28/09	04/29/09
Client ID : MW-21-1				
Lab ID : BMI09042940-05A Chloride	140	5.0 mg/L	04/28/09	04/29/09
Sulfate (SO4)	230	5.0 mg/L	04/28/09	04/29/09
Client ID : DUPE-03-2Q09				
Lab ID : BMI09042940-06A Chloride	71	2.5 mg/L	04/28/09	04/29/09
Sulfate (SO4)	120	2.5 mg/L	04/28/09	04/29/09
Client ID : EB-05-4/28/09				
Lab ID : BMI09042940-07A Chloride	ND	0.50 mg/L	04/28/09	04/29/09
Sulfate (SO4)	ND	0.50 mg/L	04/28/09	04/29/09

ND = Not Detected

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5/2/09

Report Date



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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 : 04/29/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-21-5 Lab ID : BMI09042940-01A Perchlorate	2.97	1.00 µg/L	04/28/09	04/30/09
Client ID : MW-21-4 Lab ID : BMI09042940-02A Perchlorate	1.97	1.00 µg/L	04/28/09	04/30/09
Client ID : MW-21-3 Lab ID : BMI09042940-03A Perchlorate	2.77	1.00 µg/L	04/28/09	04/30/09
Client ID : MW-21-2 Lab ID : BMI09042940-04A Perchlorate	2.07	1.00 µg/L	04/28/09	04/30/09
Client ID : MW-21-1 Lab ID : BMI09042940-05A Perchlorate	2.38	1.00 µg/L	04/28/09	04/30/09
Client ID : DUPE-03-2Q09 Lab ID : BMI09042940-06A Perchlorate	1.87	1.00 µg/L	04/28/09	04/30/09
Client ID : EB-05-4/28/09 Lab ID : BMI09042940-07A Perchlorate	ND	1.00 µg/L	04/28/09	04/30/09

ND = Not Detected

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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 : 04/29/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity  
SM2320B

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: <b>MW-21-5</b>				
Lab ID: BMI09042940-01A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	04/28/09 05/05/09
Client ID: <b>MW-21-4</b>				
Lab ID: BMI09042940-02A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	04/28/09 05/05/09
Client ID: <b>MW-21-3</b>				
Lab ID: BMI09042940-03A	Alkalinity, Bicarbonate (As CaCO3)	290	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	290	10 mg/L	04/28/09 05/05/09
Client ID: <b>MW-21-2</b>				
Lab ID: BMI09042940-04A	Alkalinity, Bicarbonate (As CaCO3)	290	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	290	10 mg/L	04/28/09 05/05/09
Client ID: <b>MW-21-1</b>				
Lab ID: BMI09042940-05A	Alkalinity, Bicarbonate (As CaCO3)	220	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	220	10 mg/L	04/28/09 05/05/09
Client ID: <b>DUPE-03-2Q09</b>				
Lab ID: BMI09042940-06A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	04/28/09 05/05/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/05/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	04/28/09 05/05/09
Client ID: <b>EB-05-4/28/09</b>				
Lab ID: BMI09042940-07A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/06/09
	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/09 05/06/09
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	04/28/09 05/06/09



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---

ND = Not Detected

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*Randy Gardner*

*Walter Hinchman*

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*e*  
5/12/09

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

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-21-5				
Lab ID : BMI09042940-01A	Sodium (Na)	40	0.50 mg/L	04/28/09 04/29/09
	Magnesium (Mg)	35	0.50 mg/L	04/28/09 04/29/09
	Potassium (K)	3.0	0.50 mg/L	04/28/09 04/29/09
	Calcium (Ca)	110	0.50 mg/L	04/28/09 04/29/09
	Chromium (Cr)	ND	0.0050 mg/L	04/28/09 04/29/09
	Iron (Fe)	0.87	0.10 mg/L	04/28/09 04/29/09
	Arsenic (As)	ND	0.0020 mg/L	04/28/09 04/29/09
	Lead (Pb)	ND	0.0050 mg/L	04/28/09 04/29/09
Client ID : MW-21-4				
Lab ID : BMI09042940-02A	Sodium (Na)	34	0.50 mg/L	04/28/09 04/29/09
	Magnesium (Mg)	31	0.50 mg/L	04/28/09 04/29/09
	Potassium (K)	2.9	0.50 mg/L	04/28/09 04/29/09
	Calcium (Ca)	92	0.50 mg/L	04/28/09 04/29/09
	Chromium (Cr)	ND	0.0050 mg/L	04/28/09 04/29/09
	Iron (Fe)	1.1	0.10 mg/L	04/28/09 04/29/09
	Arsenic (As)	ND	0.0020 mg/L	04/28/09 04/29/09
	Lead (Pb)	ND	0.0050 mg/L	04/28/09 04/29/09
Client ID : MW-21-3				
Lab ID : BMI09042940-03A	Sodium (Na)	48	0.50 mg/L	04/28/09 04/29/09
	Magnesium (Mg)	47	0.50 mg/L	04/28/09 04/29/09
	Potassium (K)	3.6	0.50 mg/L	04/28/09 04/29/09
	Calcium (Ca)	140	0.50 mg/L	04/28/09 04/29/09
	Chromium (Cr)	ND	0.0050 mg/L	04/28/09 04/29/09
	Iron (Fe)	1.2	0.10 mg/L	04/28/09 04/29/09
	Arsenic (As)	ND	0.0020 mg/L	04/28/09 04/29/09
	Lead (Pb)	ND	0.0050 mg/L	04/28/09 04/29/09
Client ID : MW-21-2				
Lab ID : BMI09042940-04A	Sodium (Na)	75	0.50 mg/L	04/28/09 04/29/09
	Magnesium (Mg)	53	0.50 mg/L	04/28/09 04/29/09
	Potassium (K)	3.6	0.50 mg/L	04/28/09 04/29/09
	Calcium (Ca)	160	0.50 mg/L	04/28/09 04/29/09
	Chromium (Cr)	ND	0.0050 mg/L	04/28/09 04/29/09
	Iron (Fe)	1.5	0.10 mg/L	04/28/09 04/29/09
	Arsenic (As)	ND	0.0020 mg/L	04/28/09 04/29/09
	Lead (Pb)	ND	0.0050 mg/L	04/28/09 04/29/09



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Client ID : **MW-21-1**

Lab ID :	BMI09042940-05A	Sodium (Na)	41	0.50 mg/L	04/28/09	04/29/09
		Magnesium (Mg)	58	0.50 mg/L	04/28/09	04/29/09
		Potassium (K)	2.8	0.50 mg/L	04/28/09	04/29/09
		Calcium (Ca)	180	0.50 mg/L	04/28/09	04/29/09
		Chromium (Cr)	ND	0.0050 mg/L	04/28/09	04/29/09
		Iron (Fe)	1.8	0.10 mg/L	04/28/09	04/29/09
		Arsenic (As)	ND	0.0020 mg/L	04/28/09	04/29/09
		Lead (Pb)	ND	0.0050 mg/L	04/28/09	04/29/09

Client ID : **DUPE-03-2Q09**

Lab ID :	BMI09042940-06A	Sodium (Na)	31	0.50 mg/L	04/28/09	04/29/09
		Magnesium (Mg)	28	0.50 mg/L	04/28/09	04/29/09
		Potassium (K)	2.6	0.50 mg/L	04/28/09	04/29/09
		Calcium (Ca)	98	0.50 mg/L	04/28/09	04/29/09
		Chromium (Cr)	ND	0.0050 mg/L	04/28/09	04/29/09
		Iron (Fe)	1.4	0.10 mg/L	04/28/09	04/29/09
		Arsenic (As)	ND	0.0020 mg/L	04/28/09	04/29/09
		Lead (Pb)	ND	0.0050 mg/L	04/28/09	04/29/09

Client ID : **EB-05-4/28/09**

Lab ID :	BMI09042940-07A	Sodium (Na)	ND	0.50 mg/L	04/28/09	04/29/09
		Magnesium (Mg)	ND	0.50 mg/L	04/28/09	04/29/09
		Potassium (K)	ND	0.50 mg/L	04/28/09	04/29/09
		Calcium (Ca)	ND	0.50 mg/L	04/28/09	04/29/09
		Chromium (Cr)	ND	0.0050 mg/L	04/28/09	04/29/09
		Iron (Fe)	0.17	0.10 mg/L	04/28/09	04/29/09
		Arsenic (As)	ND	0.0020 mg/L	04/28/09	04/29/09
		Lead (Pb)	ND	0.0050 mg/L	04/28/09	04/29/09

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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**Report Date**